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स्वास्थ्य तथा जनसङ्ख्या मन्त्री
Minister for
Health and Population

नेपाल सरकार
Government of Nepal
स्वास्थ्य तथा जनसङ्ख्या मन्त्रालय
Ministry of Health and Population

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शुभकामना

शहीद गंगालाल राष्ट्रिय हृदय केन्द्रले आफ्नो स्थापनाको २९औं वार्षिकोत्सवको अवसरमा आफ्ना वार्षिक कार्यक्रम तथा विगतका अभ्यास र अनुभवहरू समावेश गरी स्मारिका प्रकाशन गर्न लागेको जानकारी पाउँदा खुशी लागेको छ। यस स्मारिकामा प्रकाशित हुने विषयवस्तु एवम् लेख रचनाहरूले स्वास्थ्य क्षेत्रको क्रमिक विकास एवम् नागरिकलाई सहज, सुलभ एवम् गुणस्तरीय सेवा प्रवाह गर्न सबैलाई प्रेरित गर्ने छ भन्ने विश्वास लिएको छु।

नेपालको संविधानले प्रत्येक नागरिकलाई राज्यबाट आधारभूत स्वास्थ्य सेवा निःशुल्क प्राप्त हुने र कसैलाई पनि आकस्मिक स्वास्थ्य सेवाबाट बञ्चित गरिने छैन भनि मौलिक हक अन्तर्गत व्यवस्था गरेको छ। नागरिकहरूले आफ्नो स्वास्थ्य उपचारको सम्बन्धमा जानकारी पाउने तथा स्वास्थ्य सेवामा समान पहुँचको हक हुने कुराको प्रत्याभूति गरेको सन्दर्भमा उपलब्ध स्रोत र साधनको दिगो एवम् विवेकपूर्ण परिचालन गरी सबै नागरिकलाई आधारभूत स्वास्थ्य सेवाको सुनिश्चितता गर्नु हामी सबैको पहिलो कर्तव्य हुन आउँछ।

खासगरी देशमा बढ्दो मुटुरोगीको उपचार, निदान, रोकथाम तथा अध्ययन अनुसन्धानको अभिभारका साथ गुणस्तरीय सेवा प्रदान गर्ने उद्देश्यले स्थापित यस केन्द्रले मुटुरोगको उपचारको क्षेत्रमा एउटा छुट्टै पहिचानसहित पुऱ्याएको योगदान अन्य अस्पतालहरूका लागि समेत अनुकरणीय छ।

आगामि दिनमा पनि अत्याधुनिक एवम् प्रविधिमैत्री उपचारपद्धति अवलम्बन गर्दै मुटुरोगको उपचारमा थप गुणस्तरीय सेवा प्रदान गर्ने कार्यमा केन्द्रलाई सफलता मिलोस् भन्दै केन्द्रको २९औं वार्षिकोत्सव समारोहको पूर्ण सफलता तथा स्मारिका प्रकाशनको लागि शुभकामना व्यक्त गर्दछु।

धन्यवाद।
०७ माघ, २०८१

प्रदीप पौडेल
मन्त्री

नेपाल सरकार

स्वास्थ्य तथा जनसंख्या मन्त्रालय

(.....शाखा)

फोन नं. ४२६२४८०
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प्राप्त पत्र संख्या :-
पत्र संख्या :-
चलानी नं. :-

रामशाहपथ,
काठमाडौं, नेपाल ।

मिति : .....

विषय :- शुभ-कामना

शहीद गंगालाल राष्ट्रिय हृदय केन्द्रले स्थापनाको छोटो समयमै मुटुरोग उपचारको क्षेत्रमा पाएको सफलताले मलाई खुशी लागेको छ । केन्द्रमा कार्यरत सबैको उत्तिकै मेहनत, जिम्मेवारीबोध र कर्तव्यनिष्ठताले मात्र यो सफलता हासिल भएको हो भन्ने कुरामा म विश्वस्त छु ।

यसै क्रममा, यहि माघ १५ गते केन्द्रले २९ औं वार्षिकोत्सव मनाउन गइरहेको र सो सन्दर्भमा केन्द्रका वार्षिक गतिविधी/कृयाकलापहरू समावेश गरी स्मारिका प्रकाशन गर्न लागेकोमा स्मारिका प्रकाशनको पूर्ण सफलताको कामना गर्दछु ।

विश्वव्यापीरुपमा नसर्ने रोगहरु मध्ये मुटुरोग एक प्रमुख स्वास्थ्य समस्याको रुपमा देखिएको छ । यसका मुख्य कारणहरुमध्ये मानिसको जीवनशैली (Lifestyle) पनि एक हो । यसबाट करोडौं मानिसहरु प्रभावित हुदै आएका छन् र लाखौं मानिसहरुले अकालमै जीवन गुमाइरहेका छन् । हाम्रो देशमा पनि पछिल्ला वर्षहरुमा जीवनशैलीको परिवर्तन संगसंगै मुटुरोग सम्बन्धी समस्याहरु पनि वृद्धि हुदै गइरहेको देखिन्छ । यस परिप्रेक्षमा मुटुरोगको निदान, उपचार र रोकथाममा त्यस केन्द्रले खेलेको भूमिका उदाहरणीय रहेको छ । यस अवस्थामा प्रकाशित हुनगइरहेको स्मारिकाले जनताको आचरण, जीवनशैली बानीव्यवहारमा परिवर्तन गरी स्वस्थ्य जीवनयापन गर्नमा सकारात्मक सन्देश प्रवाह गर्न सकोस् भन्दै केन्द्रको २९औं वार्षिकोत्सवको सफलताको शुभ-कामना व्यक्त गर्दछु ।

डा. रोशन पोखरेल
सचिव

नेपाल सरकार

स्वास्थ्य तथा जनसंख्या मन्त्रालय

(.....शाखा)

फोन नं. ४२६२९९०
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प्राप्त पत्र संख्या :-
पत्र संख्या :-
चलानी नं. :-

रामशाहपथ,
काठमाडौं, नेपाल ।

मिति : .....

विषय :- शुभकामना

शहीद गंगालाल राष्ट्रिय हृदय केन्द्रले स्थापनाको २९औं वार्षिकोत्सव मनाउने सन्दर्भमा केन्द्रले सम्पन्न गरेका कियाकलाप एवम् प्रगति विवरणहरु समेटेर स्मारिका प्रकाशन गर्न लागेको मा खुसी लागेको छु।

स्वास्थ्य क्षेत्रमा प्रणालीगत सुधार र कुशल कार्यशैलीका माध्यमबाट सर्वसाधारण नागरिकलाई गुणस्तरीय स्वास्थ्य सेवाको सुनिश्चितता गर्न आवश्यक छ। हरेक संस्थाले आफ्नो आन्तरिक प्रकिया, जनशक्ति व्यवस्थापन, वित्तीय व्यवस्थापन र प्रणालीगत पक्षमा सुधार गर्दै अगाडि बढ्नुपर्ने आवश्यकतालाई मध्यनजर गर्दै यस केन्द्रले विविध चुनौति र अप्ठ्यारोहरुलाई चिर्दै आफुलाई एक अब्वल अत्याधुनिक अस्पतालको रुपमा विकास गरी मुटुरोगको उपचारमा तुलनात्मक रुपले सस्तो र गुणस्तरीय सेवा प्रदान गरी देशकै एक भरोसायोग्य उपचार केन्द्रको रुपमा स्थापित हुन सक्नु हामी सबैका लागि गौरवको विषय हो।

अन्त्यमा, म यस केन्द्रका कार्यकारी निर्देशक तथा आवद्ध सम्पूर्ण कर्मचारीहरुलाई धन्यवाद दिन चाहन्छु। आगामी दिनमा यस केन्द्रलाई समयानुकुल थप चुस्त दुरुस्त बनाई मुटुरोगको उपचारमा संस्थागत क्षमता विकास गर्दै एक उत्कृष्ट नमुना अस्पतालको रुपमा आफुलाई कायम राखिराख्न सकोस् भन्ने शुभकामना सहित स्मारिका प्रकाशनको सफलताको कामना गर्दछु।

(हरिप्रसाद मैनाली)
सचिव

EDITORIAL

"GANGALAL HOSPITAL ". The name known and uttered by all Nepali citizens when it comes to cardiac diseases and it's management. Also recognised internationally for its standard of care and volume of patients served.

From the most remote parts to the affluent urban cities , patients opt to come to Gangalal for their cardiac problems and this is the result of 29 years of hard earned trust that we at Gangalal are very proud of. This was possible due to unwavering commitment of our team under great leaderships over the years. Our team of medical professionals, non-medical staff, national and international donors, central and local governmental agencies have all contributed for this success. And we would like to express our gratitude and thank all of them.

Currently, our tertiary hospital has 297 beds. We are planning to increase this to 400 beds. We are doing the largest number of diagnostic and therapeutic procedures for cardiac illness in the country and our numbers are one of the largest in the world.

To keep up with the quality, we have evolved and to do so, we have branched our services into superspecialities. This year we have added Critical care department to take care of critically ill patients. And also have newly designated Paediatric cardiac surgery unit to streamline the Paediatric surgery cases. Along with our Departments of Adult cardiology , Preventive cardiology and rehabilitation, Paediatric cardiology, Adult Cardiac surgery, Radiology, Anaesthesia, Pathology are the most skilled and competent Nursing department and medical technicians/paramedics.

Gangalal is one of the leading centres for teaching and training students. This year we have established a new Academic committee that coordinates with various institutes and provides training to health professionals. We are planning to start our own academic courses in coordination with Medical Education Commission to fulfil the growing need of trained manpower.

We have our own Institutional Review Committee dedicated for research.

This year we have committed to provide cardiology services to government hospitals in all provinces of the country and hopefully it will come true in near future.

This annual report includes some of our achievements of the past year that reflects the hard work done by our team. We at Gangalal know that this year can be bettered in the upcoming year and we would like to assure everyone that we are striding for the same. Always striding to put smile on the faces of our patients and their family. Striding to make Nepal proud internationally.

ANNUAL REPORT 2024

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कार्यकारी निर्देशकको वार्षिक प्रतिवेदन

डा. रवि मल्ल
कार्यकारी निर्देशक

मुटुरोगको रोकथाम, निदान, उपचार तथा हृदयरोगीहरुको पुर्नस्थापनाको लागि आवश्यक उच्चस्तरीय स्वास्थ्य सेवा सर्वशुलभरुपमा स्वदेशमा नै प्रदान गरी हृदयरोगीहरुलाई मानवोचित जीवनयापन गर्न सक्षम तुल्याउन तथा हृदयरोगसम्बन्धी उच्चस्तरीय अध्ययन र अनुसन्धानका लागि आवश्यक दक्ष जनशक्ति तयार गर्ने मुल उद्देश्य लिई वि. सं. २०५२ सालमा यस केन्द्रको स्थापना भएको हो । वि. सं. २०५६ सालमा ९ शैयाबाट आफ्नो सेवा सुरु गरेको यस केन्द्रमा हाल ३०० शैचया संचालनमा रहेको छ । आगामी दिनमा ४०० शैया संचालनको लागि केन्द्र संचालक समितिबाट निर्णय भई सोको कार्य अगाडी बढाइएको छ । प्रारम्भमा मुटुरोगसम्बन्धी सामान्य उपचारवाट सेवा शुरु गरेको यस अस्पतालले समयको अन्तरालसँगै मुटुरोगसम्वन्धी विभिन्न किसिमका गुणस्तरीय विशेषज्ञ उपचार सेवाहरु सर्वशुलभरुपमा उपलव्ध गराउँदै आइरहेको छ । सिमित श्रोत र साधनबाट शुरु भएको यस केन्द्र हाल आधुनिक प्रविधि, दक्ष जनशक्ति तथा विश्वस्तरीय अत्याधुनिक उपकरणल Super Specialty Cardiac Center रुपमा आफूलाई स्थापित गर्न सफल भएको छ । सन् २०२४ मा केन्द्रले सम्पादन गरेका मुख्य सेवाहरुको संक्षिप्त विवरण यसप्रकार छन् :

सन् २०२४ मा केन्द्रबाट प्रदान गरिएका मुख्य सेवाहरुको विवरण		
क्र.सं.	सेवाहरु	जम्मा विरामी संख्या
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२६	Transcatheter aortic valve implantation (TAVI)	१० वटा

विगत केही वर्षहरुदेखि नेपाल सरकारले पनि मुटुरोगको उपचारमा उत्तिकै महत्व दिँदै आइरहेकोछ । आ.व. २०६३/६४ बाट शुरु भएको १५ वर्षमूनिका बालबालिकाको नि:शुल्क मुटु उपचार, आ.व.२०६४/०६५ देखि ७५ वर्षभन्दा माथिका जेष्ठ नागरिकहरुको नि:शुल्क उपचार, आ.व. २०६६/०६७ देखि विना अप्रेशन मुटुको साँघुरिएको भल्भ खोल्ने प्रविधि (PTMC), बाथ मुटुरोगीहरुको नि:शुल्क शल्यक्रिया, गरीव विरामी राहत सुविधा ,आ.व. २०७६/७७ बाट शुरु भएको स्वास्थ्य विमा कार्यक्रम यस केन्द्रबाट संचालन हुँदै आइरहेका छन् ।

मुटुरोग उपचार महंगो हुनुकासाथै जटिल छ । मुटुरोगको उपचार, रोकथाम तथा अध्ययन अनुसन्धानमा यस केन्द्रले उल्लेखनीय भूमिका खेल्दै आएको छ । सन् २०२४ मा अनुसन्धान क्षेत्रमा २८ वटा Research Proposal स्वीकृत भएका छन् । केन्द्रले गत आ.व.मा देशका विभिन्न जिल्लाहरुमा मुटुरोगको नि:शुल्क स्वास्थ्य शिविरहरु संचालन गरी ५,२६० विरामीहरुको मुटु परीक्षण गरेको छ । RHD Screening Program अन्तर्गत विभिन्न विद्यालयहरुमा अध्ययनरत २,२५३ विद्यार्थीहरुको Echo Screening गरियो । त्यसैले यो केन्द्र मुटुरोगको रोकथाम र यससम्बन्धी जनचेतना अभिवृद्धि गर्ने कार्यमा पनि निरन्तर लागि परेको छ ।

केन्द्रको आफ्नो पहलमा Corporate Social Responsibility (CSR) अन्तर्गत विभिन्न दाताहरु मार्फत यस वर्ष निर्मित ३ तले भवनमा Day Care ,Closed ICU केहि महिनामा संचालनमा आउने छ । मृगेन्द्र सम्झना कुरुवा घरको नयाँ सहयोगी दाता मार्फत १ तला निर्माण गरि ICU/CCU का दैनिक ८० बिरामी कुरुवालाई बस्ने व्यवस्था गरिएको छ । वि.स. २०८१ वैशाखबाट राष्ट्रिय आविष्कार केन्द्रसंग वार्षिक १५ लाख सम्झौतामा हालसम्म ३५० भन्दा बढी मेसिनहरु मर्मत भई संचालनमा आएका छन् । केन्द्रको इतिहासमा पहिलो पटक यस परिसरमा रहेका पुराना भई काममा आउन नसक्ने टुटफुट भइ बेकम्मा भएका र पुन: मर्मत नहुने मालसामानहरुको पहिलो चरणको लिलाम बिक्रि प्रक्रिया टुंगिएको छ । दोश्रो चरणमा अन्य बाँकि रहेका सामानहरुको लिलाम बिक्रि प्रक्रिया अगाडी बढाइएको छ । यस केन्द्रको पहलमा गत असोज १२ गतेको बाढी प्रभावित क्षेत्र लेले ,टिकाभैरवका ११० परिवारलाई ७ लाख बराबरको राहत सामान बितरण गरिएको छ ।

अस्पतालको भिड व्यवस्थापनको लागि OPD टिकट काउन्टर ४ वटा संचालनमा ल्याइएको छ । कार्डियोलोजी विभागको २ वटा यूनिटको OPD एकै ठाउँमा हुँदा बिरामी र बिरामीको Visitors ले भिड बढेकोमा हाल अलग अलग तलामा OPD संचालनमा ल्याइएको छ । स्वास्थ्य बिमा र Billing काउन्टरको Waiting area एकै ठाउँमा हुँदा भिड बढेकोमा छुट्टाछुट्टै व्यवस्था गरिएको छ । OPD मा आउने बिरामीहरुको ECHO बाहेक अन्य रिपोर्टको हकमा सोहीदिन रिपोर्ट हेर्ने व्यवस्था मिलाइएको छ । जसबाट ५०% बिरामीको भिड कम भएको छ र कुनै पनि बिरामीले OPD टिकट नपाई फर्किनु परेको छैन । प्याथोलोजी ल्याबको Sample Collection OPD Building मै संचालनमा ल्याई OPD मा आउने बिरामीहरुको ल्याब sample collection १५ मिनेट भित्र हुने व्यवस्था मिलाइएको छ । Online बाट OPD टिकट काट्न सकिने गरि online बाट नै ल्याब रिपोर्ट बिरामी तथा

डाक्टरले हेर्ने व्यवस्था गरिएको छ । केन्द्रमा दिनप्रतिदिन बढ्दै गइरहेको विरामीको चापलाई मध्यनजर गर्दै केन्द्रको क्षमता विस्तार गर्नुपर्ने आवश्यकता रहेको छ । यसका लागि केन्द्रले २०० शैयाको अत्याधुनिक बाल मुटुरोग भवन निर्माणको लागि DPR तयार गरी स्वास्थ्य तथा जनसंख्या मन्त्रालयमा पठाइएको छ । नेपाल सरकारबाट यस केन्द्रको दक्षिण तर्फको ७-१३-०-० रोपनी जग्गामा भवन निर्माण गरि ५०० बेड बनाउने योजना रहेको छ । बिगत ८ वर्ष देखि मुटु शल्य चिकित्सकको विधामा कोही पढ्न नआएको र यही अवस्था रहेमा केही बर्ष भित्रमा मुटु शल्य चिकित्सकको अभाव भई राष्ट्रिय समस्या हुने देखिन्छ । यस केन्द्रलाई प्रतिष्ठानको रुपमा विकास गर्न सकिए वा अन्य प्रतिष्ठानमार्फत MBBS बाट सोझै MCH - Cardiac Surgeon र DM -Cardiology को पाठ्यक्रम लागू गरी अध्ययन/ अध्यापन गर्ने सकिय मुट रोग विशेषज्ञको अभाव पूर्ति गर्न सकिने छ सोको लागि सम्बन्धित निकायमा पत्राचार तथा समन्वय भई रहेको छ । केन्द्रमा Academic committee गठन भई अध्ययन तथा तालिमको व्यवस्थापन गरिएको छ।

यस केन्द्रमा कार्यरत कर्मचारीहरु र निजको परिवारका ५ जना सदस्यको ३५०० बराबरको १ लाखको स्वास्थ्य बिमा गरिएको छ। केन्द्रमा कार्यरत कर्मचारीहरुको नागरिक लगानी कोषमा व्यक्तिगत खाता खोली उपदान कोषको रकमको ७०% सम्म ऋण सुविधा लिन सक्ने व्यवस्था गरिएको छ । प्रसुती बिदामा र प्रसुती स्याहार बिदामा बस्दा कर्मचारीलाई एकमुष्ठ दस हजार रुपियाँ शिशु स्याहार भत्ता दिने व्यवस्था गरिएको छ । कुनै कर्मचारीले आफ्नो कुल धर्म अनुसार किरिया बस्नु परेमा त्यस्तो कर्मचारीलाई पुरा तलब भत्ता सहित १५ दिन किरिया बिदा दिने व्यवस्था गरिएको छ । केन्द्रमा कार्यरत कर्मचारीहरुको वृति विकासको लागि विनियमावली संसोधन तथा O & M सर्भेको कार्य अगाडी बढाइएको छ ।

अन्त्यमा, केन्द्रको विकास, विस्तार तथा स्थायीत्वको लागि निरन्तर लागिरहनु भएका केन्द्रमा कार्यरत सम्पूर्ण कर्मचारीहरु, स्वास्थ्य तथा जनसंख्या मन्त्रालय, नेपाल सरकारका सरोकारवाला निकायहरु, केन्द्रका वर्तमान एवं पूर्व संचालक समितिका सदस्यज्यूहरु, पूर्व कार्यकारी निर्देशकज्यूहरु, पूर्व कर्मचारीहरु, रक्तदाताहरु, चन्दादाताहरु, गैर-सरकारी संस्थाका प्रतिनिधिहरू, पत्रकारहरु, विरामी तथा उहाँहरुका आफन्तहरु एवं सम्पूर्ण शुभेच्छुकमा हार्दिक धन्यबाद व्यक्त गर्न चाहन्छु ।

मितिः २०८१ माघ १५ गते, मंगलबार ।

आर्थिक बर्ष २०८०/०८१ को कार्यक्रम प्रगति तथा आय ब्यय विवरण

-आर्थिक प्रशासन महाशाखा

केन्द्रको मुख्य उदेश्य मुटुरोगीहरुलाई सहज, सर्भसुलभ र उच्चस्तरीय सेवा प्रदान गर्नु हो । केन्द्रले आफ्नो उदेश्य प्राप्तिका लागि बिगतका बर्षहरुमा झैँ बिभिन्न कार्यक्रमहरु संचालन गरेकोमा भौतिक र वित्तीय प्रगतिमा केन्द्रले शत प्रतिशत सफलता हासिल गरेको छ। ती कार्यक्रम संचालनका लागि नेपाल सरकारको तर्फबाट अनुदान स्वरूप रु. ४५ करोड ५ लाख बजेटको व्यवस्था भएको र स्वास्थ्य करकोषको तर्फबाट केन्द्रले प्राप्त गर्दै आएको अनुदान बिगत केहिबर्ष देखि पाप्त गर्न सकेको छैन। स्वास्थ्य करकोष जुन परिकल्पना र उदेश्य अनुरुप स्थापना र गठन भएको हो त्यसलाई विचार गर्ने हो भने पक्कै पनि केन्द्र स्वास्थ्य करकोषको अनुदानबाट बिमुख नहुनु पर्ने हो।

केन्द्रले सम्पूर्ण संचालन खर्च र केही पूजीगत खर्च समेत आफैले गर्दै आएको कुरा यहाँ प्रस्तुत गरिएको तथ्यांकले समेत पुष्टि गर्दछ। यस आर्थिक बर्षमा केन्द्रले आन्तरिक श्रोतबाट १ अरब ८७ करोड ४४ लाख बजेट खर्च गर्ने गरी संचालक समितिबाट स्वीकृती प्राप्त गरेको थियो। यस आर्थिक बर्षको कूल बजेट २ अरब ३२ करोड ९४ लाख मध्ये कूल बजेटको १९.३४ प्रतिशत नेपाल सरकारबाट प्राप्त भएको बजेट थियो भने बाकी ८०.६६ प्रतिशत केन्द्रले आन्तरिक श्रोतबाट खर्चगर्ने गरी व्यवस्था गरेको थियो।

आर्थिक बर्ष २०८०/०८१ मा केन्द्रले सम्पादन गरेका मुख्य मुख्य कार्यक्रम तथा उपलब्धिहरु निम्नानुसार छन्।

१. परिक्षण सेवा:

यस आर्थिक बर्षमा केन्द्र र जनकपुरशाखा समेत गरी कुल जम्मा १५०,००० जना बिरामीहरुको बहिरंग सेवा पुरयाउने लक्ष्य राखेकोमा केन्द्रले २०४,४४० र जनकपुरशाखाले ११,९९३ गरी कुल जम्मा २१६,४३३ जना बिरामीहरुको मुटु परिक्षण गरेको छ । यसरी लक्ष्यको आधारमा १४४ प्रतिशत भौतिक प्रगति भएको देखिन्छ ।

२. शल्यक्रृया सेवा:

यस आर्थिक बर्षमा १५०० जना मुटुका बिरामीहरुको शल्यक्रिया गर्ने लक्ष्य राखेकोमा यस बर्षको अन्त्यसम्ममा कुल १८४३ जना बिरामीहरुको शल्यक्रिया गरिएको छ । यसरी लक्ष्यको आधारमा १२३ प्रतिशत भौतिक प्रगति देखिएको छ ।

३. १५ बर्ष मुनिका बालबालिका तथा ७५ बर्ष माथिका जेष्ठ नागरिक निशुल्क उपचार कार्यक्रम :

केन्द्रले नेपाल सरकारको कार्यक्रम तथा बजेट बक्तब्यमा घोषित राहत कार्यक्रमलाई निरन्तरता दिदै यस बर्ष पनि १५ बर्ष मुनिका बालबालिका तथा ७५ बर्ष माथिका जेष्ठ नागरिकहरुको निशूल्क उपचार गरेको छ। नेपाल सरकारको घोषित राहत कार्यक्रम अन्तर्गत १५ बर्ष मूनिका बालबालिकाको ७०० जना, ७५ बर्ष माथिका जेष्ठ नागरिकको ६०० जनाको शल्यक्रिया तथा उपचार गर्ने लक्ष्य राखेकोमा ११०० जना शूल्क तिर्न नसक्ने गरिब बालबालिका तथा १०३५ जना जेष्ठ नागरिकहरुको बिभिन्न किसिमको शल्यक्रिया र उपचार गरेको छ। यसरी लक्ष्यको आधारमा क्रमश: १५७ प्रतिशत १७२.५ प्रतिशत भौतिक प्रगति भएको देखिन्छ ।

४. बाथ मुटुरोग शल्यक्रिया कार्यक्रम:

केन्द्रले नेपाल सरकारको कार्यक्रम तथा बजेट बक्तव्यमा घोषित राहत कार्यक्रम अन्तर्गत यस बर्ष ७०० जना बाथ मुटरोगीहरुको शल्यक्रिया गर्ने लक्ष्य राखेकोमा ७४० जना विरामीको शल्यक्रिया सम्पन्न गरेको छ। यसरी लक्ष्यको आधारमा १०६ प्रतिशत भौतिक प्रगति भएको देखिन्छ ।

५.पि टि एम सी (मुटुको साँगुरीएको भल्व खोल्ने)

यस बर्ष निशूल्क पि टि एम सी (मुटुको साागूरीएको भल्व खोल्ने) कार्यक्रम अन्तर्गत ३०० जना विरामीको उपचार गर्ने लक्ष्य राखेकोमा ३७५ जना बिरामीहरुको पि टि एम सी पध्दति मार्फत उपचार गरेको छ। यसरी लक्ष्य को आधारमा १२५ प्रतिशत भौतिक प्रगति भएको देखिन्छ ।

६. क्याथल्याब सेवा :

यस बर्ष क्याथल्याब मार्फत कुल १३८३१ जना बिरामीहरुको उपचार गरिएकोमा ६,६०५ जनाको एन्जियोग्राफी, २३९९ जनाको एन्जियोप्लास्टी, ४११ जनाको प्राइमरी एन्जियोप्लास्टी, ६६८ जनाको पेशमेकर, ५७९ जना ASD, VSD, PDA डिभाइहक्लोजर, १० जना टाभी, ४२० जना EPS/RFA/3D म्यापिंग तथा २७३९ अन्य लगायत बिभिन्न मुटुका रोगहरुको परिक्षण, उपचार र निदान गरिएको छ ।

७. सिटि स्क्यान सेवा :

यस बर्ष पनि केन्द्रले मुटु तथा अन्य रोगका बिरामीहरुलाई केन्द्रमा रहेको अत्याधूनिक कार्डियाक सिटि स्क्यान मार्फत सेवा प्रदान गरेको छ। जसमध्ये ३५८२ कोरोनरी एन्जियोग्राफी, ५५९ पल्मोनरी एन्जियोग्राफी, ४० रेनल तथा पेरिफेरल एन्जियोग्राफी र बाकी १७७४ गरी जम्मा कुल ५,९३५ जना बिरामीहरु छन्।

८. कार्डियाक एम आर आइ सेवा :

यस बर्ष केन्द्रमा रहेको अत्याधूनिक कार्डियाक एम आर आइ मार्फत ९९४ जना बिरामीहरुले सेवा प्राप्त गरे का छन् । ७९१ जना कार्डियाक एम आर आइ रुटिन तथा म्यापिंग छन् भने २०३ जना अन्य एम आर आइ सेवा छन् ।

९. प्रतिकारात्मक कार्यक्रम :

यस बर्ष केन्द्रले प्रतिकारात्मक कार्यक्रम अन्तर्गत बिभिन्न जिल्लामा १७ वटा निशूल्क शिविर संचालन गरी ५,८७० जना बिरामीहरुको मुटुरोग निदान, उपचार र अनूसन्धान गरेको छ उक्त निशूल्क शिविरमा २०६५ जना बिरामीहरुको इ सि जी (ECG), ३८९८ जना बिरामीहरुको इको (ECHO) र ४३५५ जना बिरामीहरुको ब्लड प्रेसर (BP) को जाच गरेको छ।

१०. बिपन्न नागरिक तथा स्वास्थ्य वीमा उपचार :

केन्द्रले ३,९८६ जना बिपन्न नागरिक मुटुका बिरामीहरुलाई नेपाल सरकार बिपन्न नागरिक उपचार कोषबाट रु.४२,८६,९४,०९६/- बराबरको उपचार गरिएको छ । त्यस्तै गरी ३०,८७० जना स्वास्थ्य विमा अन्तर्गत मुटुका विरामीहरुलाई स्वास्थ्य बीमा सेवा प्रदान गरेको छ ।

११. निष्कर्ष र योजना :

केन्द्रले यस आर्थिक बर्षमा बार्षिक कार्यक्रम तथा विकासका कार्य संचालन गर्नका लागि तय गरेको बजेट सोही बमोजिम पारदर्शी रुपमा खर्च गरी भौतिक र वित्तीय प्रगति हासिल गरेको छ। लक्ष्यका आधारमा नेपाल सरकारबाट प्राप्त अनूदान ४५ करोड छ लाख पुर्ण खर्च भइ शत प्रतिशत वित्तीय प्रगति गर्न सफल भएको छ भने भौतिक प्रगति १३७ प्रतिशत भएको देखिन्छ । केन्द्रको आन्तरिक तर्फ १ अर्ब ८७ करोड ४४ लाख बजेटको व्यवस्था गरिएकोमा १ अर्ब ८२ करोड ८९ लाख ८५ हजार खर्च भइ ९७.५८ प्रतिशत वित्तीय प्रगति भएको देखिन्छ भने भौतिक प्रगति पनि सोही बमोजिम भएको छ।

मुटुरोगीहरुलाई स्वदेशमा नै सर्वशूलभ रुपमा उच्चस्तरीय उपचार सेवा र सूबिधा प्रदान गर्नू नै केन्द्रको मुल उदेश्य हो । सरुवा रोगको तूलनामा नसर्ने रोगको भयाबह स्थिति संगसंगै केन्द्रमा सेवा लिन आउने मुटुका बिरामीहरुको अत्यधिक चापलाई मध्यनजर गर्दै केन्द्रको लक्ष्य र योजना बमोजिम आगामी बर्षमा मुटुका बिरामीहरुको उपचारलाई समय सापक्ष र अन्तराष्ट्रिय स्तरको सेवा प्रदान गर्नका लागि हाल केन्द्रमा रहेका Cathlab Machineले विरामीको चाप धान्न सक्ने स्थिति नरहेकोले अत्याधूनिक Hybrid Cathlab Machine खरीद गर्ने योजना रहेको छ । यसका साथै रोगको निदान र उपचार तथा शल्यक्रियामा समेत प्रयोग हूने उपकरण र औजार प्रयाप्त नभएकोले नेपाल सरकार स्वास्थ्य मन्त्रालय साग बजट व्यवस्थाको लागि अनूरोध गरिएको छ। साथ साथै आगामी बर्षमा केन्द्रमा दूई वटा अत्याधूनिक शल्यक्रिया कक्ष समेत थप भइ उक्त शल्यक्रिया

कक्ष बाट विरामीहरुलाई शल्यक्रिया सेवा प्रदान गरिने छ ।

नेपाल सरकारको नीति तथा कार्यक्रम बमोजिम मुटुरोगको निदान र उपचार बाट कोहि कसैले बिमूख हून नपरोस भन्ने उदेश्य अनूरुप देशको सातै प्रदेशमा सेवा विस्तार गर्ने योजना रहेको छ। त्यसको लागि हालको प्राबिधिक तथा दक्ष जनशक्तिले मुटुका बिरामीहरुको अत्यधिक चापलाई धान्न सक्ने स्थिति नरहेकोले देशबाट पलायन भएका र पलायन हूदै गरेका जनशक्ति लाई स्वदेशमानै उचित व्यबस्थापन गर्न हाल प्रदान गर्दै आएको सेवा सूविधालाई समय सापेक्ष बनाई परिमार्जन गर्नू पर्ने टडकारो आवश्यकता देखिन्छ साथै लक्ष्य र योजना बमोजिम आगामी बर्षमा मुटुका बिरामीहरुको उपचारलाई समय सापक्ष र अन्तराष्ट्रिय स्तरको सेवा प्रदान गर्नका लागि हाल केन्द्रका साथै देशभरी रहेका जनशक्ति प्रयाप्त पक्कै पनि छैन त्यसैले जतिसक्दो चांडो केन्द्रलाई प्रतिष्ठान बनाउन सकेमा आवश्यक जनशक्ति उत्पादन भइ मुटुको उपचारमको क्षेत्रमा कोसेढूंगा साबित हूने थियो त्यसको लागि सम्बन्धित सरोकार निकायमा योजना सहितको अवाधराणापत्र पेश समेत गरिसकिएको छ ।

यसका साथै नेपाल सरकारको नीति तथा कार्यक्रममा केन्द्रमा २०० बेडको अत्याधूनिक बाल मुटुरोग अस्पताल निर्माण गर्ने योजनाको परिकल्पना बमोजिम त्यसको डी पि आर तथा लागत अनूमान तयार गरी नेपाल सर कार स्वास्थ्य मन्त्रालयमा पेश समेत गरिसकेका छौ । भविष्यमा यस केन्द्रमा उपचार गर्न आउने कूनै पनि बालबच्चा मुटुरोगको समस्या, उपचार निदान र शल्यक्रियाबाट किन्चित बन्चित हूने छैनन् । साथै ती मुटुरोगी बिरामी बालबच्चा कूनै आर्थिक अभावले उपचारबाट बिमूख हूनूपर्ने छैन र उपचारका लागि विदेश जानूपर्ने स्थिति समेत रहने छैन ।

अन्तमा केन्द्रले बिगत २०६३/०६४ देखि सेवा प्रदान गर्दै आएको नेपाल सरकारबाट घोषित राहत कायक्रम १५ बर्ष मूनिका बालबालिका तथा ७५ बर्ष माथिका जेष्ठ नागरिक निशूल्क उपचार, बाथ (Free VALVE) मुटुरोग शल्यक्रिया, मुटुको साागूरीएको भल्व खोल्ने (PTMC) निशूल्क उपचारका लागि नेपाल सरकार स्वस्थ्य मन्त्रालयबाट अनूदान स्वरूप प्राप्त बजेट रकम बिरामीहरुको अत्यधिक चाप र ती बिरामीहरुको शल्यक्रियामा लाग्ने मुटुभित्र प्रत्यारोपण गर्नूपर्ने Devices तथा औषधीजन्य मेडिकल सामान विदेशी मुद्रामै खरीद गर्नूपर्ने हुन्छ साथै बिरामीको रोग र बिरामीको अस्पताल बसाई अनूसार खर्च हूने भएकोले प्रति बिरामी छूट्याएको निशूल्क उपचार रकम प्रयाप्त नभएकोले आगामी बर्षमा नेपाल सरकार स्वास्थ्य तथा जनसंख्या मन्त्रालयबाट अनूदान रकमको बजेटमा केन्द्रले प्रदान गर्ने गरेको सेवाका आधारमा बिनियोजन हूने छ भन्ने ठूलो आशा र भरोशा अनि बिश्वास लिएका छौ ।

शहिद गंगालाल राष्ट्रिय हृदय केन्द्र
बांसबारी, काठमाडौं
आय-व्यय विवरण
आ.व.२०८०/०८१

आय विवरण	अनुसुची	रकम	व्यय विवरण	अनुसुची	रकम	रकम
गत वर्षको जिम्मेवारी-केन्द्र	१	३,६८९,८८८,४०१।६४	जम्मा बजेट खर्च:			२,४०८,१२८,७८६।८३
गत वर्षको जिम्मेवारी धरौटी		१०,३४९,९६९।९३	चालु वर्षको बजेट खर्च	८	२,१५२,५११,६१२।३६	
नेपाल सरकारबाट प्राप्त अनुदान	५	४५०,५००,०००।००	गत वर्षको बजेट खर्च		२५५,६१७,१७४।४७	
स्वास्थ्य करकोषबाट प्राप्त अनुदान			नविल बैंक (धरौटी)	२		९,६०९,०२७।७५
आन्तरीक श्रोत आम्दानी-केन्द्र	४	२,२८८,३५१,६०८।८२	धरौटी खर्च	२		३,५०२,४३१।५६
रिटेन्सन तथा धरौटी	२	२,७६१,४८९।३८	सेवामा धरौटी (टेलिफोन,खानेपानी)			१७९,०००।००
ब्याज आम्दानी	३	१४५,२०६,३२७।९०	चारिटी तथा मिनाह खर्च	७		५५,९३५,४४१।००
धरौटी (टेलिफोन,खानेपानी)		१७९,०००।००	पेश्कि बाकी (प्रतिलपत्र तथा अन्य)	९		१३२,१९९,२९०।६६
दायित्व	६	४,१४४,२६९।७५	जम्मा लिनु पर्ने	१०		५५२,८७९,२६४।२०
			बैंक मौज्दात	१क		३,००५,३८५,७९१।४२
			नगद तथा मार्गस्थल मौज्दात	११		२३४,३४०,०५१।००
			गरीब विपन्न राहत खर्च		४२८,६९४,०९६।००	
			गरीब विपन्न राहत सोधभर्ना प्राप्त	१०क	२३९,४७२,११८।००	१८९,२२१,९७८।००
जम्मा		६,५९१,३८१,०६२।४२	जम्मा			६,५९१,३८१,०६२।४२

(नरेश चिपालु)
वरिष्ठ लेखा अधिकृत

(मनोज कुमार बिष्ट)
आर्थिक प्रशासन प्रमुख

(डा. रवि मल्ल)
कार्यकारी निर्देशक

(झविन्द्र प्रसाद भण्डारी)
आन्तरिक लेखा परीक्षक

DEPARTMENT OF CARDIOVASCULAR SURGERY

Dr. Dharmendra Joshi, Dr. Aman Ray, and Dr. Prakrit Dhakal

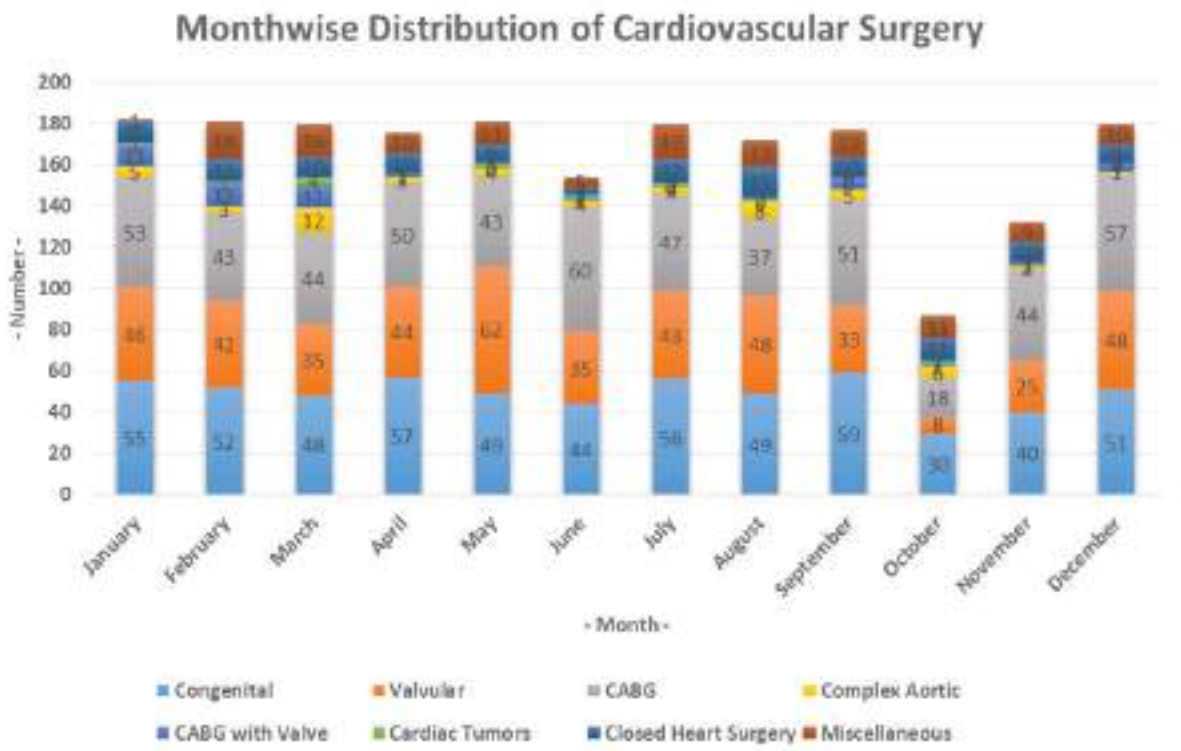
INTRODUCTION

The Department of Cardiovascular Surgery at Shahid Gangalal National Heart Center, Kathmandu, has continued its legacy of excellence and innovation throughout the year 2024. Our dedicated team of surgeons, anesthesiologists, nurses, and support staff has worked tirelessly to provide the highest-quality care to our patients, achieving outstanding clinical outcomes and advancing the field of cardiovascular surgery.

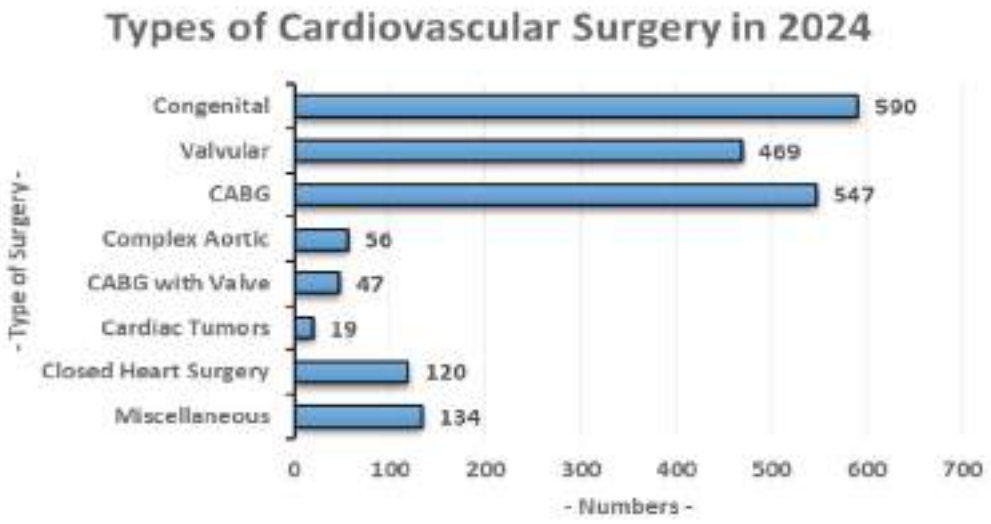
CLINICAL ACHIEVEMENTS

This year, our department operated on total of 1982 patients, the highest number in Nepal. There were total of 1,99,972 (male: 1,05,254 and female: 94,718) out patient department (OPD) patients in 2024. Among 1982 surgeries, 1729 were Open Heart Surgery (OHS), around a 9% increment compared to the previous year. OHS includes coronary artery bypass grafting (CABG) accounts for 547 (31.63%), valvular heart surgery accounts for 469 (27.13%), and congenital heart surgery accounts for 590 (34.12%). Congenital heart surgery also increased by around 10% compared to the previous year.

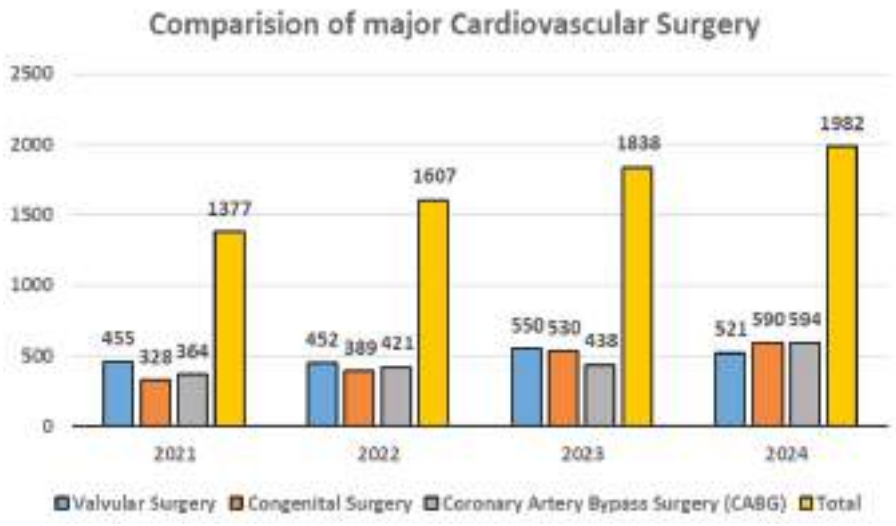
About 56 (3.03%) Complex aortic surgeries were performed including ascending aorta replacement in 21 cases, Modified Bentall's procedure in 27 cases, CABG with Modified Bentall's procedure in 3 cases, aortic valve replacement (AVR) with ascending aorta replacement in 3 cases, AVR with Aortic Root Replacement in 1 case, and Florida Sleeve procedure 1 case. We performed 47 (2.5%) CABG with valvular heart surgery, 19 cases (1.03%) of Cardiac Tumors (right atrial/left atrial myxoma or mass) excision, and 120 cases (6.49%) of closed heart surgeries (BT Shunts, PDA division and ligation, Coarctation of the aorta repair, Pericardiectomy, Pericardial window and drainage).



Miscellaneous procedures include 134 cases of Re-exploration, Epicardial pacemaker insertion or Generator replacement, Pseudoaneurysm repair, Fogarty embolectomy, Emergency removal of stuck devices like ASD, guidewires etc.



The re-exploration rate in 2024 was 2.71% which is around a 50% reduction compared to the previous year and overall mortality in cardiovascular surgery reduced to 5.55% in 2024 from 7.94% in 2023. We also performed complex pediatric cardiac surgery successfully. Arterial switch surgery for the Transposition of great arteries is regularly done in our department with 22 cases of successful discharge from the hospital. Our success rates continue to improve each year, with outstanding outcomes and minimal complications.



ACTIVITIES

This year we welcome a very energetic and enthusiastic registrar Dr. Bishal Singh in our department. Dr. Marisha Aryal and Dr. Rheecha Joshi were honored at the XXII International Congress on Management of Cardiovascular Diseases held in October 2024 at Kathmandu, Nepal, along with other women in cardiovascular services, in recognition and appreciation of a lifetime and outstanding contribution to the profession and establishment and development of cardiovascular services in Nepal.

Dr. Avash Karki and Dr. Rheecha Joshi were promoted to Cardiac Surgeon in June and July 2024 respectively. Dr. Navin C. Gautam was appointed as Associate Professor along with Dr. Apurba Thakur and Dr. Dharmendra Joshi as Assistant Professors of CTVS, National Academy of Medical Sciences (NAMS), Kathmandu, Nepal in November 2024.

Dr. Dharmendra Joshi and Dr. Alka Singh attended the "70th Annual Conference of the Indian Association of Cardiovascular Thoracic Surgeons (IACTSCON)" in Bhubaneswar, India in February 2024. Similarly, Dr. Navin C. Gautam and Dr. Apurba Thakur participated in the "Edwards CTVS observatory workshop on Total Arterial CABG" in Ludhiana, India in March 2024.

We plan to strengthen congenital heart surgery team in our department. For this, we have been collaborating with Seoul National University Hospital (SNUH), Seoul, South Korea since last several years. In June 2024, our surgery department had the honor of hosting Prof. Dr. Woong-Han Kim and his expert team from SNUH as part of an exchange program with SNUH. This year, our surgeon Dr. Nirmal Panthee led a team of cardiologist, perfusionist, and ICU nurses for clinical training in SNUH between June and July 2024.

Dr. Nirmal Panthee gave an invitational talk on "Knowledge and skill transfer for congenital heart surgery: Recepient institute's perspective" during 4th Asian Association for Pediatric and Congenital Heart Surgery (AAPCHS) and 38th KTCVS Spring meeting in Seoul in May-June of this year. Dr. Nirmal Panthee and Perfusionist Lalita Shakya attended "Pulmonary Hypertension Korea 2024" meeting along with the "4th East Asian Society for Pulmonary Hypertension meeting" in Seoul in July 2024.

Dr. Nivesh Rajbhandari participated in the workshop on Aortic Root Enlargement at The Mission Hospital, Durgapur, West Bengal, India in August 2024. He also attended the 8th Annual Conference and workshop of the Society of Minimally Invasive Cardiovascular and Thoracic Surgeons of India (SMICTSI), in Kolkata, India in September 2024. Similarly, Dr. Marisha Aryal visited Malaysia to attend the "32nd Annual Congress of the Association of Thoracic and Cardiovascular Surgeons of Asia (ATCSA)" in November 2024.

RESEARCH AND EDUCATION

Our department is committed to advancing the field through research and education. This year, we published many peer-reviewed articles in leading medical journals and presented our findings at many national and international conferences.

1.Several presentations were done by the faculty members of cardiac surgery at the XXII International Congress on Management of Cardiovascular Diseases held on 25-26 October 2024 in Kathmandu, Nepal.

a) Dr. Rabindra Bhakta Timala presented on the topics: a. Tricuspid Valve Repair in Infective Endocarditis, b. Our journey with transposition of great arteries, c. New surgical initiatives in Shahid Gangalal National Heart Center, and d. Rheumatic Mitral Repair: Midterm follow-up.

b) Dr. Sidhartha Pradhan talked on the topic "Trials and tribulations in pediatric cardiac services".

c) Dr. Navin C. Gautam presented about "Strategies to improve the outcomes of females undergoing Cardiac Surgery".

d) Dr. Bishow Pokharel presented on the topic "AVR and Valve Size Adjustment".

e) Dr. Nirmal Panthee gave a talk on "Rastelli operation using a custom-made trileaflet valved conduit".

2. Multidisciplinary CMEs are being carried out on a weekly with participation from surgery, anesthesia/critical care, pediatric cardiologists, perfusionists, radiologist, and ICU nurses.

3. Dr. Marisha Aryal has been working as an Executive Editor of Nepalese Heart Journal and she has been awarded a fellowship in Congenital Heart Surgery, at Institute Jantung Negara (INJ), Kuala Lumpur, Malaysia.

4. Publications:

a. Neupane, N. P., Rajlawot, K., Adhikari, C. M., Tamrakar, R., Prajapati, D., Simkhada, R., Joshi, S., Timilsena, B. K., Shahi, R., Koirala, P., Aryal, M., Timala, R. B., and Shakya, U. (2024). Our experience with cardiac MRI in a tertiary health care center in Nepal. Nepalese Heart Journal, 21(1), 31–36. https://doi.org/10.3126/nhj.v21i1.65648

b. Joshi, D., Shrestha, A., Rahman, M., & Hoque, M. R. (2024). Preoperative red cell distribution width and its relation with in-hospital morbidities including atrial fibrillation after coronary artery bypass. Nepalese Heart Journal, 21(2), 19–24. https://doi.org/10.3126/nhj.v21i2.70864

c. Timala, R. B., Aryal, M., Joshi, D., Timala, T., Pathak, S., Rajbhandari, N., Gautam, N. (2024). Konno Rastan Aortoventriculoplasty: The Last Resort for Complex Left Ventricular Outflow Tract Obstruction. Nepalese Heart Journal, 21(2), 47–49. https://doi.org/10.3126/nhj.v21i2.70781

INNOVATIONS AND DEVELOPMENTS IN CARDIAC SURGERY

This year like in previous years, we thrive to push our department to new limits for better outcomes for the patient. We continued to improve our outcomes in newer innovative surgical approaches for our department like Off-pump CABG, Bo-Yang Y incision Aortic Root Enlargement, atrial switch and half truncal switch procedure, neo-pulmonary valve creations from right atrial appendage, and Nikaidoh procedure. We also performed successfully some newer procedures like Unifocalization of Major Aorto Pulmonary Artery Collaterals (MAPCA),

Right ventricular overhaul with biventricular repair for hypoplastic right ventricle, and Double aortic root enlargement. We have increased the number of beds in our adult and pediatric ICU along with an increment in the number of staff that have shown a positive impact on the care of the patient. Critical Care Department has been established with the aim of better ICU care and outcome.

FUTURE DIRECTIONS

Looking ahead, we are excited about several upcoming projects, including the extension of our adult and pediatric cardiac surgery units in the near future. The new pediatric complex is planned for construction soon. We are planning to extend the number of operation theatres to increase the number of surgeries performed daily to alleviate the waiting list. There are several ongoing research and clinical trials aimed at improving patient outcomes. Similarly, electronic data collection has also commenced. We remain committed to pushing the boundaries of cardiovascular surgery and providing exceptional care to our patients.

CONCLUSION

The Department of Cardiovascular Surgery has had a remarkable year, marked by clinical excellence, innovative advancements, and a deep commitment to patient care. We thank our dedicated team and our partners for their unwavering support and look forward to another year of outstanding achievements.

DEPARTMENT OF ANESTHESIOLOGY

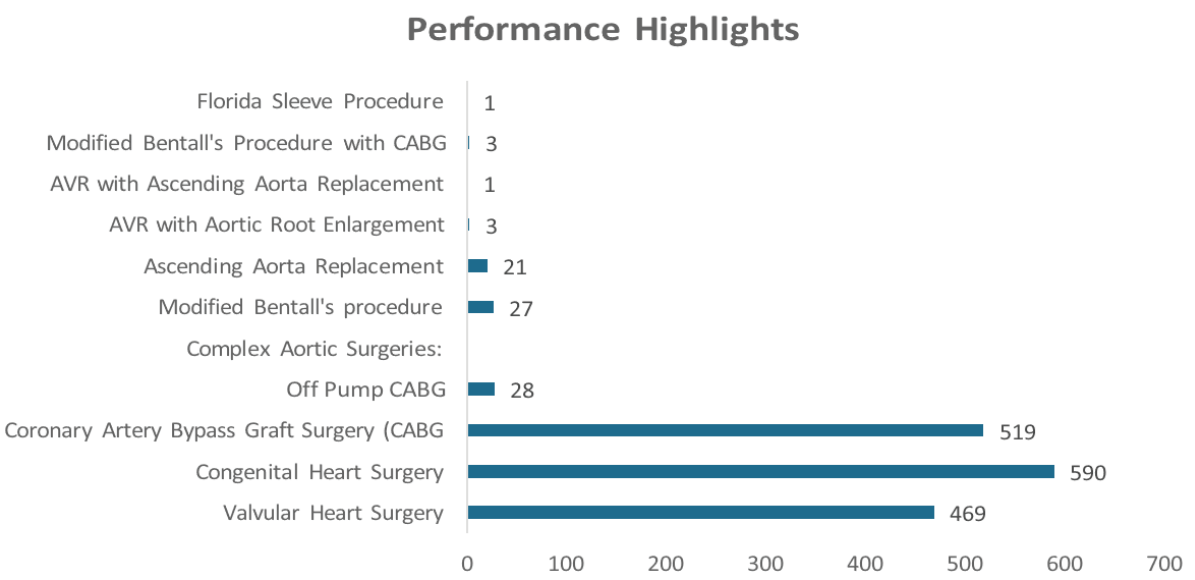
The Department of Cardiac Anesthesia at Shahid Gangalal National Heart Centre, established in 2001, specializes in providing advanced perioperative anesthetic and critical care for cardiac patients. The team comprises 11 registered anesthesiologists and two resident doctors. The department's services include:

- **Preoperative Preparation:** Assessing and preparing patients for cardiac surgery.
- **Intraoperative Management:** Delivering expert anesthesia care and utilizing transesophageal echocardiography during procedures.
- **Postoperative Care:** Offering intensive care for patients after cardiac surgeries.

In addition, the department provides anesthetic support for pediatric catheterization lab, CT/MRI scan rooms, and primary percutaneous coronary interventions (PCI) performed outside the operating room. It also plays a vital role in respiratory care especially focusing in mechanical ventilated patients in coronary care and medical intensive care units, ensuring comprehensive cardiac care.

PERFORMANCE HIGHLIGHTS (2024)

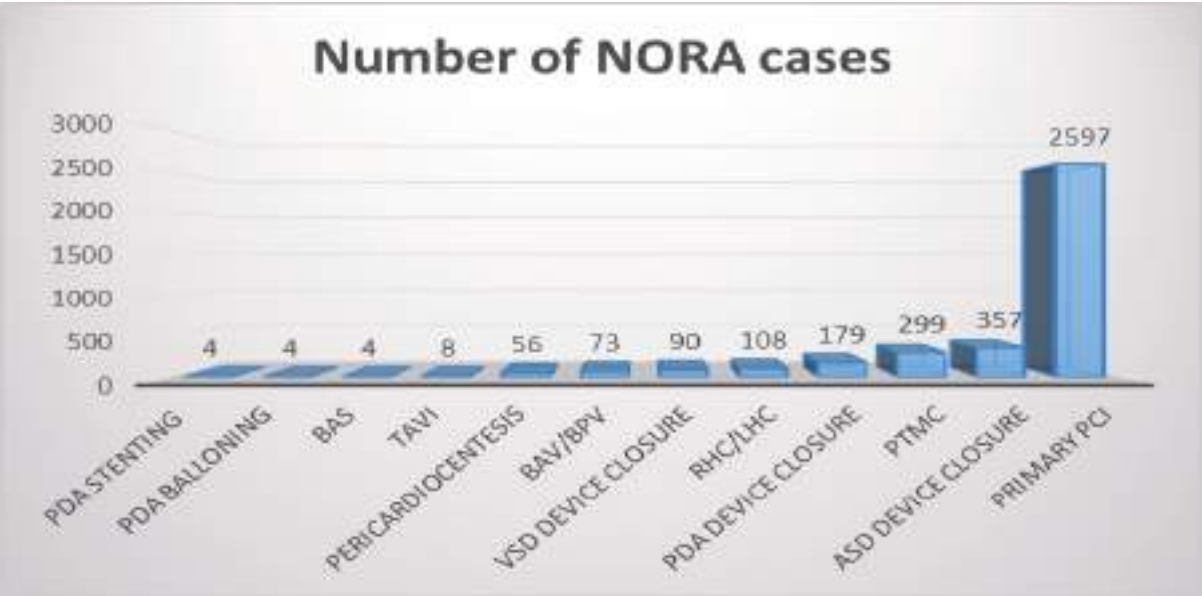
In 2024, the department managed 1982 surgical cases, of which 1,287 were Open Heart Surgeries (OHS). Key categories include:



Additional surgeries included combined CABG and valvular heart procedures (47 cases), removal of atrial myxomas/mass (19 cases), and closed heart surgeries (120 cases) such as Patent Ductus Arteriosus (PDA) closure and pericardial procedures. Miscellaneous surgeries (Reexploration, AV fistula, wound debridement, Secondary closure, Pacemaker) accounted for 133 cases.

NON-OPERATING ROOM ANESTHESIA (NORA)

Increased demand for out-of-OR anesthetic services was noted, with the following cases managed:



FOCUS ON PATIENT BLOOD MANAGEMENT

Over the past year, the Department has prioritized patient blood management, emphasizing its commitment to improving patient outcomes by implementing strategies to minimize blood loss, reduce reliance on transfusions, and enhance safety during cardiac procedures.

As part of this initiative, the Department organized a panel discussion on patient blood management during the 22nd Annual Conference of the Society of Anesthesiologists of Nepal

in March 2023. The session, led by Asscociate professor Dr. Ashish Govinda Amatya, featured experts from various fields, including transfusion medicine, cardiology, cardiac surgery, hematology, and cardiac anesthesiology. The discussion explored key topics such as evidence-based transfusion practices, preoperative hemoglobin optimization, intraoperative blood conservation techniques, and postoperative strategies for managing bleeding.

The objective was to provide healthcare professionals with the knowledge and tools necessary to effectively manage patients' blood needs and achieve better clinical outcomes. The department's focus on patient blood management and its active participation in the conference highlight its dedication to advancing cardiac care and maintaining the highest standards of patient safety.

During the course on patient blood management, the department also showcased innovative techniques, shared clinical case studies, and facilitated interactive sessions to promote practical learning and multidisciplinary collaboration. Feedback from participants reaffirmed the significance of these efforts in enhancing knowledge and fostering teamwork among healthcare providers.

ESTABLISHMENT OF CLOSE ICU

Establishing a Close Intensive Care Unit (ICU) in a hospital is a critical and challenging process, led by the Department of Anesthesia with support from a multidisciplinary team. As a vital component of critical care, the success of an ICU depends on careful planning, seamless execution, and effective teamwork. Essential Steps in Setting Up an ICU:

1. Vision and Leadership: Strong leadership is key to defining the ICU's purpose, securing resources, and aligning its goals with the hospital's mission of providing high-quality care.

2. Medical Expertise: Specialists, particularly intensivists, play a pivotal role in designing the ICU layout, selecting essential equipment, and establishing protocols to ensure the unit is equipped to handle complex cases.

3. Nursing Contributions: ICU nurses provide valuable insights into patient care processes, monitoring systems, and staff training needs. Their hands-on experience ensures the unit is both efficient and patient-focused.

4. Administrative Support: The administrative team manages funding, logistics, regulatory compliance, and staff recruitment. They are instrumental in coordinating all aspects of the ICU's establishment and operation.

5. Collaborative Execution: Once plans are in place, teamwork during construction, equipment setup, and staff orientation ensures smooth implementation. Regular feedback helps address challenges and improve operations.

An ICU is not just a facility; it is a lifeline for patients in critical condition. Its effectiveness relies on the dedication, collaboration, and shared vision of the team involved. With a cohesive approach, the ICU can become a center of excellence, offering hope and life-saving care to patients and their families.

ACADEMIC CONTRIBUTIONS AND ACHIEVEMENTS TRAINING AND EDUCATION

- **Fellowship Programs:** The department's cardiac anesthesia fellowship program continues to produce highly skilled anesthesiologists, with two fellows completing one year of their training so far.
- **Residency Training:** Residents from various medical colleges undergo specialized training in cardiothoracic anesthesia, equipping them with advanced clinical skills and expertise. It includes residents from government institute like NAMS, Nepal Army hospital and private institute like B&B hospital, medical colleges like NMCTH, KMCTH.

FACULTY ACHIEVEMENTS

- **Associate professor Dr. Ashish Govinda Amatya:**
  - Participated in the Joint Annual Meeting of the Indian Society for Heart and Lung Transplantation (INSHLT) and the Society for Heart Failure and Transplantation (SfHFT) held in Ahmedabad, India, from October 18–20, 2024.
- **Assistant professor Dr. Battu Kumar Shrestha:**
  - Attended a Hemodynamic Monitoring Workshop at CRITICARE 2024 in Kolkata.
  - Conducted Hemodynamic Monitoring Workshops at SANCON 2024 and NSCCMCON 2024.
  - Delivered a lecture on "Advances in Myocardial Protection in Cardiac Surgery" as a faculty member at IOM CURRENT 2024.
- **Assistant Professor Dr. Sandip Bhandari:**
  - Appointed as Assistant Professor at the National Academy Medical Center.
- **Dr. Rabin Baidya:**
  - Conducted workshops on hemodynamic monitoring and completed advanced training in echocardiography.
- **Assistant professor Dr. Smriti Mahaju:**
  - Participated in the Joint Annual Meeting of the INSHLT and SfHFT in Ahmedabad, India (October 18–20, 2024).
  - Presented on "Anticoagulation and Bleeding Management in ECMO – Strategies and Challenges" at the 22nd Cardiac Society of Nepal Annual International Conference.
- **Dr. Sanjeep Ranjitkar:**
  - Attended the 71st ISACON conference organized by the Indian Society of Anesthesiologists.
  - Participated in IOM CURRENT 2024.

WORKSHOPS AND CONFERENCES

The department successfully hosted ECMO workshop during the Cardiac Society of Nepal's annual conference. The workshop attracted multidisciplinary participants who acquired practical skills now implemented in clinical practice, significantly improving patient outcomes. Also on same conference we ran a session on cardiac anesthesia and critical care featuring various international and national speaker not to forget Professor Dr.Graeme MacLaren current president of ELSO society.

In addition, the Department also conducted a 'Hemodynamic Monitoring workshop' during the Society of Anaesthesiology conference (SANCON 2024) in 2024 March. The workshop was held in Shahid Gangalal National Heart Centre involving approximately 50 participants and faculties, who acquired practical skills now implemented in clinical practice and new development in the field of hemodynamics.

Future Directions

The department aims to address evolving healthcare challenges through the following initiatives:

- Strengthening goal-directed patient blood management to minimize transfusion related risks.
- Expanding subspecialty services in pediatric anesthesia and critical care. Investing in advanced equipment and staff training programs to enhance perioperative care and patient safety.

By pursuing these objectives, the department remains committed to providing high-quality care, fostering education, and contributing to advancements in the field of cardiac anesthesia.

CRITICAL CARE SERVICES

Dr Battu Shrestha, Dr Sanjeep Ranjitkar

Critical care the name itself imparts care for the critically ill patients. The addition of Cardiac contributes with unique challenges due to delicate nature of the Heart. In patient service at Gangalal Hospital was started from Baisakh 2056 BS. Intensive care service was started from Bhadra 2058 BS. Since then, this center has expanded its services significantly. At the moment, we have more than 300 beds with It expands its services with 70 critical care beds. Recently the critical care department has established and started semi closed critical care services.

Previously SGNHC adopted an open critical care practices where primary care physicians or surgeons manage patient care in collaboration with critical care specialists, but they retain decision-making authority. With the change in time, development of critical care practices and availability of trained specialist, dedicated intensivists assume primary responsibilities for all aspect of patient care within ICU while primary physician /surgeons remain involved in consultative role. Many studies that shown closed ICU can lead to better patient outcomes, including reduced mortality and length of stay. Many developed already adopted this system and developing countries including Nepal has also started closed critical care practices. This practice helps in centralizing the care where care is standardized and coordinated under a single, specialized team. Rapid decision-making and implementation are possible. It overcome the disadvantages of open critical care practices like inconsistencies in care, delay in providing care as critical decisions may be delayed due to time taken during communication between teams and overlapping or contradictory protocols can lead to inefficient use of resources

.

The transition from open intensive care units to closed one has various challenges. One of the fundamental principles of a closed critical care system is adherence to standardized institutionbased protocols. However, establishing such protocols in a cardiac center where each cardiologist and cardiac surgeon prefers their own management style is a significant challenge. Consultants accustomed to open ICU practices may resist control of a dedicated critical care

team. The reasons of their reluctance include concerns about patient outcomes, professional ego, or distrust of a relatively new system. Convincing consultants to adopt evidence-based, standardized protocols requires strong leadership, effective communication, and collaborative efforts. Developing protocols should accommodate the needs of cardiac surgeons, interventional cardiologists, anesthesiologists, and intensivists, which itself is a complex task. Each specialty has unique perspectives on patient management, and finding common ground requires robust multidisciplinary teamwork. Without proper coordination, conflicts may arise, leading to delays in implementation and inconsistencies in practices.

Our current critical care team is providing the services to multiple areas of this center, including adult and pediatric surgical ICUs, CCUs, catheterization labs, and post-operative care. Managing these wide areas of responsibilities is a huge task. Providing anesthesia in the cath lab or during re-exploration of post-operative cases demands additional experience in addition to experience of managing the patient in ICUs. Caring for both adult and pediatric patients in a cardiac ICU adds another layer of complexity as pediatric patients have unique physiological needs, requiring specialized expertise.

Infection prevention and control (IPC) is a cornerstone of critical care, particularly in cardiac centers where patients are highly susceptible to infections due to critical illness, decrease immunity, invasive procedures and prolonged ICU stays. One of the major challenges in implementing IPC protocols is ensuring adherence among healthcare providers. Lack of awareness, inadequate training, and time constraints contribute to poor compliance. Healthcare providers themselves may fail to follow basic IPC measures such as hand hygiene, proper use of personal protective equipment (PPE), and sterile techniques during procedures.

Staff education and training to doctors, nursing staff, and allied health professionals is the key step in the success critical care services. Intensivists require specialized training in critical care medicine. They should update themselves recent evidence-based practice and to the technologies. Nurses, as the backbone of ICU care, need expertise in patient monitoring, ventilator management, infection control, and emotional resilience to handle the high-stress environment. Allied health professionals, such as respiratory therapists, dietitians, and pharmacists, must be equipped with role-specific skills and collaborative training to provide holistic care.
In conclusion, the transition from open to closed critical care practices at SGNHC is a significant milestone in advancing patient care, particularly in the challenging field of cardiac critical care. The success of this shift to a closed critical care system lies on the expertise of intensivists, collaborative help from the primary care physicians, the dedication of nursing staff, and the coordination of allied health professionals, all supported by ongoing education and evidence-based practices.

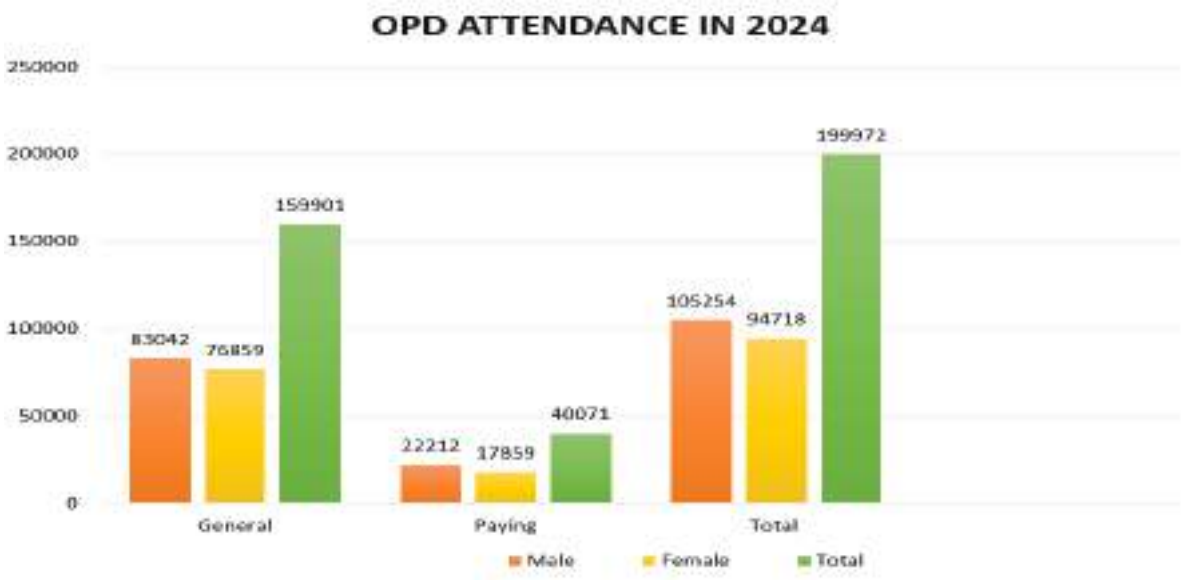
NON–INVASIVE CARDIOLOGY AND OPD SERVICES

Dr. Sanjida Ansari, Dr. Binod Dangol, Dr. Bimal Gyawali, Dr.Rahul Yadav, Dr. Sibani Thapa

Established in 1995, Sahid Gangalal National Heart Centre (SGNHC) is the one of the oldest tertiary cardiac centre of Nepal. Thousands of patient from all over the country has already been benefited from the various services it has been providing and the number of patient is increasing each year. Non-invasive cardiology focuses on detection and treatment of cardiac conditions using simple external tests, imaging tests without any invasive instrumentations. The hospital is well equipped with various such devices and machines and with our expert healthcare professionals, SGNHC is able to provide quality care for most of cardiac illnesses. These non-invasive tests are safe, cost-effective, painless and uncomplicated to perform.

SERVICES PROVIDED

As non-invasive and OPD service provider we perform various tests like electrocardiogram(ECG), Echocardiography which includes stress echo, Transthoracic and Transesohageal echo(TTE/TEE), fetal echo,3D echo, treadmill test(TMT), Holter monitoring, Ambulatory BP monitoring(ABPM), Ultrasonography(USG), Doppler study including carotid, arterial and venous Doppler study, CT scan, MRI scan, X- ray and Benzathine penicillin injection. The 640 slice CT scan provides the services for CT coronary angiography, CT pulmonary angiography, CT aortogram in addition to CT of various body parts. The addition of MRI is the major strength to our resources in diagnosing rare cardiac conditions. With the provisions of these services the number of patients is increasing every year as seen in 2024: a total of 199972 patients (105254 males and 94718 females) attended our OPD compared to 192991 in 2023.



Number of Patients Receiving Non-Invasive Services in 2024

Investigations	Male	Female	Total
ELECTROCARDIOGRAM	70139	54108	124247
MAGNET ECG	1200	886	2086
TMT	5371	3394	8765
HOLTER	2124	2039	4163
ABPM	2144	1663	3807
ECHOCARDIOGRAM	38916	34217	73133
ECHO SCREENING	11584	9620	21204
DOBUTAMINE STRESS ECHO	16	8	24
EXERCISE STRESS ECHO	1	0	1
FETAL ECHO	0	2546	2546
TEE	440	871	1311
USG ABDOMEN/PELVIS	3003	2564	5567
USG(THYROID, BREAST,MSK)	88	109	197
SINGLE LIMB ARTERIAL DOPPLER	90	76	166
SINGLE LIMB VENOUS DOPPLER	49	63	112
BILATERAL LOWER LIMB VENOUS DOPPLER	31	25	56
BILATERAL LOWER LIMB ARTERIAL DOPPLER	829	254	1083
BILATERAL LIMBS VENOUS DOPPLER	53	30	83
CAROTID DOPPLER	774	307	1081
RENAL DOPPLER	255	125	380
X RAY	37409	30907	68316
CT SCAN	3327	2943	6270
MRI	628	375	1003

PEDIATRIC CARDIOLOGY SERVICE

Dr. Amshu Shakya, Dr.Kul Ratna Thapa Dr.Devaki Khadka,Dr Sadikshya Pandey,
Dr.Lakshyapurna Parajuli, Dr. Kripashree Dhakal

INTRODUCTION

The Department of Pediatric Cardiology at Shahid Gangalal National Heart Centre stands as a cornerstone in the specialized care of children with heart disease. As one of the largest and most reputable referral centers in the country, it is dedicated to providing comprehensive medical attention to young patients facing a wide range of cardiovascular conditions. With a growing number of cases each year, the center is increasingly recognized for its ability to handle a diverse array of complex cardiac issues, offering expert diagnosis, treatment, and management. The department's commitment to excellence in pediatric cardiac care continues to make a profound impact on the lives of children and families across the nation.

SERVICES PROVIDED

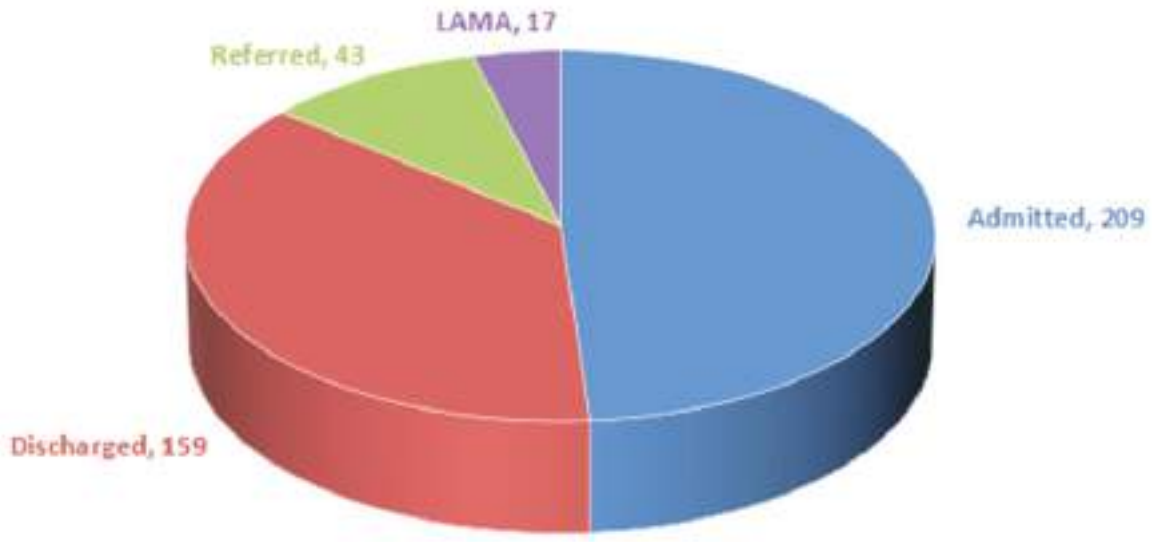
The Department of Pediatric Cardiology has been providing comprehensive care since 2004, with its services expanding annually to meet the growing needs of patients. Currently, the department offers a wide range of services including Cardiology Clinics, 24-hour Emergency services, Inpatient Care, Critical Care, Diagnostics and Therapautic Catheterisation Services, Cardiac Imaging, Fetal Cardiac Services, and Preventive Cardiology. In the upcoming year, new clinics such as the Adult Congenital Heart Disease Clinic, Heart Failure Clinic, and Electrophysiology Clinic will be introduced to further enhance patient care. To improve patient management, the department established a 10-bedded pediatric ward in 2019, staffed by 24-hour in-house doctors. In 2024, a total of 1293 patients were admitted, with the majority requiring catheter-based interventions. Additionally, the department provides specialized care for patients requiring CT angiograms and manages post-operative care in the Pediatric Surgical Intensive Care Unit (PSICU) for children who have undergone cardiac surgeries. The department's multidisciplinary approach ensures comprehensive care for both pre-operative and post-operative patients across various surgical wards.

DIAGNOSIS	TOTAL NUMBER OF PATIENT
Rheumatic Heart Disease	45
Heart Failure	49
Catheter Based Interventions	420
Cyanotic Heart Disease	195
Acyanotic Heart Disease	337
Cardiac CT	156
Cardiac MRI	6
Arrhythmia	24
Infective Endocarditis	13
Pericardial Effusion/Pericardiocentesis	18
Miscellaneous	30
Total	1293

Table Showing total numbers of admission with diagnosis

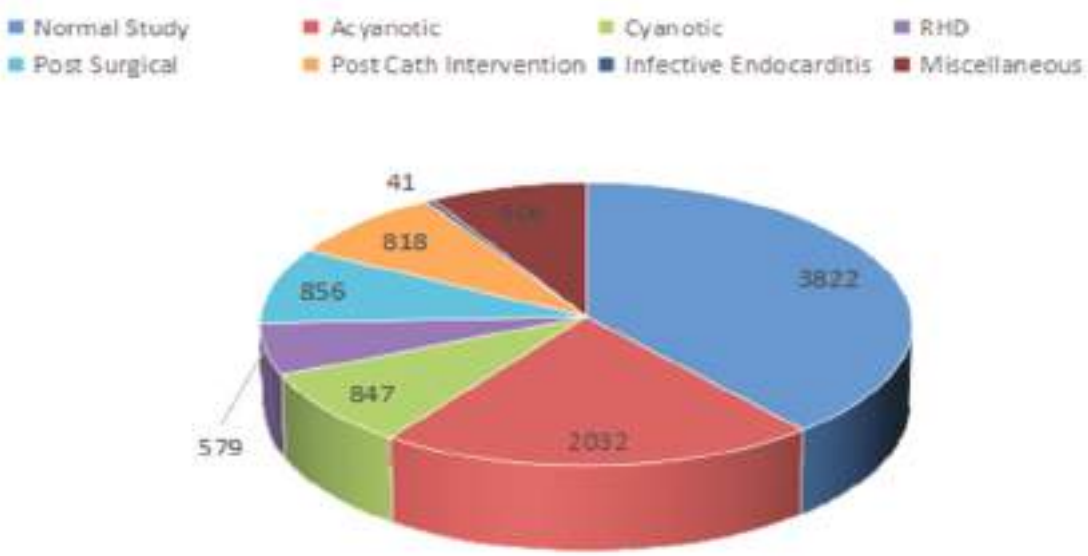
PEDIATRIC SERVICE AT EMERGENCY DEPARTMENT

The Pediatric Cardiology Department provides round-the-clock emergency services for pediatric cardiac cases, ensuring timely and efficient care for critically ill children. With a dedicated pediatrician on-call 24 hours a day, the department attended to a total of 428 pediatric patients in the Emergency Department (ED) this year. Of these, 209 patients required urgent care for critical cardiac conditions, leading to their admission for comprehensive management, while the remaining cases were monitored through follow-up appointments in the outpatient department. The majority of hospitalized patients were diagnosed with Rheumatic Heart Disease, followed by structural and congenital heart conditions, as well as various arrhythmias. For non-cardiac cases, after thorough evaluation and stabilization, patients were promptly referred to general pediatric services for further care, ensuring the best possible outcomes for all children in need of emergency medical attention.



PEDIATRIC ECHOCARDIOGRAPHY SERVICE

At the Pediatric Echo Lab, a comprehensive screening approach is employed for children visiting the pediatric OPD. Most children undergo transthoracic echocardiography as part of their evaluation. In addition to our routine patients, we also receive referrals from other hospitals for echocardiographic assessments. A total of 9,801 cases have been evaluated at the Pediatric Echo Lab, with the youngest patient being just one day old and the oldest being 43 years. Among these, 61% (n=5,979) of patients showed abnormal findings. The most prevalent condition observed was acyanotic heart disease, accounting for 34% of abnormal findings. Other notable abnormal findings included cyanotic congenital heart disease, rheumatic heart disease, post-catheterization and post-surgical cases, infective endocarditis, and various miscellaneous conditions. This comprehensive screening ensures early detection and management of a wide range of pediatric cardiac conditions, contributing significantly to the overall care of children with heart disease.



CARDIAC CT

In the management of Congenital Heart Disease (CHD), Cardiac CT has significantly expanded the capabilities of cross-sectional anatomical imaging, making it a vital complementary tool to traditional diagnostic methods such as echocardiography, cardiac magnetic resonance imaging (MRI), and cardiac angiography. It has proven particularly valuable in assessing patients with abnormalities in the pulmonary artery and pulmonary veins. Since the initiation of CT reporting by the Department of Paediatric Cardiology in 2018, there has been a notable increase in the number of patients utilizing cardiac CT at our center. In 2025 alone, a total of 417 pediatric patients underwent cardiac CT, with 345 of them receiving cardiac CT pulmonary angiograms, while the remaining patients were referred for CT aortograms. This growing use of cardiac CT highlights its crucial role in enhancing diagnostic accuracy and treatment planning for children with complex congenital heart conditions.

FETAL ECHOCARDIOGRAM

The Department of Paediatric Cardiology has been at the forefront of providing fetal echocardiography for the antenatal diagnosis and management of congenital heart disease. Over the years, the number of patients undergoing fetal echocardiography has steadily increased, reflecting the growing recognition of its importance in early detection and intervention. This essential service is available on all working days to ensure timely care for expectant mothers. In 2024

alone, a total of 2,546 pregnant women benefited from this crucial service, helping to improve outcomes for both mothers and their unborn children. The department's commitment to advancing diagnostic capabilities plays a significant role in enhancing the quality of care and ensuring the well-being of infants diagnosed with congenital heart conditions.

PEDIATRIC MEDICAL INTENSIVE CARE UNIT(PMICU)

The Pediatric Intensive Care Unit (PICU) at Shahid Gangalal National Heart Centre is a newly established facility designed to provide specialized care for critically ill children with cardiac diseases. The unit is equipped with six dedicated beds, ensuring that each patient receives individualized attention and care. The PICU is staffed by a team of highly trained professionals, including a pediatrician on duty 24 hours a day and skilled, experienced nurses, all of whom are committed to delivering optimal care in a compassionate environment.

This advanced unit is capable of managing a wide range of critical conditions, offering both invasive and non-invasive respiratory support. It caters to children with heart failure, as well as those suffering from complex cyanotic congenital heart disease, which often requires intensive monitoring and specialized interventions. Additionally, the PICU is equipped to handle patients who need advanced cardiac support, including those with arrhythmias or severe cardiac complications.

The unit also incorporates state-of-the-art technology to monitor and treat patients effectively, with a focus on providing a multidisciplinary approach to care. This includes close collaboration with pediatric cardiologists, cardiothoracic surgeons, and other specialists to ensure comprehensive treatment plans. The goal of the Pediatric Intensive Care Unit is to provide life-saving care while promoting recovery and long-term well-being for children facing critical cardiac conditions.

HUMAN RESOURCES

The Pediatric Cardiology Service at Shahid Gangalal National Heart Centre has significantly advanced since its inception in 2004. Initially staffed with just one registrar and one resident doctor, the department now includes a senior consultant pediatric cardiologist, a consultant pediatric cardiologist, two pediatric cardiologists, five registrars, and two resident doctors. Despite limited resources, the department remains committed to providing optimal care for the growing number of children with cardiac conditions. Efforts are underway to ensure continuous care for post-surgical pediatric ICU patients, improving outcomes for these critically ill children. In addition, the department offers basic training in pediatric cardiology, including echocardiography, to candidates from various institutions. DM Cardiology residents from NAMS, MD pediatric residents from Patan Academy of Health Sciences (PAHS), KIST Medical College, Nepal Army Institute of Health Sciences, Lumbini Medical College, and Manipal Teaching Hospital have all benefited from elective subspecialty postings in pediatric cardiology. Plans are also in place to establish an academic fellowship program in the near future.

CONCLUSION

The Pediatric Cardiology Service at the Heart Centre has seen significant growth and improvement with each passing year. The introduction of new services, such as the Adult Congenital Heart Clinic, Heart Failure Clinic, and Electrophysiology Clinic, will undoubtedly enhance the quality of care provided to patients. These additions allow for a more comprehensive and specialized approach to patient management. The department, which has always been committed to excellence in the past, continues to be steadfast in its dedication to delivering high-quality services today and will remain equally devoted in the years to come. With the ongoing advancements in both technology and clinical expertise, the Heart Centre is poised to continue offering the best possible care to pediatric patients and their families.

ACUTE CORONARY SYNDROME IN CCU

Dr.Ravi Shahi, Dr. Uma Karki, Dr. Bishal Timalsina, Dr. Sahil Shrestha

INTRODUCTION

The annual report for Acute coronary syndrome (ACS) in the coronary care unit(CCU) provides a comprehensive overview of the clinical outcomes, management strategies and advancement in patient care over the past year ACS encompasses a spectrum of conditions associated with sudden, reduced blood flow to the heart, including, unstable Angina, Non ST Elevation myocardial Infarction, and ST Elevated MI. This report aims to analyze the epidemiological trends, evaluate the effectiveness of therapeutic interventions, and highlight ones for Improvement in delivery of care.

The data presented in this report are derived from our CCU registry, reflecting the collective effects of our multidisciplinary team dedicated to optimizing patient outcomes through detailed analysis of admission rates, treatment protocols and outpatient outcomes. We strive to identify patterns and develop strategies to enhance the quality of care furthermore, the report underscores our commitment to continuous education, research and implementation of evidence-based practice.

By reviewing this report, stakeholders will gain valuable insights into the current state of ACS Management within our facility, fastening an environment of transparency and accountability. It is our hope that the in findings and recommendations will contribute to the ongoing improvement of cardiovascular care, ultimately leading to better patient outcomes and reduced morbidity and mortality associated with ACS.

SERVICES PROVIDED

A Coronary Care Unit (CCU) stands as a specialized hospital ward dedicated to the meticulous care of patients grappling with a spectrum of cardiac conditions, including Myocardial Infarction, Unstable Angina, cardiac dysrhythmia, and various other cardiovascular ailments that mandate continuous monitoring and therapeutic intervention. Our facility boasts three specially designed and well-equipped CCU units, each outfitted with comprehensive central monitoring, central oxygen supply, portable x-ray, portable echocardiography, defibrillator, mechanical ventilators and Intra-Aortic Ballon Pump supports. The expansion in CCU beds

last year underscores our commitment to extending quality cardiac care to a larger patient population. The seamless operation of our CCU is facilitated by a team of highly qualified healthcare professionals, including medical officers, Senior Residents, and cardiologists, who provide round-the-clock coverage. A 24-hour presence of a dedicated and well-trained nursing staff, complemented by the support of the anesthesiologist and intensivist, ensures a holistic and responsive approach to patient care within the CCU. In managing acute coronary cases, particularly those admitted through the emergency department, our protocol mandates the prompt acquisition of an Electrocardiogram (ECG) within 10 minutes of the patient's arrival. For patients with ST-segment Elevation Myocardial Infarction (STEMI), a tailored approach is adopted, with Primary Percutaneous Coronary Intervention (PCI) recommended based on the duration of the patient's chest pain. Notably, patients arriving within 12 hours of chest pain onset are advised for Primary PCI. Financial barriers are addressed through the utilization of priority funds provided by the Bagmati State, ensuring that even individuals with limited financial means receive the necessary care. Rescue PCI is judiciously employed whenever deemed necessary. Within the CCU, a concerted effort is made to admit patients with STEMI, NSTEMI, and high-risk Unstable Angina, prioritizing their critical needs. However, patients with low to moderate risk Unstable Angina are accommodated in the CCU if beds permit; otherwise, they are placed in the general ward with monitor beds, ensuring optimal use of resources while maintaining high standards of care.

DEMOGRAPHIC FEATURES

In this year 2024, Total 2824 patients got admitted in CCU with diagnosis of ACS. Among them 2217 (78.5%) were STEMI, 285(12.4%) were NSTEMI and 172 (8.9%) were of UA. ACS showed male predominance with total of 1886(66.7%) patients whereas 938 (33.3%) were female.

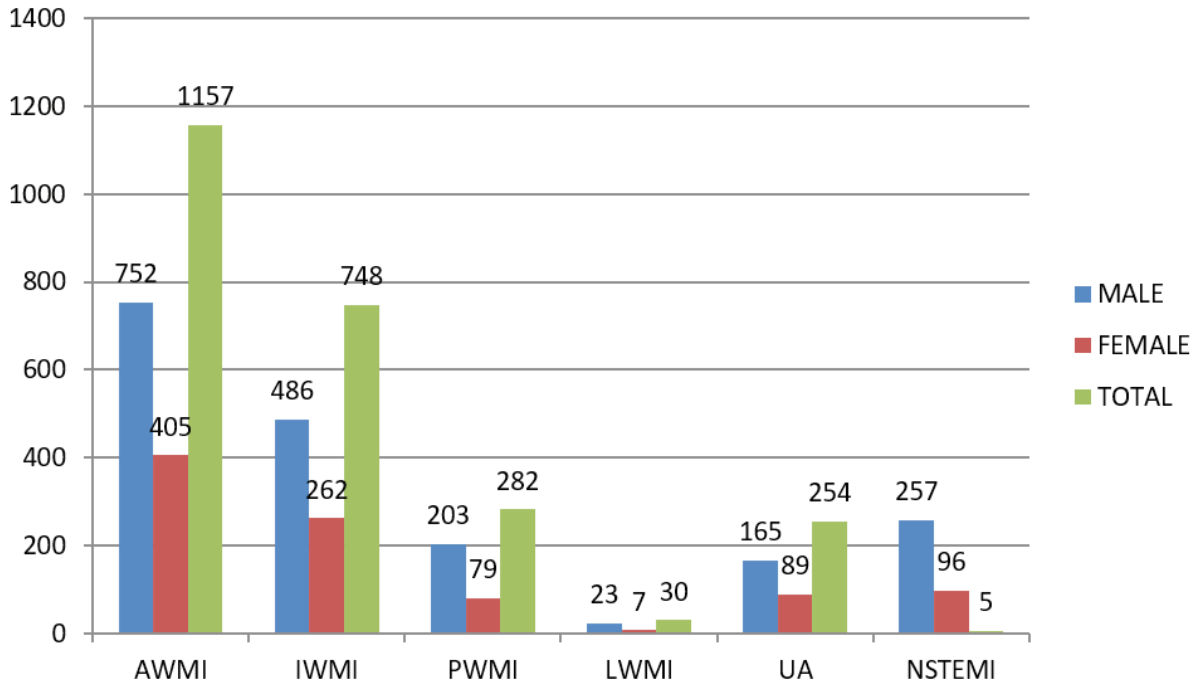
PRIMARY PCI VS ELECTIVE PCI

Among 2217 STEMI cases admitted in CCU, 754 (34.09%) underwent PPCI similar to the previous year (36.84%). 1870 patients (66.21%) of all ACS patients underwent elective PCI.

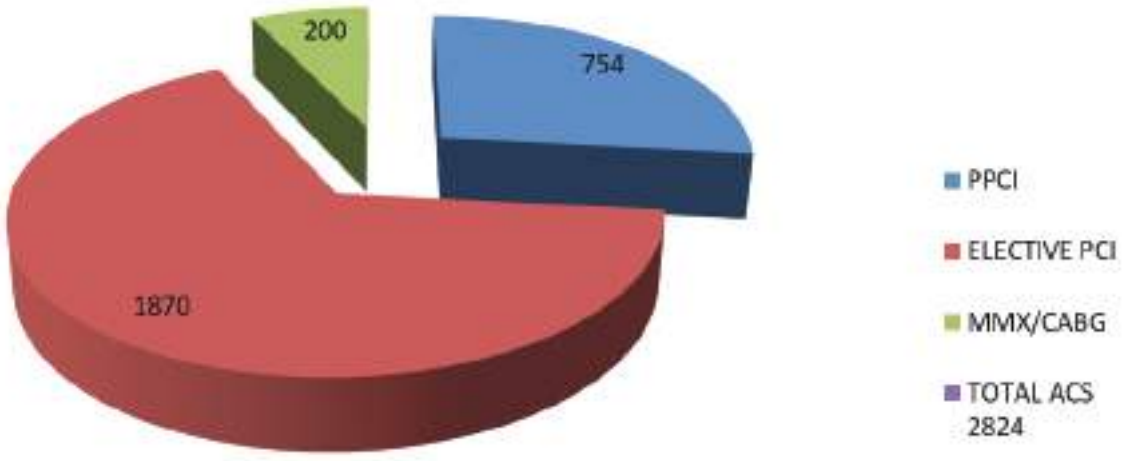
ACS	MALE	FEMALE	TOTAL
STEMI	1464	753	2217
NSTEMI	257	96	353
UNSTABLE ANGINA	165	89	254
TOTAL	1886	938	2824

ACS MANAGEMENT PATTER IN CCU

ACS	MALE	FEMALE	TOTAL	PPCI	ELECTIVE PCI
AWMI	752	405	1157	520	561
IWMI	486	262	748	166	580
PWMI	203	79	282	60	206
LWMI	23	7	30	08	04
UA	165	89	254	0	253
NSTEMI	257	96	353	0	266
TOTAL	1886	938	2824	754	1870



ACS MANAGEMENT PATTERN



INTERVENTIONAL CARDIOLOGY SERVICES

Dr. Rakesh Bdr. Adhikari, Dr. Shahid Murtaza, Dr. Lekhnath Lamsal, Dr. Sushil Joshi,
Dr. Safal Rajbhandari, Dr. Anil Basnet

INTRODUCTION

Cardiovascular diseases have emerged as a significant public health challenge, with a rising prevalence and alarmingly high mortality rates across the globe. In response to this growing crisis, the Shahid Gangalal National Heart Center was founded to offer a comprehensive range of services for the diagnosis and treatment of heart conditions. As the leading institution in the country, the center is responsible for the majority of both invasive and minimally invasive cardiac interventions.

The Interventional Cardiology Department at the center has played a pivotal role in improving patient outcomes and advancing the treatment of cardiovascular diseases since its establishment in 2001 AD. To address the increasing demand for specialized care, the center is equipped with four fully operational cardiac catheterization labs, which provide an array of diagnostic and life-saving procedures. These labs are outfitted with cutting-edge technologies, including Intracoronary Ultrasound (IVUS), Fractional Flow Reserve (FFR), and Rotablator, all of which contribute to the enhanced precision and success of interventions.

The catheterization team at Shahid Gangalal is a highly skilled and experienced group of professionals, proficient in performing a wide variety of procedures such as emergency coronary interventions (PPCI), balloon pulmonary valvuloplasty (BPV), balloon aortic valvuloplasty (BAV), percutaneous transvenous mitral commissurotomy (PTMC), pacemaker insertions, electrophysiological studies, radiofrequency ablations, and structural interventions like device closures for atrial septal defect (ASD), patent ductus arteriosus (PDA), and ventricular septal defect (VSD).

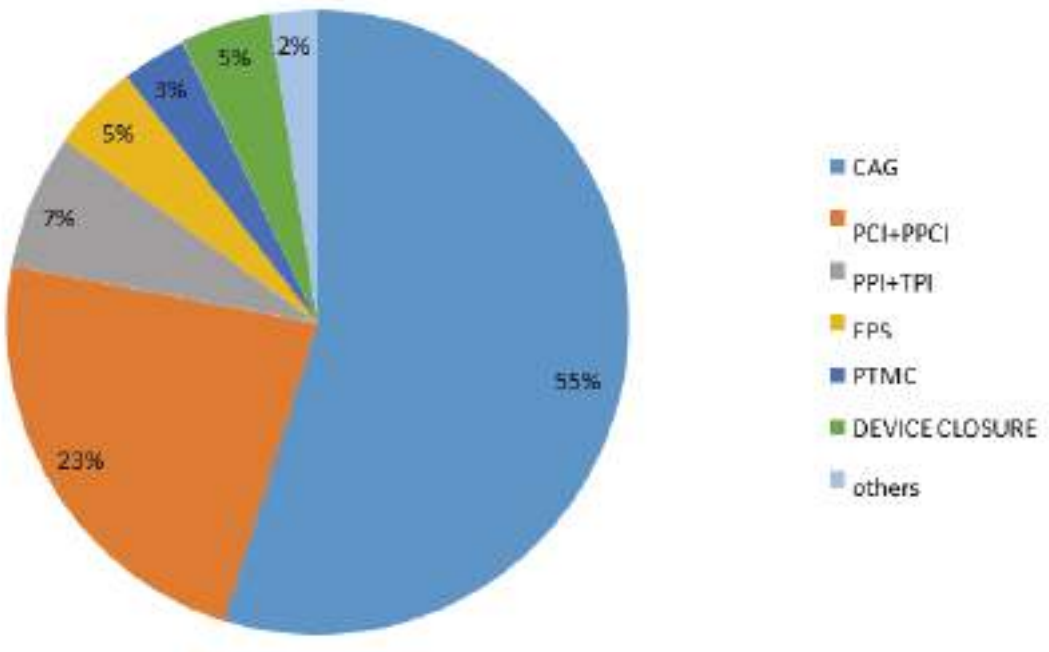
In addition, the center offers the innovative and life-altering Transcatheter Aortic Valve Implantation (TAVI) procedure for patients suffering from aortic stenosis. This groundbreaking treatment, facilitated by a team of expert interventional cardiologists and cardiovascular surgeons, is a testament to the center's commitment to adopting the most advanced medical

technologies. With a proven track record of successful outcomes, Shahid Gangalal National Heart Center continues to provide its patients with the highest standard of care.

In summary, the Shahid Gangalal National Heart Center is a cornerstone of cardiovascular health in Nepal, dedicated to offering unparalleled diagnostic, therapeutic, and interventional services, ensuring that every patient receives exceptional, compassionate care.

PROCEDURES	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	TOTAL
CAG	376	543	387	528	593	506	488	516	506	323	395	489	5650
PCI 1) ELECTIVE	124	236	144	233	232	234	241	237	244	133	201	251	2510
2)PPCI	34	66	26	74	68	64	65	86	62	58	74	38	715
PPI	30	59	50	72	53	59	53	41	46	44	49	42	598
TPI	18	31	26	42	27	29	37	29	34	34	32	21	360
EPS	31	45	33	58	45	60	43	55	29	31	46	15	491
PTMC	23	27	28	20	48	48	26	18	27	4	32	35	336
ASD	24	33	23	35	47	32	48	34	29	16	20	32	373
VSD	2	1	0	0	2	2	3	4	3	1	2	1	21
PDA	5	13	9	9	25	22	19	20	9	2	12	6	151
BPV	1	8	3	6	10	2	5	5	6	3	0	6	55
PAG	0	0	0	0	1	0	1	0	0	0	0	0	2
PERICARDIOCENTESIS	8	3	9	9	9	7	9	11	4	3	4	5	81
RHC	8	0	8	12	9	13	10	14	8	4	8	6	100
IVUS	1	0	1	5	3	5	0	0	0	0	0	0	15
TAVI	0	3	0	1	2	1	0	0	1	0	0	1	9
TOTAL	685	1068	747	1104	1174	1084	1048	1070	1008	656	875	948	11467

Month-wise demonstration of cardiac intervention



CARDIAC ELECTROPHYSIOLOGY AND DEVICE IMPLANTATION

Dr. Prashant Bajracharya, Dr. Ananda Khanal, Dr. Sudip Lamsal, Dr. Sabin Khadka, Dr. Monika Parajuli

INTRODUCTION

Electrophysiological study (EPS) is a special technique performed to evaluate the heart's electrical activity and to diagnose abnormal heart rhythm, called arrhythmia. Radiofrequency ablation (RFA) is a technique which selectively destroys a small area of abnormal heart tissue which is causing arrhythmia and helps restore the heart's regular rhythm.

EPS/ RFA has become a standard practice in the treatment of cardiac arrhythmias. Shahid Gangalal National Heart Centre (SGNHC), the pioneer cardiac institute of Nepal, has been providing this service to patients since 2004 under the Division of Cardiac Electrophysiology and Device Implantation. With time and the continual efforts of its dedicated team of doctors and paramedics, the service has expanded and advent of latest technologies like 3D mapping has made treatment of complex arrhythmias also possible within Nepal.

Device implantation is another integral branch of management in Cardiology which is also covered by this division. Pacemakers, both single and dual chamber, are regularly being implanted for management of bradyarrhythmia like sinus node dysfunction (SND) and atrioventricular (AV) block. Device therapy which started with pacemaker implantation has also taken a leap with Automated Implantable Cardioverter Defibrillation (AICD) and Cardiac Resynchronization Therapy (CRT) being regularly implanted in patients in SGNHC. AICDs are implanted for prevention of sudden cardiac death in patients susceptible to life threatening ventricular arrhythmias and CRT is implanted in selected patients with Heart Failure to improve the efficacy of the heart function and alleviate the symptoms which increases the Quality of Life (QoL) of those patients.

SERVICE PROVIDED

EPS and RFA are performed regularly, twice a week (Tuesday and Friday). However, device implantation is performed regularly almost all the working days. A total of 418 patients underwent EPS+RFA in 2024. EPS+RFA was done by conventional 2D method in 400 patients and by 3D mapping in 18 patients. 645 Device implantation were done in 2024 of which 15 were AlCDs, 8 were CRT and remaining were pacemaker implantation (single/dual) including generator replacement and lead adjustment.

With the capable electrophysiologists in our hospital, not only we are able to do more cases but also with higher success rate. Beginning of significant number of EPS/ RFA with 3D mapping itself concludes 2024 as a remarkable year for the unit as well as for the hospital. Newer techniques and expertise have helped a lot in achieving this milestone. Not to forget, cardiology residents posted in the unit are also benefited by the unparallel exposure to device implantation and EPS/ RFA procedures.

Device Implantation Summary		
Single chamber pacemaker (VVIR)	New Implantation	425
	Generator replace-ment	34
Dual chamber pacemaker (DDDR)	New Implantation	151
	Generator replace-ment	12
Cardiac Resynchronization therapy (CRT)	CRT-D Implantation	5
	CRT-P Implantation	3
Automated Implantable Cardioverter Defi-brillator (AICD)	New Implantation	15
Total		645

EPS+RFA by conventional 2D method				
AVNRT	Typical		193	196
	Atypical		3	
AVRT	Left sided pathway	WPW	66	169
		Concealed pathway	41	
	Right sided pathway	WPW	36	
		Concealed pathway	6	
	Dual pathway		4	
	Parahisian		9	
	Septal		7	
Non Inducible Tachycardia(EPS only)			20	
Relapsed cases			15	
Total				400

EPS+RFA by 3D mapping	
LVOT PVCs	1
RVOT PVCs	7
Fascicular VT	1
Right Posteroseptal	1
Atrial Flutter	5
Atrial Tachycardia	2
AVNRT (close to AV)	1
TOTAL	18

EMERGENCY SERVICES

Dr. Sushant Kharel, Dr. Anjana Acharya, Dr. Kailash Bhatta, Dr. Anmol Sharma, Dr. Aayushma KC

INTRODUCTION

The Emergency Department at Shahid Gangalal National Heart Center (SGNHC) is dedicated to providing 24-hour, high-quality care for patients in need of urgent medical attention. As a specialized unit for cardiac emergencies, it is equipped with the latest technology, highly trained medical professionals, and cutting-edge services designed to handle complex and critical heart-related conditions. The department excels in its systematic approach, offering efficient triage, rapid diagnosis, and evidence-based treatment protocols that ensure the best outcomes for patients. SGNHC's Emergency Department is widely recognized for its tremendous commitment to delivering timely, compassionate, and expert care throughout the entire country. Our unwavering focus on patient-centered care and rapid intervention has made the center a trusted leader in the management of cardiac emergencies.

SERVICE PROVIDED

conditions. The Cath Lab is equipped to perform critical diagnostic and therapeutic interventions, such as angiography, angioplasty, and stent placement, ensuring immediate action during acute cardiac events. In line with international guidelines, SGNHC's Emergency Department is proficient in performing Primary Percutaneous Coronary Intervention (PCI) for patients experiencing acute myocardial infarctions (heart attacks). This procedure is carried out without delay, aiming to restore blood flow to the heart and minimize cardiac damage. The department also handles a wide range of other cardiac emergencies, including arrhythmias, heart failure, and other life-threatening conditions. Our team's expertise, combined with advanced technology, enables SGNHC's Emergency Department to provide exceptional care during critical moments. Whether treating a heart attack or other acute cardiac issues, we are committed to offering the highest level of care to patients in need, 24 hours a day, seven days a week.

On the other hand, those patients presenting with non cardiac emergencies like upper GI bleed, cerebrovascular accident, metabolic emergencies, etc are managed acutely and then referred to respective centers for specialist care

Total ER attendance: 22670 patients

	Total Number	Percentage
Male	12660	55.8
Female	10010	44.2
Admissions	7275	32.1
Discharge	12095	53.3
Referrals	2249	9.9
DOPR/LAMA	1008	4.5
Mortalities	17	0.07
Brought dead cases	26	0.13
Abscunded	0	0

Diseases	Total number	Percentage (%)
Coronary artery diseases	5100	22.5
Hypertension	3627	16
Valvular heart diseases	2788	12.3
Cardiomyopathies	1745	7.7
Arrhythmias	1972	8.7
Congenital heart diseases	362	1.6
Pericardial diseases	120	0.5
Infective endocarditis	113	0.5
Non-cardiac chest pain	3015	13.3
Respiratory illnesses	1065	4.7
Cerrbrovascular diseases	158	0.7
Aortic diseases	90	0.4
Others	2515	11.09
Others	2214	10.9

MEDICAL WARD

Dr. Bibek Baniya, Dr. Shambhu Khanal, Dr. Bishal Regmi,
Dr. Mijash Pokharel, Dr. Rubin Shrestha

INTRODUCTION

With the rising number of patients at Shahid Gangalal National Heart Centre, the medical ward has been steadily expanding. Patients are admitted to the ward through various means, including direct admissions from the OPD, Emergency Department, pre- and post-cath procedures, surgical referrals, and step-downs from the CCU. The ward is consistently upgraded to ensure the highest quality care for those in need. It operates under round-the-clock supervision by dedicated unit doctors, resident doctors, registrar cardiologists, nursing staff, and attendants.

Currently, the medical ward has a total of 110 beds with 18 in General Ward A, 16 in General Ward B, 18 in General Ward C, 23 in Pre-Cath, 14 in Post-Cath, 11 in Double Cabin, and 10 in Single Cabin.

DISEASE DISTRIBUTION

For analysis, the patients admitted to Medical wards were categorized into Coronary Artery Disease Rheumatic Heart Diseases, Valvular Heart Disease, Dilated Cardiomyopathy, Congenital Heart Diseases, Arrhythmias, Pericardial Effusion, Infective Endocarditis, Complete Heart Block, Heart failure other than dilated cardiomyopathy and others. Gender-wise Disease prevalence among patients admitted to medical wards in the year 2024 is shown in the following table.

Disease-wise distribution in medical ward in 2024					
S. No.	Name of Diseases	No. of cases			% of Total
		Male	Female	Total	
1.	CAD	2752	1994	4746	48.08
2.	RHD	643	506	1149	11.64
3.	ARRYTHMIA	417	279	696	7.08
4.	DCM	571	381	952	9.64
5.	VHD	290	228	518	5.20
6.	CHD	182	156	338	3.52
7.	PERICARDIAL EFFUSION	72	56	128	1.34
8.	IE	82	36	118	1.24
9.	CHB	198	169	367	3.72
10.	Heart failure other than DCM	318	293	611	6.05
11.	Others	145	101	246	2.49
Total		5670	4199	9869	100

CONCLUSION

In 2023, coronary artery disease was the most common condition among patients admitted to the cardiology medical wards, making up 48.08% of all cases. It was followed by rheumatic heart disease, which accounted for 11.64%, and dilated cardiomyopathy at 9.64%.

CRITICAL CARE UNIT (NON CORONARY)

Dr.Vijay Ghimire, Dr.Pratik Thapa, Dr.Sajjad Safi, Dr.Sabindra Bhupal Malla

OVERVIEW AND INTRODUCTION

The Medical Intensive Care Unit/Non-Coronary critical care unit was inaugurated at our center in August 2002 with a primary focus on catering to cardiac patients including those with additional comorbidities such as CKD, COPD, Stroke, sepsis etc. It continued its commitment to providing high-quality care to patients with non-coronary cardiac conditions. The unit played a pivotal role in the hospital's mission to improve cardiovascular health. The MICU operates 24/7 with a dedicated medical officer and a proficient staff trained in critical care, complemented by the presence of senior residents and registrars. Furthermore, the Department of Anesthesia has actively contributed to the management of cases within the Medical ICU. The CCU saw a steady increase in patient admissions, serving individuals with a range of non-coronary cardiac issues, including heart failure, arrhythmias, and valvular disorders. The dedicated healthcare team worked tirelessly to ensure timely and personalized care for each patient.

SERVICES PROVIDED

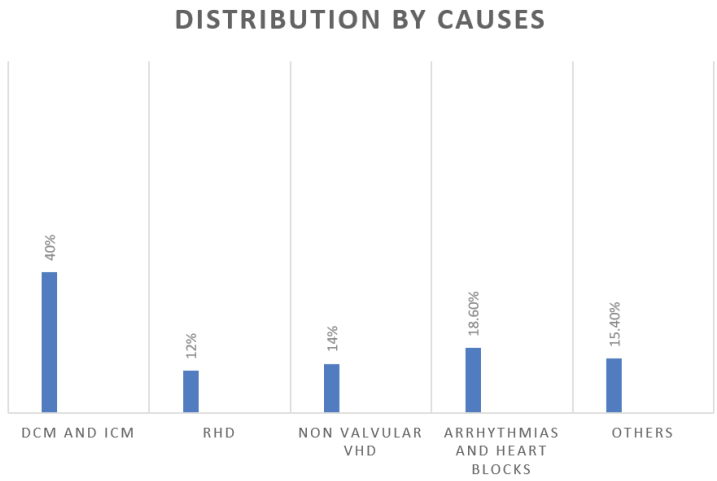
With an expansion in the Critical Care Unit (CCU) bed capacity, the current total stands at 38 beds. Throughout the year, patients received admission to the CCU, with 1420(33%) cases falling under the non-coronary category. The distribution among genders for non-coronary cases was 824 (58%) males and 596(42%) females. Patient admissions encompassed a spectrum of illnesses, including COPD, CKD, cardiomyopathies of varying etiologies, rheumatic heart diseases, arrhythmias, heart blocks, pericardial diseases, congenital heart diseases, pulmonary embolism, infective endocarditis, sepsis, pneumonia, aortic dissection etc. Dilated and Ischemic

cardiomyopathies with varying etiologies constituted a significant reason for CCU admission, making up 40% of total non-coronary cases. These patients, primarily admitted due to acute decompensated heart failure, received treatment involving supplemental oxygen, intravenous diuretics, and inotropic support. Rheumatic heart diseases, encompassing postmitral valve replacement, aortic valve replacement, and stuck valve cases, contributed to 12% of CCU admissions.

Non-rheumatic valvular heart disease constituted 14% of CCU admissions, while 18.6% were admitted due to various arrhythmias and heart blocks. 15.4% of admissions were attributed to other diseases like pericardial diseases, pulmonary embolism, adult congenital heart disease, sepsis, and primary respiratory illnesses like acute exacerbation of COPD and pneumonia. Decision-making in these cases involves primary physicians, trained cardiologists, FCPS and DM Cardiology residents. Frequent bedside superspeciality consultations, as well as interhospital referrals, were facilitated for comprehensive patient care. Additionally, our CCU services extend support to economically disadvantaged patients, through charity funds and medications managed by hospital funds and various social institutions.

CONCLUSION

While the year presented challenges, such as resource constraints and increased patient volumes, the staff's resilience and adaptability were commendable. Future strategies include expanding infrastructure, further staff development, and exploring collaborations. In conclusion, the Non-Coronary Critical Care Unit at Shahid Gangalal National Heart Centre remains steadfast in its commitment to excellence, striving to provide compassionate and cutting-edge care to individuals with various cardiac conditions.



PATHOLOGY/CLINICAL LABORATORY SERVICES

Dr Sobita Khadka

INTRODUCTION

Clinical laboratories play a pivotal role in early detection, diagnosis, treatment and follow up of patients. It aids physician in taking decisions and guides them for timely intervention in order to improve patients' health. It helps to have a visionary regarding the status of patient. About 60-70% of medical decisions are based on the laboratory reports.

ABOUT US

Having set priority for precision, accuracy and efficacy, we run quality control for biochemistry and hormonal assay on daily basis, weekly quality control for serology, hematology and special tests. The Laboratory Information system (LIS) module helps to perform all the activities of clinical laboratory, helps to keep track of the sample and maintain complete result history. Currently we are operating as Out Patient Department Lab and Emergency along with In Patient Department Lab. We are using automated blood grouping and antibody screening with intent to increase efficacy, accuracy and shorten the turnover time for cross matching. However, due to certain constraints we are not being able to fully switch to automated blood grouping. We have recently been able to start operating new component separator thereby separating Platelet rich plasma, cryoprecipitate along Packed red cells and fresh frozen plasma.

AT PRESENT, DEPARTMENT OF PATHOLOGY OF SGNHC IS EQUIPPED WITH FOLLOWING

1. Fully automated 5-part hematology analyzer-2
2. Fully automated 3-part hematology analyzer-1
3. Fully automated coagulation analyzer-1
4. Semi-automated coagulation analyzer-1
5. Fully automated Liquid biochemistry analyzer-4

6. CLIA based automated immunoassay analyzer-3
7. Fully automated electrolyte analyzer-4
8. FIA meter for special test-4
9. Automated Blood grouping and Antibody screening machine

INVESTIGATIONS AVAILABLE

1. Hematology: Complete Blood count, Erythrocyte Sedimentation Rate, Peripheral Blood Smear Examination, Reticulocyte count.
2. Coagulation Assay: PT, APTT, BT, CT
3. Blood Bank: Automated Blood Grouping, Antibody screening and Cross matching
4. Biochemistry: Sugar (F), Sugar (PP), Liver Function Test (LFT), Renal Function Test (RFT), Lipid Profile Test, Magnesium, Calcium.
5. Immunology: RA, ASO, CRP, quantitative CRP and Widal test
6. Hormonal Assay: Thyroid Function Test, Vitamin B12 and Vitamin D
7. Serology: HIV, HCV, HBsAg and VDRL
8. Cardiac Enzymes: CPK, CPK-MB and Qualitative and quantitative Troponin I
9. Infectious Pannel: Mantoux test, Rapid test for Dengue, Malaria, Leishmania, Brucella, Leptospira, Scrub typhus, Tuberculosis.
10. Special test: NT pro BNP, Procalcitonin, HsCRP, Urine Microalbumin, HBA1c, Iron Profile, D-dimer, H. Pylori antigen/antibody.

HUMAN RESOURCES

1. Registrar Pathologist: 1
2. Senior Laboratory technologist: 2
3. Laboratory technologist: 3
4. Senior Lab technician: 5
5. Laboratory technician: 18

Department	Male	Female	Total
Bacteriology	1802	1536	3338
Biochemistry	804546	431968	1260044
Blood Bank	21962	456025	477987
Coagulation assay	31100	37754	68854
Hematology	474222	387949	862171
Hormonal assay	63244	62351	125595
Immunology	2263	2185	4421
Infectious panel	452	586	1038
Peripheral Blood smear	372	486	858
Reticulocyte count	26	48	74
Serology	26188	15211	41399
Parasitology	16640	13921	30561

Figure 1: Table of test count of 2024

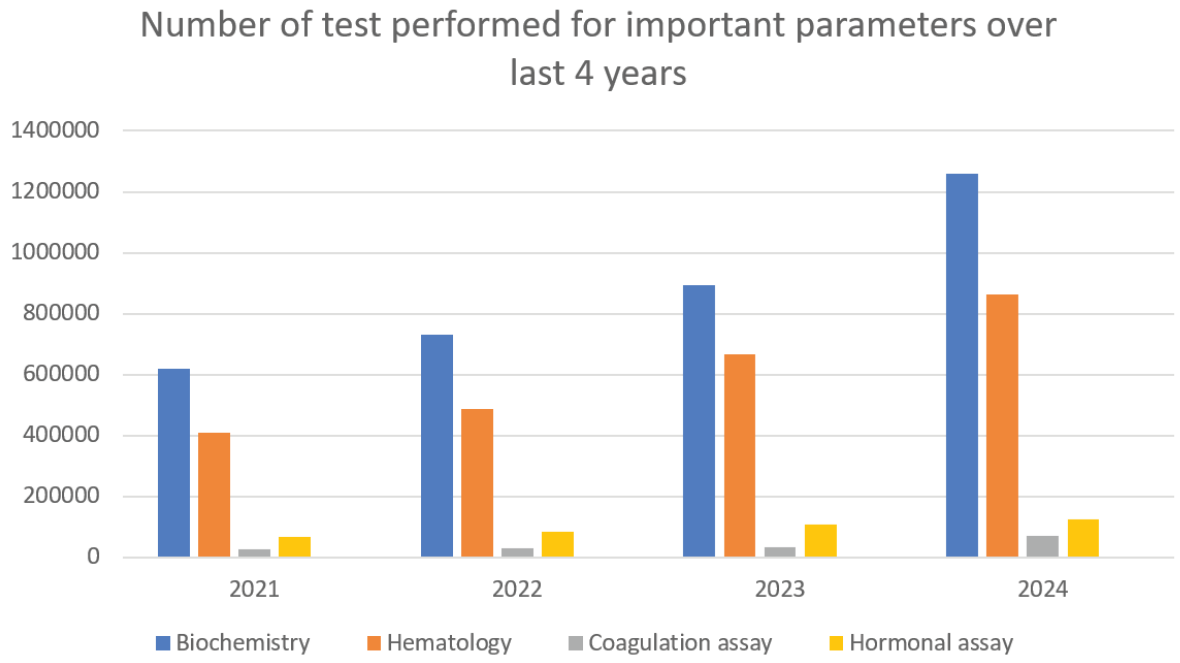


Figure2: Comparative chart of important parameters of last 4 years

FUTURE PLAN

After obtaining new component separator we are now planning different methods to be fully independent for blood components. We have plans to establish Cytopathology and Histopathology units. We have also planned to start secondary hypertension panel including plasma renin and aldosterone, Fibrinogen level, heparin level, apolipoprotein A, apolipoprotein B, myoglobin and osmolality.

CONCLUSION

The laboratory service in SGNHC is well established and well equipped with the newer technologies and competent technical manpower. With increasing caseloads per year, we have been updating technically, and with limited available human resources, we are delivering timely services with utmost quality, yet we have a lot of scope to grow quantitatively as well as qualitatively.

RADIOLOGY SERVICES

Mr. Indesh Thakur (Senior RT & In-charge)

INTRODUCTION

Radiology, a specialized branch of medical science, is an indispensable medical imaging field throughout the world . Department of Radiology is the backbone of any medical facility. Radiological investigation is an essential diagnostic tool without which no medical treatment can be successfully bestowed. Various radiological modalities like USG, CR/DR, CT, MRI, SPECT,PET etc. are utilized by Radiologists and Radiologic Technologists or Radiographers to diagnose and treat a variety of diseases. Since, SGNHC is especially dedicated for the cardiac patients, Radiology services here are mainly focused towards the diagnosis and treatment of cardiac diseases.

HISTORY

Foundation of Radiology department at SGNHC can be traced back to the establishment of our reputed heart center in 1995. At the start, the department was located in main OPD block which is now sited in old OPD block, new OPD block and IPD block of this center. Being the backbone of any health care centre, the department here plays a vital role in the diagnosis and treatment of cardiac patients. In the beginning, radiology services were provided with one mobile x-ray machine and one manual processing unit which now boasts of all the modernized and sophisticated radiological imaging modalities. Now, the department provides 24 hours diagnostic and emergency radiological services in the hospital.

PRESENT CONTEXT

Department of Radiology in SGNHC provides its services with MDCT Scanner, MRI scanner, USG and Digital Radiographic systems like DR and CR for both OPD ,IPD and ER patients. The department is equipped with the following advanced equipments like,

1. 640 slice MDCT Scanner-1
2. 3 T MRI Scanner-1

3. USG machines-2
4. DR systems-2
5. CR systems-2
6. Mobile DR machine-1
7. Mobile x-ray machines-3
8. Laser Imagers-4

HUMAN RESOURCES

Radiology department is well organized with a trained team which comprises of :

4 - Radiologists,

3 - Senior Radiography Technologists,

1 - Radiography Technologist,

5 - Senior Radiographers,

11 -Radiographers,

1 -Senior dark room operator,

2 - Radiologic Nurses,

2 - Attendants

Total of 29 members.

Radiologic Technologists and Radiographers also play a crucial role in all kinds of invasive procedures in Cath Labs assisting the interventional cardiologists.

FUTURE PLANS

In future, we have plans to equip our department with very latest and advanced USG scanner and advanced nuclear medicine imaging modalities either in solo or hybrid forms to provide all kinds of confirmatory diagnostic and interventional radiologic services to our patients.

RADIATION SAFETY ASPECTS

We strive to create the safest environment for our patients by implementing technology that significantly reduces radiation exposure to patient as well as staffs. All the means of radiation protection especially in Cath Labs and during Portable radiography are practiced. The general principle of radiation protection i.e. Optimization, justification of practice and ALARA as well as Cardinal principle of radiation protection i.e. TDS (time of exposure as short as possible ,distance as far as possible and Proper shielding) are always been followed. .

MISSION

The department's mission is to provide state of art radiological services of high quality for optimum patient care and treatment.

CONCLUSION

Department of Radiology in SGNHC is a well-established department with highly trained and competent technical manpower to provide all kinds of quality general radiography services, USG services, CT scan services, MRI scan services and interventional services.

STATISTICAL DATA OF RADIOLOGICAL EXAMINATIONS OF THE YEAR, 2023

S.No.	Name of the Examinations	Male	Female	Total
Digital Radiography				
1	Chest X-rays	37,201	30,721	68,073
2	Cervical Spine	56	67	123
3	Others	152	119	120
	Total	37,409	30,907	68,316
USG				
1	USG Abdomen/Pelvis	3003	2564	5567
2	USG Small parts(Thyroid/Brest/MSK)	88	109	197
3	B/L Lower Limbs Venous Doppler	31	25	56
4	B/L Limbs Venous Doppler	53	30	83
5	B/L Limbs Arterial Doppler	829	254	1083
6	Carotid Doppler	255	125	1081
7	Renal Doppler	255	125	380
8	Single Limb Arterial Doppler	90	76	166
9	Single Limb Venous Doppler	49	63	112
	Total	5354	3371	8725
CT SCAN				
1	CT Coronary Angio	1985	1880	3865
2	CT Calcium Scoring	54	42	96
3	CT Pulmonary Angio	331	307	638
4	CT Aortogram	255	140	395
5	CT Peri Angio	11	6	17
6	CT Head Plain	412	324	736
7	CT Head CE	9	12	21
8	CT H & N Plain	2	3	5
9	CT Neck CE	0	1	1
10	HRCT Chest	65	82	148
11	HRCT Temporal bone	0	1	1
12	CT Chest Plain	48	21	69
13	CT Chest CE	103	60	163
14	CT Chest +Abdomen	17	26	43
15	CT Abdomen CE	6	10	16
16	CT Abdomen/KUB Plain	3	8	11
17	CT Abdomen/Pelvis Plain	5	7	12
18	CT IVU	3	1	4
19	CT Carotid Angio	8	8	16

S.No.	Name of the Examinations	Male	Female	Total
20	CT Renal Angio	4	5	9
21	CT Abdominal Angio	4	0	4
	Total	3,326	2,944	6,270
MRI SCAN				
1	Cardiac MRI Routine +Perfusion/ Mapping	458	236	694
2	Cardiac MRI Routine + Perfusion/ Viability Study	45	18	63
3	Cardiac MRI Routine + Perfusion/ Tagging	0	1	1
4	MRI Aortogram	1	0	1
5	MRI Brain Routine	16	15	31
6	MRI Brain CE	2	8	10
7	MRI Orbit	2	2	4
8	MRI Pituitary Gland/ Dynamic study	1	0	1
9	MRI Brain +MRA/MRV	9	6	15
10	MRI Neck/Salivary gland	0	1	1
11	MRI Cervical spine	8	8	16
12	MRI Lumbar spine	20	20	40
13	MRI Single organ screening	28	9	37
14	MRI Double organ screening	8	12	19
15	MRI Whole spine screening	0	4	4
16	MRI Whole spine	2	3	5
17	MRI Knee joint	1	10	11
18	MRI Hand/Wrist joint	0	2	2
19	MRI Foot/Ankle joint	1	2	3
20	MRI Shoulder joint	2	7	9
21	MRI Abdomen/Pelvis	3	2	5
22	MRI Prostate	1	2	3
23	MRI SI Joint	2	1	3
24	MRCP	1	3	4
25	MRI Single Organ Plain/CE	12	9	21
	Total	622	381	1003

ACADEMIC COMMITTEE

Prof. Dr. Arun Maskey, Coordinator

The academic committee is formed to oversee and ensure academic standards, quality of education in the hospital. The committee regularly discuss and address various academic matters such as posting in different departments, Collaborate academic activities of different hospital and institutions, ensure smooth observation and training of students and residents. The Academic Committee serves as an integral part of the hospital for the proper maintenance of academic rigor, encouraging an intellectually friendly environment for smooth running of academic activities.

WORK AND RESPONSIBILITIES

Ensure good academic environment and collaborate with different hospitals and academic institution for short and long term training/ observation. The fields currently involved are residents/students of Nursing (Bachelor/ Masters of nursing), MD internal medicine, DM cardiology, Pediatric cardiology, MD anaesthesiology, MD radiodiagnosis,and technicians for cath. Lab, CT/MRI etc.

Supporting hospital in smooth functioning of activities like setting up the curriculum, planning academic calendar, training, and preparedness for setting DM cardiology, MCh cardiothorasic surgergry. With lack of doctors in pursuing Cardiac surgery currently in Nepal, 6 years cardiac surgery course is an attractive alternative to encourage doctors to be cardiac surgeons after MBBS to reduce manpower shortage in the country.

Providing Quality care service at an affordable price is motto of hospital. To ensure good standard and ethical practice ,the committee will take lead role and responsibility in ensuring and monitoring of practice , complications and outcome of different surgical and nonsurgical

procedures done in hospital.

Continued medical education is key to learn and update ourselves from recent update and advance in the field of medicine. The committee regularly conducts such academic activities involving hospital personnel.

Training of doctors and nurses working outside Kathmandu valley in remote districts of Nepal are being regularly conducted in collaboration with Nick Simons institute. We are planning to collaborate with 7 different provinces of Nepal in training doctors, nurse and other health professionals involving all 77 districts.

Training of interventional cardiologists , cath. Lab nurse and technicians from different parts of Nepal are being regularly conducted.

Arrangement , short and long term approval for training of health professional (doctors, nurses, technicians etc) at home and abroad are being done to upgrade knowledge and skills.

In future fellowship in Electrophysiology, Pediatric cardiology, interventional cardiology etc. are being planned.

National and international conference in collaboration with different societies of home and abroad are planned at least once a year.

Academic committee aims to improve academic activities, ensure quality care and monitoring, train health professionals in friendly academic environment .

Members of Academic Committee

Prof. Dr. Arun Maskey	Coordinator
Dr. Deepak Limbu	Member Secretary
Ms. Nita Dangol	Member
Dr. Manish Shrestha	Member
Dr. Nirmal Panthi	Member
Dr. Sandip Bhandari	Member

PHARMACY SERVICE

Madhu Giri, Pharmacy Incharge

Hospital pharmacy is the health care service, which comprises the art, practice, and profession of choosing, preparing, storing, compounding, and dispensing medicines and medical devices, advising healthcare professionals and patients on their safe, effective and efficient use. Shahid Gangalal National Heart Centre has its own hospital pharmacy. It has pharmacy committee responsible for management of pharmacy. All most every medicine and surgical products required in hospital are available in the pharmacy. SGNHC hospital pharmacy has three units pharmacy store, inpatient pharmacy, and OPD pharmacy where medicines are dispensed with sufficient counseling. Medicines are dispensed to patients by registered pharmacists and pharmacy assistants in accordance with prescriptions.

HUMAN RESOURCES

One Senior hospital pharmacist, One Senior pharmacist, One pharmacist, Three senior pharmacy assistant, Seven pharmacy assistant, Four Sr. health assistant

WORKING HOURS

Indoor Pharmacy : 24 hours

Outdoor pharmacy: 12 hours

Store and ward supply pharmacy: 8 hours

ACTIVITIES PERFORMED IN HOSPITAL PHARMACY

a) Purchasing – contracting, ordering and receiving

b) Ware housing- storage and restocking

c) Housekeeping:

1) Inventory management

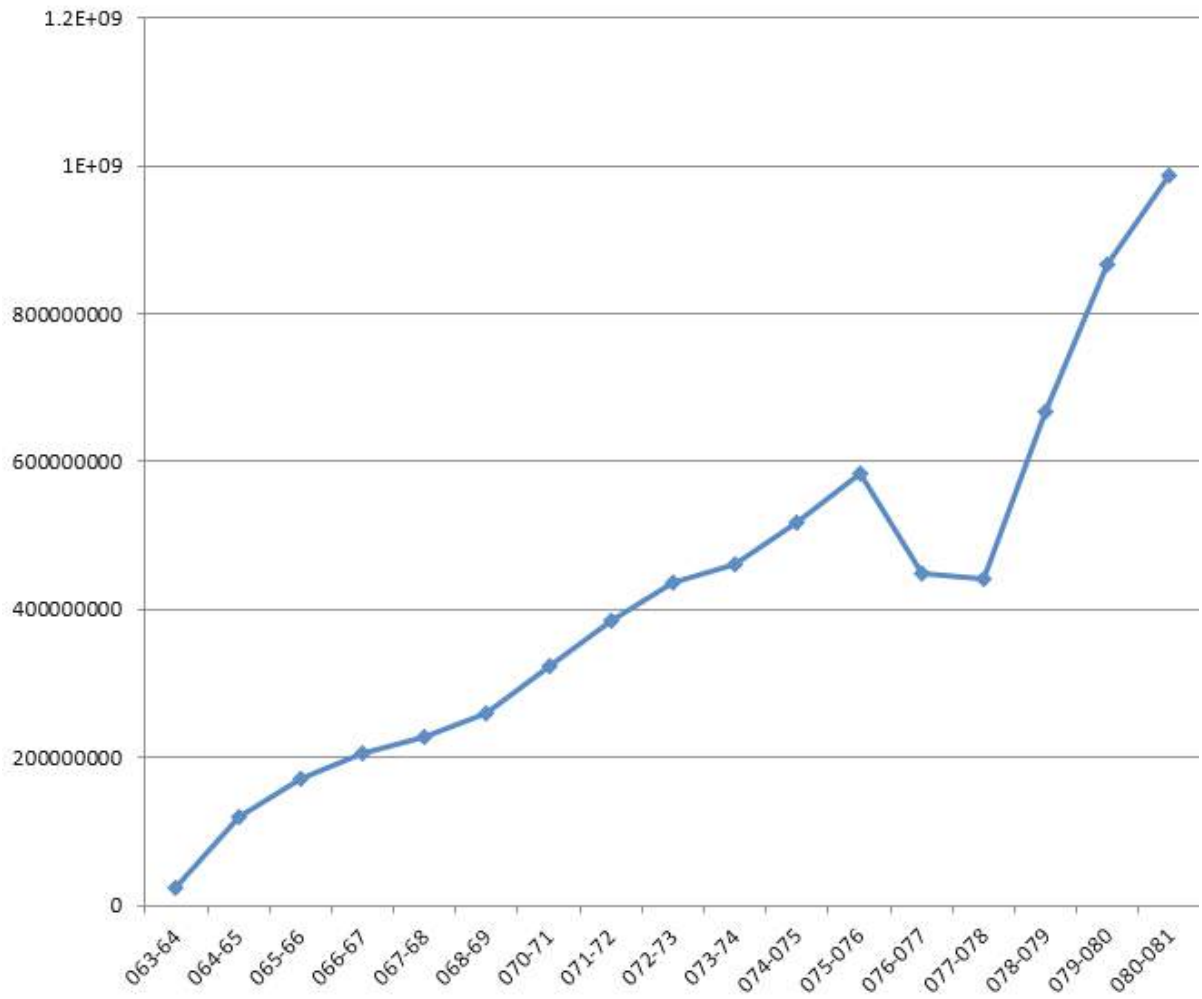
2) Rotation, return and recall

d) Distribution

e) Dispensing and drug counseling

PHARMACY REPORT

The Transaction from hospital Pharmacy is increasing every year. So, hospital is in benefit from the Pharmacy. As compared to previous years, the transaction had dramatically increased as shown in the diagram below. (Transaction has been mentioned in amount)



FUTURE PLAN

- Hospital formulary
- Patient counseling
- Ongoing drug use review
- Pharmacovigilance and implementation of safe medication practices.

PHYSIOTHERAPY SERVICES

Physiotherapy Team

INTRODUCTION

Physiotherapy OPD is located on the 2nd floor room no.170 at OPD building. Physiotherapy unit at SGNHC has been playing a vital role in the prevention, management and rehabilitation program of cardiac patients. This unit is also providing cardiac rehabilitation exercise program.

Physiotherapy is scientific procedure used in treatment to restore, maintain, and make the most of a patient's mobility, function, and wellbeing. It is practiced globally and is a well-established branch of medical science which helps through physical rehabilitation, injury prevention, and health and fitness.

World Health Organization (WHO) has classified Physiotherapy as an Independent Practice and out of Paramedical stream (International Standard Classification of Occupations ISCO Code 2264). According to this code Physiotherapy is classified into a separate entity and not clubbed with Paramedical services.

HUMAN RESOURCES

Senior cardiac Physiotherapist- 1

Senior Physiotherapy Assistant-1

Physiotherapy Assistant-1

SERVICE PROVIDED

Physiotherapy unit at SGNHC, provides both in-patient and out-patient services regularly six days a week along with cardiac rehabilitation exercise program. This unit has been running

almost all phases of cardiac rehabilitation exercise program where it gives exercise prescription to the patients with cardiac diseases. The primary goal of physiotherapy unit is to provide the best physiotherapy treatment to the patient who is seeking physiotherapy services.

It also provides physiotherapy services to all the general medical and surgical conditions which require physiotherapy treatment, although the unit at SGNHC mostly deals with the function of the cardio-pulmonary and vascular system, it is also providing neuro and ortho rehabilitation services as in when necessary.

STATISTICAL DATA OF THE YEAR 2023 (2079/ 2080 B.S)

In-patient	Out-patient	Cardiac Rehabilitation (In-patient)	Cardiac Rehabilitation (out-patient)	Total
5458	380	1233	55	7126

Months	No. of In-patients	No. of patient enroll in Cardiac rehabilitation (IPD)	No. of Out Patients	No. of patient enroll in Cardiac rehabilitation (OPD)
JANUARY-2024 (Poush-Magh 2080)	500	69	70	Nill
FEBURARY-2024 (Magh-Falgun 2080)	554	164	66	Nill
MARCH-2024 (Falgun-Chaitra 2080)	486	137	86	5
APRIL-2024 (Chaitra-Baisakh 2080/81)	479	143	35	2
MAY-2024 (Baisakh-Jeṣtha 2081)	513	115	28	13
JUNE-2024 (Jeṣtha-Ashad 2081)	481	72	20	16
JULY-2024 2024 3(Ashad-Shrawn 2081)	490	160	21	8
AUGUST-2023 (Shrawn-Bhadra 2081)	495	66	2	11
SEPTEMBER-2024 (Bhadra-Ashoj 2081)	477	54	7	Nill
OCTOBER-2024 2024 (Ashoj-Kartik 2081)	202	33	6	Nill
NOVEMBER-2023 (Kartik-Mangsir 2081)	295	84	35	Nill
DECEMBER-2024 (Mangsir-Poush 2081)	486	136	4	Nill

FUTURE PLAN

- Extending physiotherapy services based on new evidence-based practice.
- Adding skilled manpower to strengthen the physiotherapy unit.
- Provide safe and reliable physiotherapy service to the patients in the hospital.
- Lobby to form a good cardiac rehabilitation team in the center.

- Awareness about importance of physiotherapy services through workshop and continue education program among other health professionals in the center, to promote referrals.
- Deliver community exercises programs via camps organized by SGNHC.
- Enforce exercise prescription for cardiac rehabilitation patients.
- Research activities on effectiveness of various exercise protocol and physiotherapy treatment.

CONCLUSION

Physiotherapy unit being an integral part of department of preventive cardiology and cardiac rehabilitation in SGNHC have been providing best physiotherapy services. We would like to thank all the departments, units and the staffs for their constant support and encouragement. We would also like to thank our patients and their relatives for their cooperation and believing in us.

PERFUSION TECHNOLOGY UNIT

Mr. Umesh Khan, Ms. Lalita Shakya, Ms. Laxmi Shrestha, Mr. Ashok Karki,
Mr. Sujan Shrestha, Mr. Ashok Shah

INTRODUCTION

The field of cardiac surgery has evolved over time with development and advancement in different technologies. From being considered impossible to becoming a routine life-saving intervention, cardiac surgery has achieved milestone that have revolutionized the management of heart diseases. Along with cardiac surgery, the field of perfusion has developed playing a critical role in enabling open-heart and other complex procedures. Perfusion evolved from early experimental techniques to the sophisticated management of cardiopulmonary bypass and extracorporeal life support system used today. Perfusionist are one of the key members of cardiac surgery, supporting a patient's life by managing blood circulation, oxygenation, and other critical physiological parameters.

Through continue dedication and hard work we have provided service for more than 2 decades and have done more than 23,000 open heart surgeries. Through use of evidence-based practice and knowledge we have became competent as a team.

With Korean Team

MAQUET Cardiohelp ECMO system

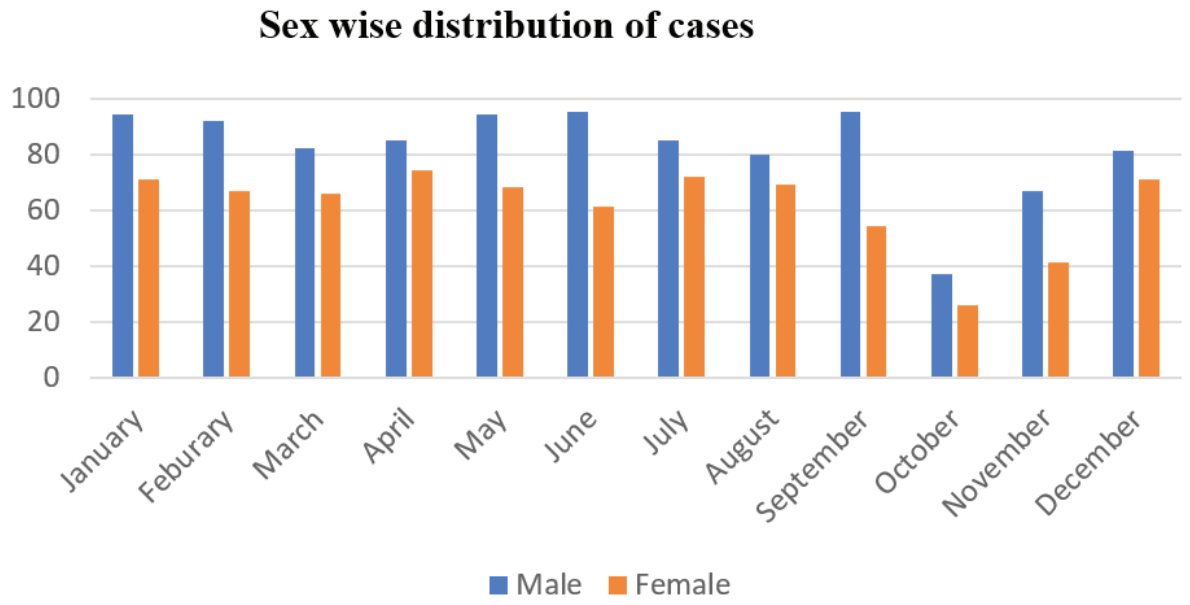
Mast Roller Pump

SERVICES

We as a team are providing services for scheduled as well as emergency cases. Along with this we have been managing patients with IABP in OT, ICU, CCU. This year we have done 1727 cases, among which 987 were male and 740 were female.

The distribution of cases is shown in the diagram below:

S.N	SURGERY	TOTAL
1.	CABG	513
2.	MVR	276
3.	AVR	108
4.	AVR(BIO)	16
5.	DVR	110
6.	CONGENITAL	621
7.	OTHERS	78
TOTAL CASES		1727



ACTIVITIES

- Two senior staff attended paediatric cardiac perfusion training in Seoul National University, Korea for 1 month.
- ECMO workshop conducted at SGNHC for 2 days.
- 2 staffs attended ISECTON conference of perfusion held in Bhubaneswor, Odisa, India.
- 1 staff participated in APCIS (Asian Pacific Cardiovascular Intervention and Surgery held in Korea for 2 days.
- 2 perfusionist with team member visited SGNHC from JWLE center, Korea.
- 2 staff will be attending ISECTON conference, 2025 which will be held in Delhi, India.
- Attended International Management of Congress on Management of Cardiovascular disease in women and Heart health.

BRIDGING THE GAP IN CARDIAC HEALTHCARE: MADHESH PROVINCE

Dr. Rajesh Kumar Shah, Dr. Dharmesh Verma, Dr. Naresh Mandal, Dr. Pramod K. Yadav

Geographical challenges and persistent political instability have hindered access to healthcare in many parts of Nepal, particularly in rural areas. While the modern world is advancing rapidly in terms of technology and innovation, the capital city of Madhesh Province lags behind, especially in providing super-specialized healthcare services.

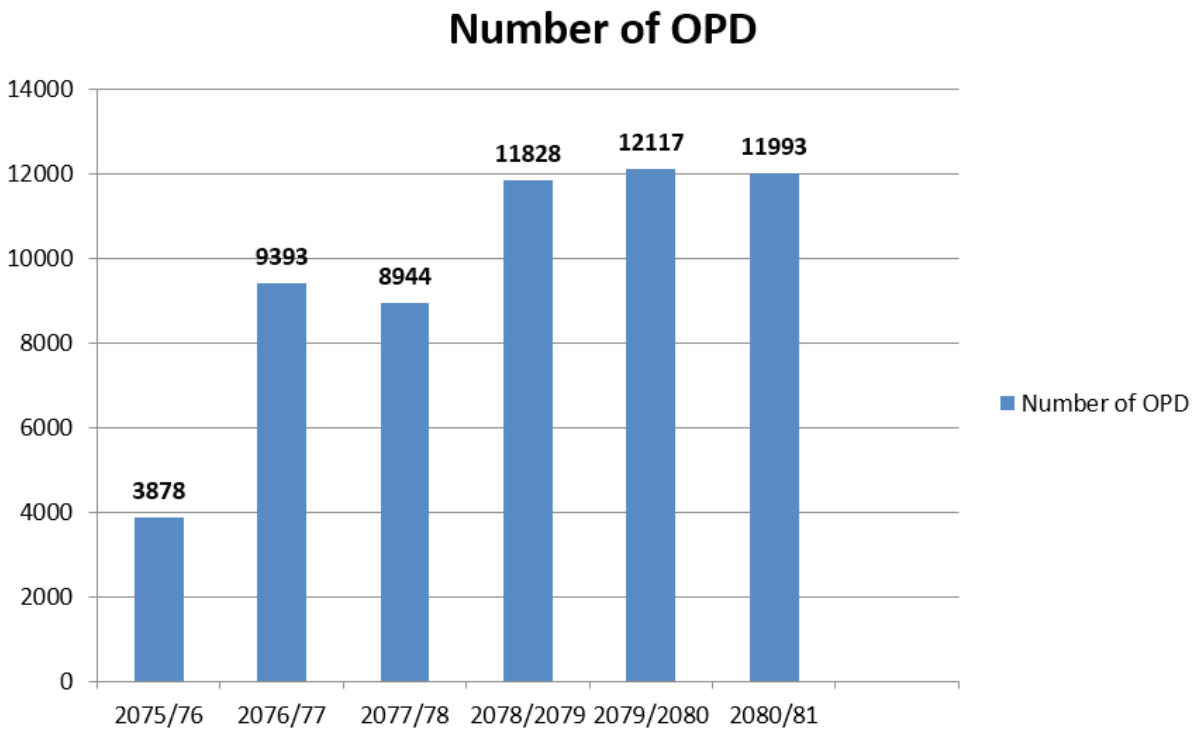
The Janakpur Zonal Hospital (now Madhesh Institute of Health Sciences, MIHS) partnered with SGNHC to expand cardiac services. SGNHC set up a Cardiac OPD block within the premises of the Janakpur Zonal Hospital, with full support from the Ministry of Health. An MOU was signed between SGNHC, Janakpur Zonal Hospital, and the Ministry of Health, outlining a roadmap for expanding cardiac services. This plan included year-on-year service additions, with financial support from the government. The ultimate goal was to establish a fully functional cardiac unit. The aim to expand cardiac services, as originally planned, is now being carried forward by MIHS.

MIHS faces challenges in providing comprehensive cardiac care to the province's residents, mostly due to a manpower shortage and proper infrastructure . most of the energy has been directed towards MIHS development, where a separate cardiac OPD has been set up.

Over 60,000 registrations have been recorded at the OPD till date, and other cardiac services such as ECG, ECHO, Holter monitoring, TMT, ABPM, X-ray, and lab services have seen consistent growth. However, the expansion and enhancement of services promised by both parties have yet to fully materialize.

To effectively address the existing shortcomings, a merger of SGNHC and MIHS under one roof is proposed by both MIHS and SGNHC,Bansbari . This consolidation would provide a more efficient and organized approach to delivering cardiac services. The merger would directly benefit the population, MIHS, and the staff of the SGNHC Janakpur branch. A fully functional cardiac unit at MIHS would ensure that these issues are addressed and would significantly improve healthcare delivery in the region, contributing to the proper development of the cardiac unit and MIHS.

By merging the resources and expertise of both SGNHC and MIHS, a more sustainable and robust cardiac service could be developed by providing technical support to MIHS from the SGNHC Bansbari team for proper training, residents' skill development, and vice versa.



INSTITUTIONAL REVIEW COMMITTEE

Dr. Kartikesh Kumar Thakur, Ms. Suraksha Dhungana

BACKGROUND

Since the establishment of the Institutional Review Committee (IRC) of Shahid Gangalal National Heart Centre (SGNHC) on 27th September 2015 the research being conducted in SGNHC is properly coordinated and monitored.

OBJECTIVES

- To ensure that all studies conducted within SGNHC are done ethically.
- To ensure consistency in the supervision and monitoring of health research.
- To protect the rights of humans and animals involved in the research.
- To regulate and monitor the publication of research work in SGNHC

MEMBERS

S.N.	NAME	DESIGNATION
1.	Dr. Rikesh Tamrakar (Consultant Cardiologist)	Chairman
2.	Dr. Kartikesh Kumar Thakur (Consultant Cardiologist)	Member Secretary
3.	Ms. Prati Badan Dangol (Senior Nursing Supervisor)	Member
4.	Dr. Nivesh Rajbhandari (Cardiac Surgeon)	Member
5.	Dr. Smriti Mahaju Bajracharya (Anaesthesiologist)	Member
6.	Dr. Surakshya Joshi (Cardiologist)	Member
7.	Dr. Amshu Shakya (Registrar Paediatric Cardiology)	Member
8.	Mr. Sudip Chandra Dahal (Medical Record Officer)	Member
9.	Mr. Shital Basnet (External Member)	Member
10.	Ms. Suraksha Dhungana (Senior Staff Nurse)	Office Secretary

The Institutional Review Committee (IRC) has received a total of 399 proposals since its establishment till 2024, among them 307 proposals were approved. In the year 2024, 28 proposals were approved.

Website and Online Application

A separate website for IRC has been developed and can be accessed at https://irb.sgnhc.org.np/. Additionally, a separate website for the SGNHC Research Unit has been created. Research proposals can only be submitted online through https://research.sgnhc.org.np/ in the prescribed format, along with the required documents as per the guidelines.

LIST OF APPROVED RESEARCH PROPOSALS IN 2023

S.No	Research Topics
1.	Seven years single center experience of combined coronary artery bypass surgery with aortic valve replacement: a case series
2.	Assessing Professional Quality of Life (Burnout, Secondary traumatic stress and Compassion satisfaction) among Nurses Working in Cardiovascular Care Setting at Shahid Gangalal National Heart Centre
3.	Cardiac Self-efficacy and its Associated Factors in Patients Diagnosed with Coronary Artery Disease in Nepal
4.	Carbapenem resistance in Acinetobacterbaumannii and detection of blaOXA-23, blaOXA-51, blaOXA-58, bla-IMP, bla-NDM genesat SHAHID GANGALAL HOSPITAL
5.	Assessment of Aortic Root Dimensions via Trans-esophageal Echocardiography in Adult Patients Undergoing Cardiac Surgery with cardio-pulmonary bypass:A Prospective observational study
6.	Factors Influencing Turnover Intention among Nurses in Shahid Gangalal National Heart Centre, Kathmandu
7.	Assessment of the Framingham Risk Score for Hard Coronary Heart Disease among Hypertensive Patients according to BMI in a Tertiary Cardiac Center in Nepal
8.	Efficacy of Transversus Thoracic Muscle Plane Block for Analgesia After Pediatric Cardiac Surgery
9.	Efficacy of Antibiotic-Nanoparticle Combination Against Muti-Drug Resistant Hypervirulent Klebsiellapneumoniae from Cardiac Patients
10.	Quality of life of cardiac patients after surgical intervention attending OPD of tertiary hospital of Kathmandu
11.	TRICS – IV: Transfusion Requirements in Younger Patients undergoing Cardiac Surgery
12.	Low-Density Lipoprotein (LDL) related Candidate Gene Variation with coronary artery disease (CAD) and their Interplay with Modifiable Risk Factors in Nepalese Population: A Case-Control study
13.	Correlation between size of defect and age of patient with pulmonary hypertension in Atrial Secundum Defect (ASD).
14.	CHA2DS2VASC score as a novel marker for contrast-induced nephropathy after primary percutaneous coronary intervention for patients presenting with acute ST-segment elevation myocardial infarction
15.	Transseptal approach vs Transaortic approach for catheter ablation of left sided accessory pathway: A single centered study in Nepal
16.	In-hospital outcome of Transcatheter Aortic Valve Implantation at Shahid Gangalal National Heart Centre, Kathmandu, Nepal
17.	Prevalence of blood transfusion and point of care rotational thromboelastometry (ROTEM) in tertiary cardiac centre of Nepal.
18.	Stress among Healthcare Providers in the National Heart Center of Nepal: A Cross-Sectional Study
19.	Atrial Fibrillation in Patients with Different CHADS2 and CHA2DS2-VASc Scores in a Nepali Cardiac Care Setting: A Cross-sectional Study

20.	Restrictive Cardiomyopathy in Patients Suspected with Suspected Cardiomyopathy undergoing MRI: A Cross-Sectional Study
21.	Pattern of Thrombus burden in patients undergoing primary PCI after Myocardial Infarction: A cross-sectional study
22.	Electrocardiographic (ECG) Changes in Isolated Atrial Septal Defect (ASD): A Cross-Sectional Study
23.	Impact of Preoperative Nutritional Status on Postoperative Outcomes in Patients Undergoing Rheumatic Valvular Heart Surgery
24.	In-Hospital Initiation of Guideline-Directed Medical Therapy (GDMT) in Patients with Heart Failure with Reduced Ejection Fraction (HFrEF): A Retrospective Cross-Sectional Study
25.	Quality of Life after Percutaneous Coronary Intervention among Patients in a Tertiary Level Hospital in Kathmandu.
26.	Utility of Postoperative phone calls in reducing unplanned health care visits in patients post adult cardiac surgery.
27.	Impact of Cardio Pulmonary Resuscitation Training on Knowledge Retention among the Healthcare Workers in a tertiary Cardiac Centre
28.	Right Ventricular Involvement in Inferior Wall Myocardial Infarction: A Cross-Sectional Study

CONTACT ADDRESS AND OFFICE LOCATION

Institutional Review Committee (IRC)
Room No. 143, 2nd Floor, Academic Block, Shahid Gangalal National Heart Centre
Bansbari, Kathmandu, Nepal
P.O. Box: 11360
Tel: 977 – 1 – 4371322 / 4370622 / 4371374 (Ext.: 620)
Email: ircsgnhc@gmail.com, researchsgnhc@hotmail.com
Website: https://irb.sgnhc.org.np/, https://research.sgnhc.org.np/
Please contact the Office Secretary between 2:00 pm to 3:00 pm (Except Saturday), if necessary.

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Infection Prevention and Control Practices for Safe Healthcare Delivery

Kopila Luitel, Shovana Shrestha, Manju Pyakurel

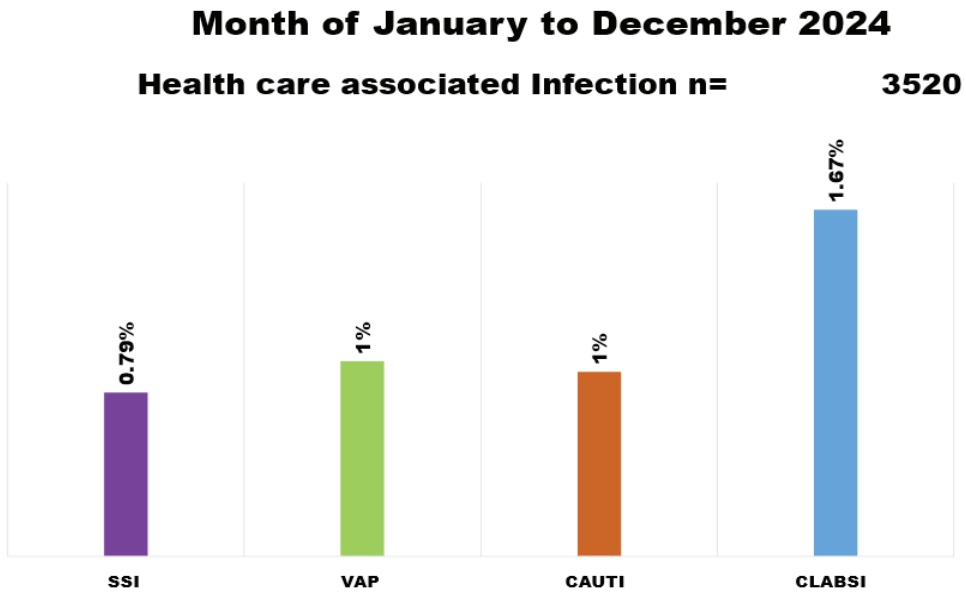
Infection prevention and control practices are essential for safe, high-quality patient care. The core infection prevention and control practices should be implemented in healthcare centers. All those practices are intended to prevent healthcare personnel with the potential for direct or indirect exposure to patients or infectious materials, including body fluids, contaminated medical supplies, devices, and equipment; contaminated environmental surfaces, or contaminated air.

Activities conducted by the infection prevention and control unit are:

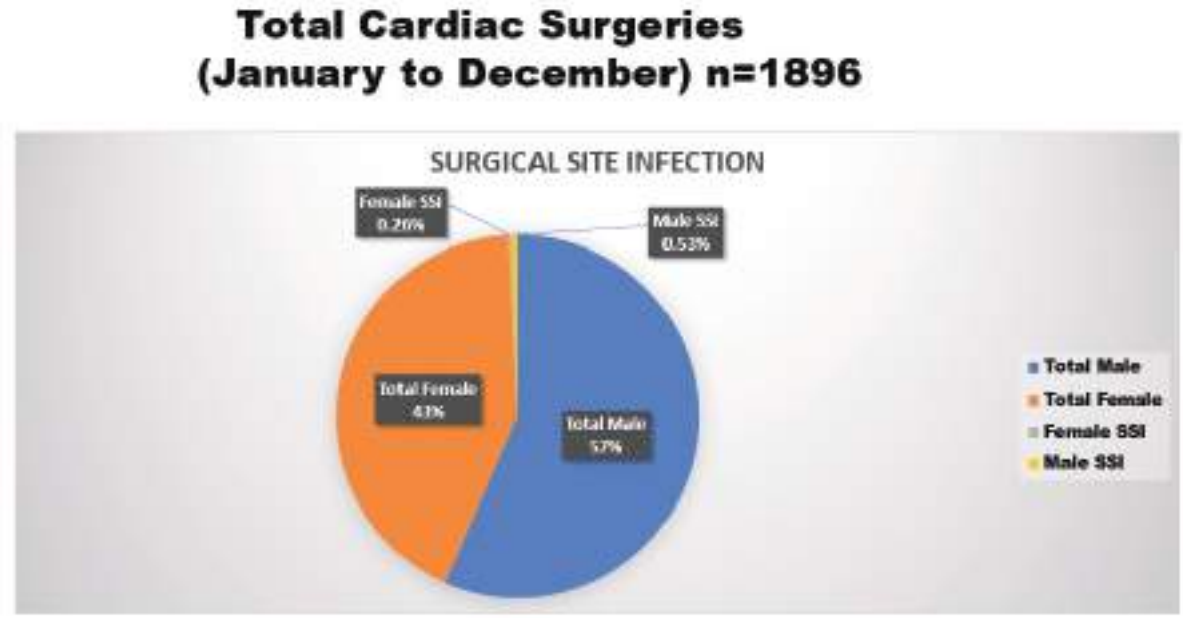
- Educate and train healthcare personnel on infection prevention.
- Patient, Family, and Caregiver Education.
- Implement standard precaution guidelines - Hand Hygiene, Use of PPE, Respiratory Hygiene/Cough Etiquette, sharp safety, safe injection practice, Proper cleaning and disinfection,
- Focus on environmental infection control and laundry management, proper management of healthcare waste, appropriate patient placement, and monitoring environmental cleanliness.
- Implement Transmission-Based Precautions.
- Follow Occupational Health- immunization/vaccinations
- Study on Healthcare-associated infection Surveillance
- Monitor IPC practices and control activities.
- Review and revise infection control guidelines and protocols according to national guidelines etc.

SURVEILLANCE FOR INFECTION PREVENTION

Surveillance is a key component of infection prevention activities. It includes the systematic collection and analysis of data. These data help to find the current issues at specific wards or areas of the hospital. Then, we communicate with the concerned person for action. As surveillance is an ongoing process, we will be watching whether the action is appropriate or not to decrease the HAIs. If that action is not enough to prevent infections, Then, we give feedback and advise to change the action. We can assess whether that new action is helpful or not with subsequent data analysis.



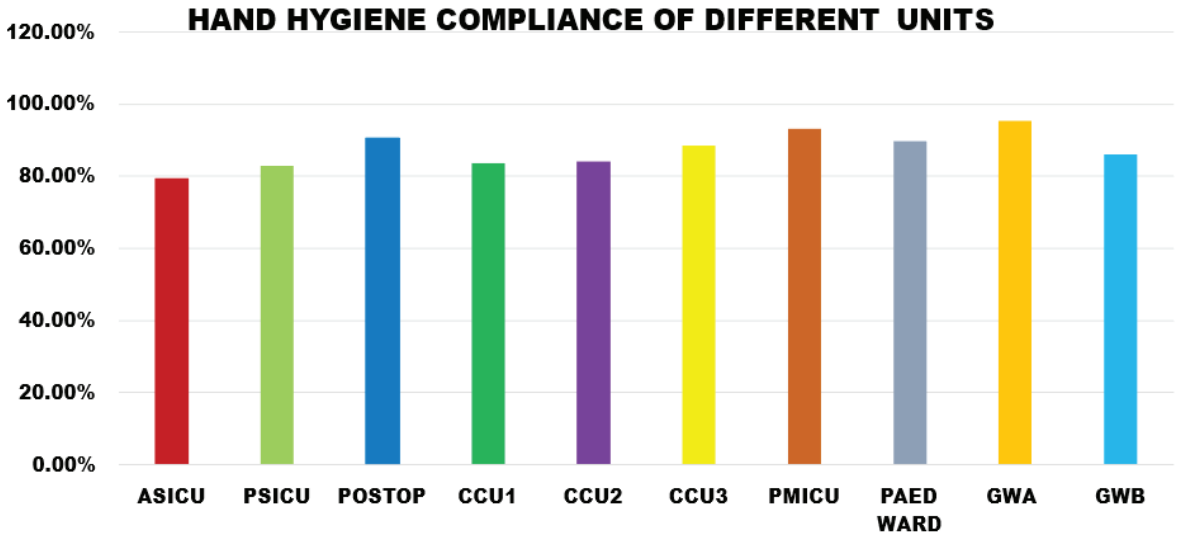
There was total three thousand five hundred and twenty heart patients who underwent different invasive lines and operative procedures from the month of January to December. Among them one thousand four hundred and eighty-one cases underwent mechanical ventilation, 1% of cases developed VAP. Likewise, one thousand and thirteen patients were kept in the central venous catheter, and 1.67% developed CLABSI. In this way one thousand and ten patients were in urinary catheter device, 1% developed CAUTI and one thousand eight hundred and ninety-six patients underwent heart surgery, 0.79% developed Surgical site infection. Overall, the most common healthcare-associated was CLABSI and the least was surgical site infection and the risk factors for developing HCAI are uncontrolled DM, state of immunocompromise, Obesity, and poor personal hygiene. Likewise, the causative organisms are Klebsiella pneumonia, MRSA, pseudomonas, Acinetobacter, and E. coli.



There was a total of one thousand eight hundred and ninety-six cases who underwent cardiac surgeries from January to December. Among them, one thousand and eighty-two patients were male which was 57%, and eight hundred and fourteen patients were female which was 43%. Likewise, the total number of SSI was fifteen among them, the male was ten and the female

was five. So, the number of male populations who developed SSI was 0.53% and the female populations who developed SSI was 0.26% and the most common factors to develop SSI are diabetes mellites, malnutrition, immunocompromise and poor personal hygiene.

Month of January to December n= 9924



This data shows the hand hygiene compliance within the twelve-month period which was total of nine thousand nine hundred and twenty-four hand hygiene opportunities and missed compliance was one thousand three hundred and twenty-four within the different departments. Among them, the highest hand hygiene compliance was GWA, PMICU, and post-operative ward, which was above 90%, and other departments followed nearly the same trend of 80% and above. Overall, the healthcare professional's hand hygiene compliance was improving and satisfactory compared with the previous year's data.

ROLES OF INFECTION CONTROL NURSE IN SURVEILLANCE

- Contributes to the development and implementation of policies and procedures, participates in audits, and monitors tools related to Infection Prevention and Control.
- Provides specialist-nursing input in the identification, prevention, monitoring, and control of Infection.
- Participates in surveillance and outbreak investigation

CHALLENGES DURING SURVEILLANCE

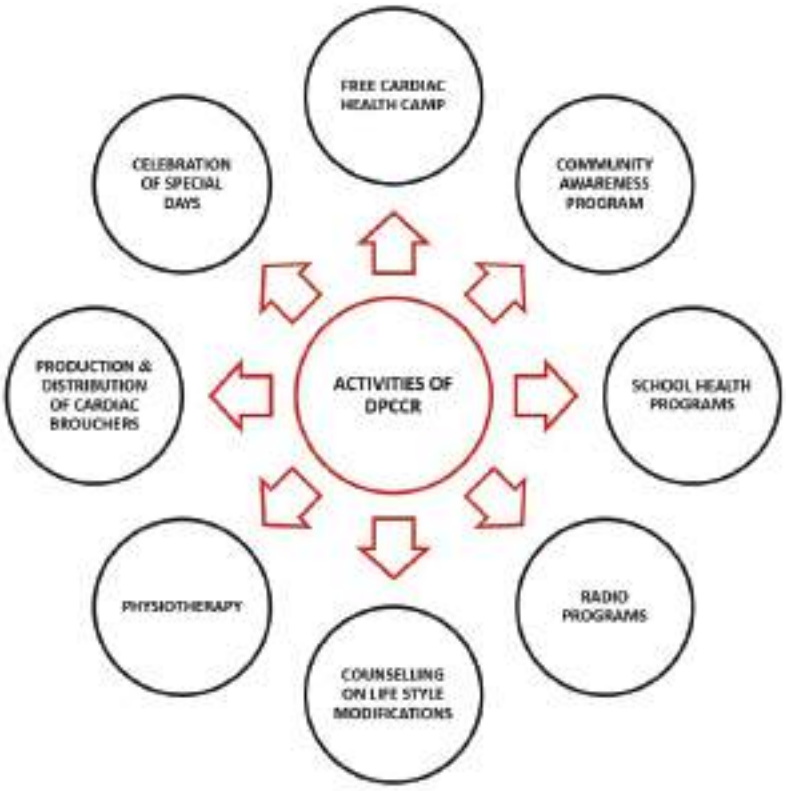
- Infrastructure of the organization
- Difficulty in changing the attitude of healthcare personalities
- Ignorance in the use of precautionary measure
- Lack of enough supply of safety measures for patients and healthcare personnel.
-

DEPARTMENT OF PREVENTIVE CARDIOLOGY AND CARDIAC REHABILITATION (DPCCR)

Ms. Suraksha Dhungana, Ms. Januka Khadka

INTRODUCTION

Department of Preventive Cardiology and Cardiac Rehabilitation (DPCCR) have been established in Shahid Gangalal National Heart Center to initiate and develop effective preventive strategies and establish cardiac rehabilitation programs.



A.Counseling on life style modification:

Counseling is the most important role of health care professionals for the maintenance of compliance to the treatment protocols. The department has formally started patient counselling on Bhadra 2065. We focused on disease, its complications, preventive strategies, treatment protocols, lifestyle modification, heart healthy dietary pattern, regular exercise, regular medication, regular follow up and so on. Now we are providing health education in two approaches:

Indoor counseling:

We have been counselling the patients at the time of discharge in their respective ward. In the

year 2024, we have provided health education to 5191 patients and their family members.

Outdoor counseling:
We have been counselling the patients attending OPD in the OPD block at Room no. 110. In the year 2024, we have provided health education to 4446 patients and their family members.

B. Free Cardiac Health Camp:

It is very important to decentralize the health care services. Free cardiac health camp is one of the effective means to cover the large population. The main objective of these health camps is to screen the cardiac problems, provide appropriate treatments and raise health awareness among the population of remote areas

In the year 2024, health camps benefitted a total of 5260 patients in the following different areas.

S.N.	Venue	Duration	Total patient examined	ECHO	ECG
1	Bhangeri, Ramechhap	1 day	343	271	84
2	Amargadi, Dadeldhura	1 day	541	349	184
3	Burtibang, Baglung	2 days	700	589	104

4	Golanjar, Sindhuli	1 day	605	350	217
5	Manahari, Makwanpur Devchuli, Nawalparasi	2 day	900	656	270
6	Panchkhal, Kavre	1 day	270	252	41
7	Thoche, Manang Chame, Manang	2 days	1200	967	274
8	Lomanthang, Mustang Lete, Mustang Jomsom, Mustang	3 days	509	509	181
9	Barhabise, Sindhupalchok	1 day	192	155	78

C. School Health Program:

The School Health Program targets school children. In 2024, we visited schools in different places of Manang, Mustang, Panchkhal, Ramechhap, and Kathmandu for cardiac screening. So far, we have screened 2253 students, and the program is still ongoing in Nagarjun Municipality, Kathmandu.

D. Health education material production:

We have been producing brochures, pamphlets, flip carts, play cards, posters, banners etc. for mass education. Brochures related to cardiac diseases, cardiac procedures, healthy diet, physical exercises are produced and freely distributed to the patients.

E. Celebration of Special Days:

We have been celebrating the special days like World Hypertension Day and World Heart Day. In the year 2024, we have celebrated the special days by doing various activities.

World Hypertension Day:

As part of our annual tradition, we celebrated World Hypertension Day in May 2024 by organizing free health camps at various locations. A total of 779 patients benefited from this health camp. We conducted free health camps in Budhanilkantha Municipality (Wards 4, 5, and 6), offering services such as blood pressure measurement, random blood sugar measurement using a glucometer, and ASCVD risk score calculation for all participants. For those with a high ASCVD risk score, blood samples were sent for fasting blood sugar and lipid profile testing. Cases with abnormal results were treated appropriately. The blood donation programme, which included 43 donations, was also incorporated into the programme.

World Heart Day:

On World Heart Day, celebrated on September 29, 2024, the planned walkathon was canceled due to unfavorable weather conditions Instead, an interaction program with hospital staff members was organized. The session discussed the rising prevalence of heart disease, preventive strategies, and the importance of lifestyle changes to reduce risks.

F. Social Work

Due to the disasters caused by floods and landslides, many people in our country suffered. We conducted field visits in various places in Lalitpur. After assessing the needs of the victims, we distributed essential livelihood items such as utensils, blankets, mattresses, bed sheets, bed nets, clothes, and more. We distributed the items in two phases. In the first phase, we provided items to 65 families in Tahakhel, Tikabhairab, Lele, and Chapagaun. In the second phase, we distributed items to 45 families in the areas surrounding Gotikhel and Manikhel.

DPCCR would like to express heartfelt thanks to all the donors, including the SGNHC Family, Dr. Jeffery Sanders (American Cardiologist), Sewa Samaj, Lomus Pharmaceuticals, and Deurali Janta Pharmaceuticals, for their generous contributions.

Diagnostic and Therapeutic Interventions in Congenital /Structural Heart Disease

Dr.Manish Shrestha , Dr.Subhash Chandra Shah , Dr.Vidhata KC

Structural heart disease is a non-coronary disease, group of disease condition involving the heart valves or chambers which may be congenital, acquired or both. Although usually present at birth, due to genetics, many of these conditions can occur later in life due to infection, wear and tear of aging and presence of any underlying condition. Structural heart diseases constitute a large proportion of the burden of cardiovascular disease in low- and middle-income countries. Global burden of Congenital heart disease incidence of approx. 8 per 1000 live birth. Asia hold the highest CHD prevalence of 9.3 per 1000 live birth. Incidence of CHD among Nepalese population is 7 per 1000 live birth. In pediatric population congenital heart disease including the shunt lesions (ASD, VSD and PDA) are common while in older age group, valvular lesions including aortic stenosis, mitral regurgitation and, tricuspid regurgitation are common. Depending on the type of defect, surgical procedures are designed to either restore normal anatomy or physiology (or both) or palliate by improving physiology. The latter is more realistic for severe defects that lead to single ventricle physiology. Cardiac surgery is often the standard type of care in cardiac diseases; however, many patients have additional risk factors that may increase their morbidity after surgery. The majority of CHDs require open-heart surgery, although increasing number of patients are being managed by catheter-based procedures. Transcatheter approach for correction of their heart defects has proven to be a viable alternative to these patients with negligible complications of decreased bleeding, shorter recovery time and little or no pain.

Intervention in structural heart disease is a rapidly evolving field which requires appropriate training and experience. These procedures require navigation of the aorta, left atrium, and right heart, including detailed understanding of relational anatomy. The operator must have detail knowledge of large bore vascular access, navigation within the left atrium, handling of the device, occlusion, snaring, and 3-dimensional relational anatomy. Shahid Gangalal National Heart Center has always aimed to remain updated and provide novel treatment on par with countries around the world. Following is the data for the year 2024 in catheter interventions in

structural heart disease in the hospital. Our data has showed total of 1168 patient has underwent transcatheter treatment among which 722 (61.8 %) were above 15 years and rest 448 (38.3 %) were less than 15 years. PDA device closure was the most common intervention done in children while PTMC for Rheumatic Mitral Stenosis followed by ASD device closure was most common intervention among adult.

Table 1 : No of Cath procedure for Congenital/Structural heart disease in the year 2024

Intervention	Total	Less than 15 years	More than 15 years
PTMC (Percutaneous Transluminal Mitral Commissurotomy)	414	4	410
ASD DEVICE CLOSURE	360	105	255
PDA DEVICE CLOSURE	163	140	23
RHC/LHC(Right/ Left heart catherization)	124	113	11
BPV (Balloon Pulmonary Valvuloplasty)	41	28	13
VSD DEVICE CLOSURE	21	21	
BAV (Balloon Aortic Valvuloplasty)	13	13	
TAVR (Transcatheter Aortic Valve Replacement)	10		10
COA BALLOONING	9	9	
CAG in Structural heart disease	5	5	
PDA Stenting	3	3	
AP Window Device Closure	2	2	
MAPCA COILING	1	1	
Tricuspid valve Ballooning	1	1	
Balloon atrial septostomy	1	1	
Total	1168	446	722
Total Intervention	Total	1168	

Note: PTMC: Percutaneous Transluminal Mitral Commissurotomy, PDA: patent ductus arteriosus, ASD: Atrial septal defect, VSD: Ventricular Septal defect, AP: aortopulmonary, MAPCA: multiple aorto pulmonary collaterals , COA: coarctation of aorta, BAS: Balloon atrial septostomy, CAG: coronary angiogram .

About Nursing, Paediatric Nursing and SGNHC Paediatric Unit

Vidya Joshi Koirala
Senior nursing supervisor

The modern form of Nursing was stated by Florence nightingale (1820-1910AD) before that it was influenced by various religious groups.

Pediatric nursing is a specialization of the nursing profession that focuses on pediatrics and the medical care of children, from early infancy to adolescence or age criteria defined by institution. This is an important field because the health of children is distinct from that of adults due to the growth and development that occurs throughout childhood.

Principles of Pediatric Nursing presents a foundation of core pediatric nursing principles with an emphasis on mental and physical growth and development, family – centered care (involvement of family member while providing care), and health promotion and maintenance. The word "paediatric" derived from two Greek words: (pais = child) and (iatros = doctor or healer). The aims of the study of paediatric is to reduce infant and child rate of morbidity, mortality, control the spread of infectious disease and to promote healthy lifestyle.

Abraham Jacobi is considered to be the father of pediatrics in America. William E. Ladd known as the father of pediatric surgery. Lewis Spitz; Emeritus Nuffield Professor of Paediatric Surgery. As we know that pediatric nursing is very important to all over the world in the promotion of health, prevention of disease, treatment and rehabilitation program for paediatric population.

A Pediatric Ward is a unit of specialized hospital where pediatric patients receive medical care from healthcare professionals trained in treating children and adolescents.

Pediatric nurses are responsible for helping sick children adapt to a hospital setting and prepare them for medical treatments and procedures. Nurses also play important role to educate the parents to observe important and initial symptoms of problems, signs and responses to therapies, to increase the child's comfort, and even to provide ongoing care.

In Nepal history of pediatric nursing, the mother or other woman at home provided nursing care to the sick, injured and old. Now the concept of nursing has changed in the concept of health, promotion of health, prevention of disease, progress in science, technology and care to the sick.

When first nursing was introduced in Nepal various difficulties were encountered. Few girls were educated and training were unaccepted by society.
Acceptance for nursing training during encouraged by HRH Prekshaya Rajya Laxmi Devi Shaha she took nursing training in 1973-1976, after 1972 awareness of nursing program formally move ahead.

The scope of nursing profession is growing with each passing day, education options and job

options in diverse sectors such as hospitals, schools, different organizations, universities, clinics, private and public sectors but it faces several challenges such as super specialization in different nursing field and disparity in wages, insufficient recognition from superiors and public.

Continuing education and training after the licensing exam is voluntary, sporadic, and organized mainly by outside organizations. The lack of a standard continuing education component for professional development could be a significant contributing factor for lagging behind in professional skills among nursing professionals in Nepal.

Paediatric nurses should have knowledge and awareness to apply different nursing theories application (such as nightingale theory, Orem's self-care theory, Roy's adaptation theory, independent theory, cultural theory, psychosocial, cognitive theory and others)for effective nursing management about growth and development of children, their parenting and function of the family, promotion of health of children, the nursing process, physical and mental assessment, nutritional influences on child health, legal and ethical issues, special problem of children such as fluid and electrolyte and nutritional deficit, emergencies, abused or neglected child, their emotional disorder, chronic illness, terminal illness ,high risk, genetic problem and mental retardation and others.

In our SGNHC However paediatric population are being benefited by SGNHC from 2068 BS but paediatric ward as such developed with 10 beds in 2075/12/12 then extended with another 5 beds. Now there are total 15 beds in paediatric cardiology, 6 beds in pediatric medical ICU recently (2080/9/4), Paediatric surgical ICU beds are 12, paediatric pre op beds 18 and few beds at post op unit.

Challenges and recommendation:

Lots of effort has been made for separate paediatric ward and we are making every effort as much as we can but paediatric cardiac patients continue to face numerous challenges in their care, treatment and management. The availability of child friendly environment, child friendly medical equipment, age-appropriate play material, play therapy, feeding room, baby friendly clothes, baby friendly laundry and bathing room, child friendly colorful walls, paediatric nutritionist and paediatric psychologist, less painful/alternatives procedure, appropriate tube size to draw less amount of blood for blood investigation, long duration antibiotics /medicine/ IV infusion and others would enable excellence in their care and management. As expected, these will be managed soon for new paediatric population care in future. Hope for positive budget distribution for paediatric ward with above mentioned facilities as much as possible.

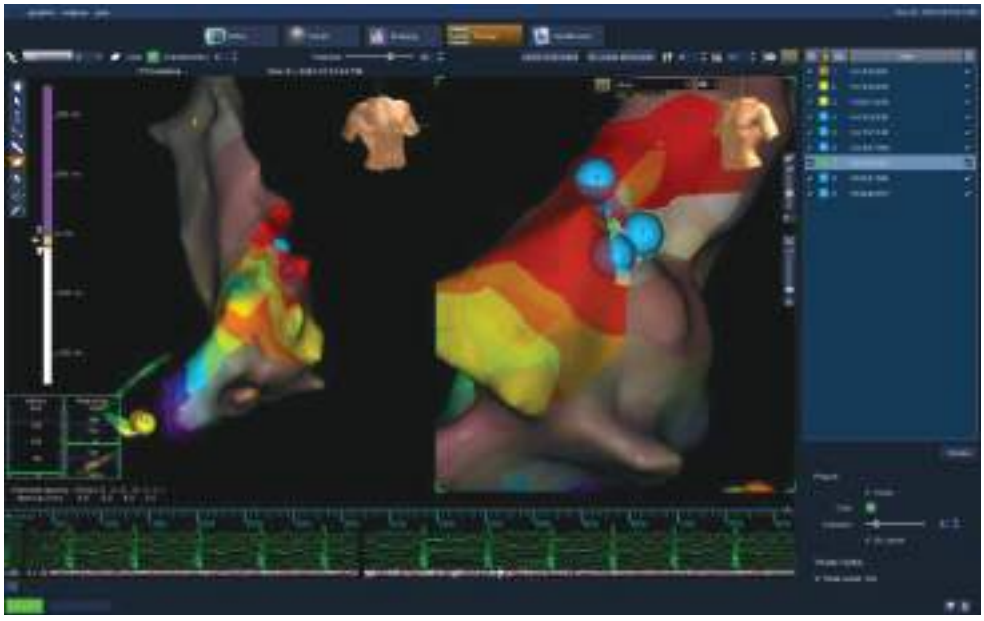
Nursing Staffs get experienced only by working in paediatric units. In my own view it would be better in our specialized center, to have specialized paediatric cardiac nurses for paediatric population. So, recruitment of nursing professional based on specialization would be fruitful for effective nursing management of pediatric population. Ongoing paediatric nursing training opportunity must be provided for better guidance and outstanding nursing care, it will help to make an update in knowledge, practice and excellency in paediatric nursing field.

An Introduction to 3 Dimensional (3D) Electrophysiological (EP) Study

Prof. Dr. Sujeeb Rajbhandari

Our human eye is capable to see in three dimensions. That's why we can appreciate the depth of any scenery. The movies or cinemas we see are two dimensional. Then came the movies in 3D which utilized different camera techniques. With the development of computers in recent times 3D painting came into lights. After many years of 2D echocardiogram progress was made in the development of 3D echo, which specially helped in surgery. Similarly, after the advent of conventional EP, people began to put their thoughts in the possibility developing electroanatomic mapping system or 3D.

An EP study of a cardiac arrhythmia consists of identification, characterization and localization of the origin of an arrhythmia. In EP study information obtained by catheter position and contact is crucial. In conventional fluoroscopy based EP we have to rely on intracardiac ECGs and the fluoroscopy, stretching our knowledge to the best. We depend upon catheter trajectory and its movement and the cardiac silhouette to make an educated guess where different intracardiac structures like His Bundle, Atrial appendage, Cavo – tricuspid isthmus, septal and free wall of Right Ventricular Out flow tract etc are located. In 3D information gathered from the tip of the mapping catheter, which are intracardiac signals, timing of the intracardiac ECG with respect to a reference (coronary sinus catheter electrodes or surface ECG).



3D has came as a boon to electrophysiologists by it's virtue of being able to create a virtual image of the cardiac chamber and intracardiac structures of interest. To put simply we imagine that the heart is an invisible structure and we are spilling paint inside it to create a virtual geometry of the heart. This creation of a reconstructed image or map will let us know where the important structures and the point of interest lie.

The advantages of 3D EP are as follows: First we able to visualize the structure ie anatomy of the heart. Voltage map which is color coded will show probable scar and the areas of low voltage that plays a critical role in re entry tachycardia. We can also know how early or late the signal obtained by our catheter with respect to a reference point. The mapping catheter allows to identify the site of focal origin of tachycardia which is nearly impossible with the conventional EP. During focal atrial or ventricular tachycardia the computer can generate an activation wave front via an activation map. In this manner we can also visualize the loops utilized by re entrant tachycardia.

In conventional EP our catheter may be going to the same spot again and again not knowingly during mapping and ablation. In 3D, we can mark the part(s) where we have visited or ablated already letting us know not go back to that area. In contrast we can tag important sites of interest, specific anatomic structures so that we can easily take the mapping catheters to go back to those previous points. We can mark the spots where we have ablated and created lesions and also create contiguous lesions and identify the area which were not adequately ablated. The other advantage that it reduces the fluoroscopy time considerably thus radiation dose and procedural time. In some EP centers have opted for fluoroscopy less ablation.

In 1996 Ben – Haim et al was the one start non fluoroscopic electroanatomic mapping in vivo. Currently there are two systems popular, one Biosense Webster's Carto and the other Abott (Formerly St. Judes) Ensite NavX / Velocity. The Biosense Carto system uses a sensor incorporated in the tip of a mapping catheter which senses a magnetic field created by a magnetic field emitter. The emitter consists of 3 coils which generates ultra – low magnetic field and is placed beneath the patient. Spatial and temporal data both are obtained. The system also requires a reference (Quick patch), for correction of minor patient movement. St. Judes EnSite NavX / Velocity uses three surface orthogonal electrode pairs. One is placed at back of neck, second on left and right lateral thorax close to T5/6 and the third anterior and posterior chest at T2 level. In the Carto system we cannot use the ablation catheter after 24 hours. In Ensite system we can use any conventional ablation catheter for any duration but there is requirement of back patch which can be used to two to three patients. Thus the Ensite system has an advantage of having the lower cost.

The indications are:

1. Atrial tachycardias
2. Outflow tract PVCs and VTs
3. Fascicular VT
4. Other VTs in structurally normal heart
5. Ischaemic VTs
6. Atrial flutter other than typical
7. Post surgical flutters
8. Arrhythmias in congenital heart disease also post surgically corrected / palliative surgery
9. Failed difficult cases done in conventional EP system
10. Atrial fibrillation

We shouldn't forget an important player in 3 D; the person is an EP technician. A well trained or experienced EP technician can in fact can guide the electrophysiologist during the procedure of ablation. The technician has an important role in creation of 3D map and keeping the operator updated about the proper signal.

History of 3 D EP in Nepal:

Shahid Gangalal National Heart Centre is the first centre in Nepal to start 3 D EP study and RFA on it's own. The first case was done in 2015 A.D.

We hope to continue, develop and gain valuable experience in days to come in the field of EP.

Data:

1. Atrial tachycardias
2. Atrial flutters
3. Outflow tract PVCs & VTs
4. Other PVCs & VTs
5. Fascicular VTs
6. Atrial Fibrillation

Innovations in Cardiac Surgery

Dr Rabindra Bhakta Timala
Senior Consultant Cardiac Surgeon
Unit Chief, Pediatric and Congenital Heart Surgery

Cardiac surgery is as much challenging as is fascinating. The structural abnormalities that can occur while forming the heart are immense, so are the ways to treat them. Correcting congenitally incorrect lesion aren't just about 'doing' the job, it's about providing the hope for the future generations, a testament to our unyielding commitment to protecting and enhancing life as it comes.

In recent years, there have been incredible strides in solving the complex of the complex heart lesions, improving not just the survival but allowing them to have normal life. Despite having so many things not going in right directions in the country, we are working hard to provide the same life expectations as our counterpart does in the developed nations. Continuing with our traditions of providing the best surgical care to our patients, we were able to introduce some of the new techniques to our patients.

RV Overhaul

Seven years old female presented with severe infundibular and valvular pulmonary **stenosis**, hypertrophied small right ventricle, which was bipartite (missing inflow portion), with tricuspid valve 'z' score of -2.3. She also had atrial septal defect along with patent ductus arteriosus. She underwent extensive right ventricular muscle resection, pulmonary valvotomy for which the term 'right ventricle overhaul' was coined by Dr Roger Mee, along with PDA ligation and TV repair. We were able to achieve biventricular repair, which was good for the patient.

MAPCA (Major Aorto Pulmonary Collateral Artery) Unifocalization

5 weeks old male presented with single ventricle physiology, pulmonary atresia, large MAPCA supplying to right upper lobe with small pulmonary arteries. He underwent unifocalization of MAPCA to right pulmonary artery, PDA division and Melbourne shunt through sternotomy.

Double aortic root enlargement

18 years old female presented with severe aortic stenosis with moderate aortic regurgitation along with hypercholesterolemia. Her aortic annulus was about 10 mm. She underwent posteriorly 'Y' incision aortic root enlargement with fresh autologous pericardial patch and anteriorly Konno-Rastan aortoventriculoplasty using bovine pericardial patch. We were able to fit in no. 19 St Jude mechanical valve after that.

Besides we continue to carry out novel surgical techniques such as making pulmonary valve from right atrial appendage for patients with tetralogy of Fallot, whenever pulmonary valve is not salvageable, Nikaodoh procedure for patients presenting with transposition of great arteries, ventricular septal defect with pulmonary stenosis etc. Our emphasis on children/ adults presenting with rheumatic mitral valve lesion continue to be repair rather than replacement, especially those presenting with regurgitant lesion.

Off pump coronary artery bypass grafting in Nepal

Dr. Bishwo Pokhrel

Coronary artery bypass grafting (CABG) is still regarded as the benchmark treatment for triple-vessel coronary artery disease or left main disease and many more conditions even in the current era of substantial increase in coronary angioplasty volumes. Seeing briefly at cardiac surgeries done in Nepal, the majority of the surgeries were for valvular heart surgery accounting for 30-40%, followed by congenital surgeries 25-35% and surgeries for coronary artery disease 20-30%. Since the load of coronary surgery is high in Nepal and is increasing, we should focus on what is trending and what is beneficial to patient in quality and financially in our socioeconomic condition. We have come up with determination of doing what our neighboring country is doing with good outcome. We have started doing off-pump CABG (OPCAB).

CABG performed with the assistance of cardiopulmonary bypass and cardioplegic arrest, commonly known as conventional or on-pump CABG (ONCAB), is considered the gold standard. However, numerous physiologic disturbances affecting the hemostatic mechanisms, immune mediators and inflammatory responses are squeal of CABG on cardiopulmonary bypass that culminate in deterioration of function of various organs. Furthermore, handling of an atherosclerotic ascending aorta during cannulation and cross-clamping can enhance embolization and stroke risk. Appreciation of these deleterious effects of ONCABG prompted revival of OPCAB.

Large number of retrospective nonrandomized observational studies, prospective randomized controlled trials, and meta-analyses have verified the status of OPCAB as a safe and effective technique, but still unable to prove absolute supremacy.

Surgeons of Indian subcontinent, take OPCAB as first line surgical management in coronary artery disease with up to 95% of all CABGs. In a country with limited resources and very poor health insurance cover, it is commendable and praiseworthy due to significant reduction of cost of surgery. With this, we have started OPCAB on almost all the patients on regular basis at Shahid Gangalal National Heart Center. OPCAB used to be regular procedure when it was single LAD graft. But after long practice in ONCAB and successful result, we have inclined towards OPCAB in all the cases with as high as 5 grafts. Starting on late 2024, we already have performed OPCAB successfully on about 50 patients with encouraging result and zero mortality. Since we are at beginning, we are not able to publish the detail data of all the patients. We have summarized the cases below. By next year, we believe we will be able to present a significant number of data and result.

Total number of patients- 48, M/F- 35 and 13
Age range- 42 to 78 years
LM more than 50%= 11
Heavily calcified vessels= 4
Renal impairment= 6
Low EF%= 22

Average ICU stay 2 days
Post-operative ward 3 days
Sternal wound infection-1
Conversion- 1
Coronary endarterectomy = 1
Mortality= 0

Major challenges

Conversion to ONCAB

There are many reports in india that near zero OPCAB conversion to ONCAB in unselected consecutive patients can be achieved by following a standardized protocol for hemodynamic stability and by judicious use of intra-aortic balloon pump rather than ONCAB. Conversion is reserved for intractable ventricular arrhythmia refractory to IABP, medical therapy, multiple shocks and corrections of precipitating factors, if any. Papers published from India have reported that majority of the surgeons practicing OPCABs have not converted to ONCAB for years.

Graft patency

Randomized controlled studies BHACAS* and SMART* have conclusively proven that OPCAB and ONCAB have similar graft patency. Multicenter CORONARY* showed similar result at 1 year in spite of high OPCAB to ONCAB conversion rate (7.9%). Graft patency is dependent on many factors. Surgeon dependent factors will be how gently the conduit is handled and harvested, anastomosis technique and various other technical factors. All these will not vary for a particular surgeon because his basic technique will remain the same in both OPCAB and ONCAB. Another study; SMART*, has conclusively proven that when performed by the same surgeon there were no differences in the long term graft patency.

Complete revascularization

Revascularization of posterolateral and inferior vessels used to be considered difficult. But with refinement of the technique these vessels are routinely grafted during OPCAB. There are concerns about complete revascularization during OPCAB. It is noted in SMART* trial that complete revascularization is possible during OPCAB. Coronary endarterectomy can be easily performed if required, during OPCAB.

Stroke

Studies have shown that incidence of stroke after OPCAB is 1% as compared to 9% in on ONCABG. OPCAB with aortic-no-touch can drastically reduce the incidence of stoke.

Arterial graft

There is conclusive evidence that bilateral IMA is superior to single IMA. OPCAB with LIMA-RIMA Y graft is widely practiced in India.

Cost

The cost of oxygenator, tubing pack, cannulae and sutures that are used during ONCAB are billed to the patient. Whereas in OPCAB the stabilizer that is used can be reused after ETO sterilization. Moreover there are additional savings because of shorter ICU stay and ventilation along with lower blood and blood product usage.So the final bill of an OPCAB patient is always on the lower side when compared to that of an ONCAB patient.

OPCAB vs ONCAB trials

ONCAB results are comparable to OPCAB but when it comes to high risk patients, Studies has proven better outcome with OPCAB patient.

Blood and blood product usage

All studies have conclusively proven that use of blood and products requirements are significantly lower for OPCAB as compared to ONCAB.

Also, OPCAB can also be easily performed in patients on potent antiplatelet agents or thrombolytic therapy after acute MI.

Conclusion

Numbers of OPCAB have been increasing in India. We in Gangalal hospital are also encouraged looking at their results because we have similar socioeconomical and cultural conditions.

This technique has been successfully adopted by the younger surgeons in India – which proves this is a reproducible technique. Similar operation during ONCAB will prolong cardiopulmonary bypass and aortic cross clamp time with its detrimental effects. It is estimated that >80% of coronary revascularizations procedures can be performed as OPCAB with the largest reported series coming from the experiences of Benitti et al in Argentina.

Published articles have proven that complete revascularization is possible using OPCAB technique.

In patients with dilated heart it is possible to perform OPCAB without any difficulty.

Moreover in patients with poor left ventricular ejection fraction, it is often easier to perform OPCAB because of less movement of the heart facilitates precise anastomosis.

During OPCAB we often use both IMA and aortic-no-touch technique. OPCAB with aortic-no-touch has a low stroke rate after CABG which is comparable to PCI.

We also believe that OPCAB with aortic-no-touch using both IMA is far more cost effective than multi-vessel PCI in a country like Nepal where patient has to pay for their treatment.

OPCAB when performed by competent surgeon has proven long term graft patency which is similar to ONCAB.

Reviving the Early and Effective Resuscitation Task Force (ERTF) at Shahid Gangalal National Heart Center: A Renewed Commitment to Saving Lives

Dr Battu Shrestha, Ms Deoki Saru, Ms Binita Tamrakar

Cardiac arrest remains one of the leading causes of mortality worldwide, and prompt, effective resuscitation is critical for improving patient outcomes. In a specialized cardiac care center like Shahid Gangalal National Heart Center, the stakes are even higher. Patients admitted to such centers often have complex cardiovascular conditions that predispose them to cardiac emergencies. In this context, a well- trained workforce is not just an asset—it is a necessity.

The Early and Effective Resuscitation Task Force (ERTF) was initially formed in 2014 at the Shahid Gangalal National Heart Center with a visionary goal—to train all staff, both medical and non-medical, in cardiopulmonary resuscitation (CPR). The primary objective was to ensure that everyone within the hospital, from paramedics to security personnel, was able to respond effectively to cardiac emergencies. With the completion of Basic Life Support (BLS) training for all paramedics and security staff, and Basic and Advanced Life Support (BLS and ALS) training for doctors at all levels, the ERTF set a commendable job for preparedness in life-threatening situations. Unfortunately, like many initiatives globally, the ERTF's activities were severely disrupted during the COVID-19 pandemic. However, with the encouragement and support of a new administration, the task force is now being revitalized with both old and expanded objectives to meet the evolving needs of the healthcare landscape. As of now we have completed 33 training sessions with a total of 753 participants.

In its initial phase, the ERTF laid a strong foundation for improving the emergency response capacity at Shahid Gangalal National Heart Center. By training all paramedics and security guards in Basic Life Support (BLS), the task force ensured that critical early interventions could be performed immediately upon the recognition of a cardiac arrest. Moreover, the comprehensive training provided to medical professionals—ranging from medical officers to senior consultants— in both BLS and Advanced Life Support (ALS) created a multi-tiered system of care that significantly enhanced the hospital's ability to manage cardiac emergencies. This multidisciplinary approach to CPR training not only improved the immediate response to cardiac events but also fostered a culture of preparedness and teamwork within the institution. The ERTF's efforts were instrumental in improving survival rates and outcomes for cardiac arrest patients during its active years.

The COVID-19 crisis brought unprecedented challenges to healthcare systems worldwide, and the ERTF was no exception. The pandemic diverted resources and attention toward managing the immediate threat created by the virus, leading to the temporary cessation of resuscitation training programs. As a result, the task force became inactive, and the momentum it had built over the years was lost. Recognizing the critical importance of CPR training in a cardiac care center, the new administration at Shahid Gangalal National Heart Center has taken decisive steps to revive the ERTF. The renewed task force comprises experienced and highly motivated team members, many of whom hold American Heart Association (AHA) certifications in Advanced Cardiac Life Support (ACLS) and BLS. With this enhanced expertise, the team is well-equipped to deliver highquality training that meets international standards. In addition to resuming its original objectives, the revitalized ERTF has set new goals to expand its impact. One of the key new initiatives is the inclusion of Pediatric Advanced Life Support (PALS) training. This addition reflects a broader commitment to addressing the unique resuscitation needs of pediatric patients, thereby ensuring comprehensive preparedness across all age groups. A significant milestone in the ERTF's revival plan is the pursuit of accreditation from the Nepal Medical Council. Accreditation will enhance the credibility of the training programs. By earning Continuing Professional Development (CPD) points from the Nepal Medical Council, trained doctors will fulfill mandatory requirements for their professional growth and licensure renewal. Furthermore, accreditation will enable the ERTF to attract participants from other healthcare centers, thereby extending its impact beyond Shahid Gangalal National Heart Center. The acquisition of a new mannequin helps to improve training further. High-quality simulation tools play a crucial role in providing realistic, hands-on training. The inclusion of PALS training, the pursuit of accreditation, and the acquisition of advanced training tools position the task force as a leader in resuscitation training in Nepal. The support from the new administration and the dedication of the task force members are driving forces behind this revival.

In conclusion, the revival of the Early and Effective Resuscitation Task Force at Shahid Gangalal National Heart Center represents a renewed commitment to saving lives and improving outcomes for cardiac patients. Through its comprehensive training programs, the task force is not only enhancing the skills of healthcare providers but also fostering a culture of preparedness and excellence that will benefit patients, staff, and the broader healthcare commun

ब्रह्मजीलाई फुर्सद हुँदा

डा. शम्भू खनाल

कुनै कुराले असाध्यै मन खाँदा त्यो प्राप्त गर्ने हुटहुटि सबैलाई जाग्दो होला । उदाहरणका लागि मलाई दर्शनशास्त्रका पुस्तकहरूले निकै मन खाने गर्छन्। अध्यात्मिक चिन्तनको बहसमा सहभागी हुन मेरो मन एकाएक उनीप्रति आफै लम्किन्छ ।

कुनै पुस्तक, स्थान , कार्यक्रम , वस्तु आदिले मन खाँदा ती कुरालाई प्राप्त गर्ने हरसम्भव प्रयास गरिन्छ । ती सामान्य लाग्ने चिजहरूको प्राप्त गर्न सफल नहुँदा त मन खिन्न हुन्छ भने जीवन यात्रामा को ही मन खाएको व्यक्ति आफूसँग हुँदैन भनेर महसुस हुँदा कति छट्पटी हुन्छ होला है ! त्यसमा पनि मित्रबाट नै चिताएको विशेष प्रेमभावना प्रस्फुटन गर्ने साथीले मन चोरेर लैजाँदा कस्ता मीठा भाव प्रस्फुरण हुन्छन् होला ? तर मिलन नहुँदै छुट्टिनु पर्ने बाध्यता भोग्ने दुःखी मनहरू साहैं पिर्छन् होला है ?

जीवनको कुनै समयमा यी प्रश्नका झटारोको पात्र आफै नै बन्नुपर्ने दिन आउँदा मनको भाव छताछुल्ल पोखिनु स्वभाविक नै हो । दुर्लभै पग्लिने आफ्नै मन आज पग्लिँदा आफ्नै मनप्रति नमन छ मेरो ।

भाग्यमानीलाई मात्रै कुनै मनोवादविना आफ्नो मन कसैप्रति पूर्ण आत्मसमर्पण गरेको अनुभव हुन्छ । उनले मेरो मन चोरेको दिन उनको रूप र अस्तित्वप्रति नतमस्तक भएको थिएँ । मेरा सबै अडकलवा(जीमा मात्रै सिमित हुने र चलचित्रका पर्दामा देखिने प्रेमिल भावनाहरू एकाएक यथार्थमा उत्रिएका थिए । मलाई सधैं बकम्फुसे लाग्ने अमर प्रेमकथाहरू सान्दर्भिक लागेका थिए । दर्शक म र दर्शन उनको । पात्र उनी र कल्पना मेरो ।

उनका नयन निकै आकर्षक देखिन्छन् । उनका आँखीभौं ती नयनमाथि गजक्क परेका छन् । अनुहारको चमकबाट कालो कोठी दाहिने आखिभौंमा लुक्न खोजेको प्रतीत हुन्छ । ओठका किनार तन्किँदा मिलेका चम्किला दन्तलहर निकै सोभा बढाउँछन्। उनको बोली निकै सुमधुर सुनिन्छ । गोधुली साँझमा सूर्यको शितलताभन्दा पनि शितल उनको अनुहारको चमकले मेरा आँखा शितल हुन्छन् । आँखामा रारुने "टियर ड्रप्स" का थोपा नराखे पनि मेरा आँखाले उनका नयन एक टक हेरिरहन सक्छन् । लाग्छ उनलाई मैले देखेकै रहेनछु । सायद मनको आँखाले हेर्ने समय निकालेको रहेनछु । मनले हेर्दा त उनी अझै सुन्दर देखिन्छन् । त्यसमाथि उनको कर्णप्रीय आवाजले मेरो मनलाई सिधै भेदन गर्छ ।

स्कुटरमा बस्दा उनको फिँजारिएको कालो केशले मेरो अनुहार छोप्दा कस्तो उर्जा सन्चार होला भनेर सोच्छु । धन्यवाद हावालाई दिने कि स्कुटरको गतिलाई भन्ने दुबिधा हुने होला । यति महसुस गर्दै गर्दा पौडिन नसकिने कुन्डमा डुबेको अनुभव हुन्छ मलाई । त्यसैले म उनीबाट नजर हटाएर अन्तै हेर्न खोज्छु । तर आँखा घुमेर उनलाई नै हेर्न पुग्छन् । कस्ता यी अटेरी आँखाहरू !! भनेको नमान्ने कस्ता लो भिएका प्रेमिल आँखाहरू !!

मलाई केहि बोल्न मन लाग्छ । तर बोली फुट्न गाहों मान्छ । "तिमी विछट्टै राम्री छौ" भनेर जिब्रो दाँत र ओठ सबैले सल्लाह गरिसकेका थिए । तर मस्तिष्कले ब्रेक लगाउँछ । कस्तो "फ्लर्ट" गरेको भन्छिन् भन्ने पीरले अर्कै शब्द संयोजन हुन्छन् , " खाजा खायौ ? " यो दृश्य देखेर मेरो मनमा उकुसमुकुस हुन्छ । फुट्न नसकेका भावनाहरूको भारी कति बेर थेग्नु ?

उनको कफी आइपुग्छ। उनले मास्क निकालेपछि पूरा अनुहार देख्छु। उज्यालो चेहरामा आकर्षक नयन बडो गज्जब देखिन्छन् । कफीको स्वाद लिँदै जाँदा उनको कप रित्तिँदै जान्छ। मेरो कफी सकिने छाँट हुन्न । खासमा मलाई कफी सक्नु नै मन हुन्न । चुस्की लिएजस्तो गर्दै पुनः कपकै डिलबाट कफीलाई औंलाले फर्काउँछु ओठहरूले । जादु जानेको भए उनको कफी कहिल्यै नसकिने बनाइदिन्थें । रेस्टुरेन्टप्रति पनि खुब रिस उठ्छ । सानो कपमा कफी दिएको भएर । एक मनले कफीको ठूलो कप आफै ल्याउन पर्ने जस्तो लाग्यो ।

कफी नसकिँदै म द्रुत गतिमा सिनेमा हलमा पुग्छु । कल्पनामा जहाँ पुगेपनी भयो । कस्तो जादु ! एक निमेष पनि नलाग्ने मनलाई कतै पुग्न । मेरो दाहिनेतिर उनी बसेकी छिन् । उनी रमाउँदै फिल्म हेर्दै छिन् । मेरो टाउकोले सिधा हेर्दै छ । तर मेरा आँखाले दायाँमा उनलाई हेरिरहेको छन् । मनले भने उनको र मेरो आँखा जुधिरहेको देख्दै छ । फिल्मका कुनै कुरामा डुब्दा उनी गम्भीर देखिन्छिन् । बेलाबेला उनको हाँसोले वातावरण " स्यानिटाइज" हुन्छ भने मुस्कानले आभामण्डल "एनर्जाइज" हुन्छ । एक पटक उनको शिर मेरो छातीमा अडिन पुग्यो भने धड्कनको आवाज र गति पक्कै थाहा हुन्थ्यो होला ! ढक ढक ढक ..... । तर फिल्महलमा दुई सिटबीचको डन्डी भिलेन बन्छ । उनको शिर मेरो छातीमा अडेस लिन पाउँदैन । फिल्म सकिन्छ ।

कल्पनामा डुब्दै गर्दा कफी पनि सकिन्छ । उनले भन्छिन् " तपाईं कता ध्यानमग्न ? " म कल्पनाको जहाजबाट यथार्थको भूमिमा उत्रिन्छु । कल्पनामा तिमीसंग कफि खाँदै, फिल्म हेर्दै , स्कुटरमा पछाडि बस्दै थिएँ भन्न आतुर थियो मेरो बोली । तर रोक्किन्छु । उनको मनको " स्टाटस" बाट अज्ञात हुँदा त्यो उत्तर शिष्ट लागेन मलाई । त्यसैले भन्छु " तिमीलाई रचना गर्न ब्रह्मजीले पक्कै आफ्नो उमेरको १००० वर्ष लगाएका होलान् । " यो सुनिसकेपछि उनले हल्का आँखामा मुस्कान फिँजार्दा म आफ्नो ओठमा मुस्कान फिँजार्छु' । सुन्दर अवयवमा "हरि" मन भेटिने उनी दुर्लभ छिन् । उनलाई धेरैले इन्स्टाग्राममा खोज्दा होलान् । फेसबुकमा खोज्दा होलान् । म त उनलाई सदा आफ्नै अगाडि खोजिरहन्छु । आफैमित्र देखिरहन्छु ।

कफिपसलको बाहिर एउटा सानो पान पसल रहेछ । " मिठा पान खान्छौ ? " म मनशाय बुझ्ने प्रयास गर्छु' । हुन्न भन्न सकिनन् । पानको डल्लोलाई अटाइ नअटाइ मुखमा रारुदा गाला फुक्क फुल्छन् । मुखको किनारबाट रस चुहिन्छ । कपडामा लाग्ने डरले उनी तर्किन खोज्छिन् । तर उनी त्यसलाई छल्न सफल हुन्निन् । कपडामा दाग लागेर नै छाड्छ । त्यो देखेर म खुसी हुन्छु । त्यो चिनारी मेटाउने इच्छा नै जाग्दैन ।

Influencing nurse's retention in the cardiothoracic vascular specialty

Nira Shrestha
Staff Nurse
(Post Cath)

Generally, the phrase "nurse's retention" refers to the rate at which existing nurses remain in their current position or in the field itself.

Specifically, nurse's retention is defined as keeping nurse in their job (Dotson et.al 2014). In other words, "the extent to which nurses stay in their present job" (Ellenbecker, Porell, Samik, Byleckie & Milburn)

Employee retention is important to workplace in all fields as it promotes the cohesion and co-operation of team, increases efficiency and improves employee satisfaction. Retention of competent nurses in any of the faculty has been a challenge since better professional opportunities in abroad have been in approach for developing countries like Nepal.

Various factors play pivotal role in increasing burnout syndromes among nurses. Professional frustration, poor managerial system and devastating political scenario of the country promote nurses for attraction towards abroad opportunities.

Cardiovascular specialty is the most crucial and vital among other faculty in medical fraternity. The cardiovascular system is the most important of all as it controls over the distribution of blood supply all over the body. Moreover, heart "the most important organ of the body", lies in the cardiovascular system. Nurses working in the cardiovascular department are competent, tactful, energetic and highly professional. They are competent for any of the medical emergencies as most of the emergencies are related to cardiovascular system. Any critical patient will have the final medical manifestations like ventricular tachycardia, ventricular fibrillation, cardiac arrest, cardiogenic shock etc. Thus, nurses working in cardiac centers are smart enough to tackle all these problems.

Brain-drain among young adults is the most chaotic issue in Nepal and its even more pathetic in nursing field. The well-developed Western countries like United States of America, Canada, Australia, United Kingdom etc are attracting nurses of developing countries by various schemes. This leads to devastating decrease of well-trained technical manpower of Nepal.

While discussing about influencing factors for nurses retention in the cardiovascular specialty, motivation and recognition of the contribution counts most. In cardiac centers, nurses work days and nights in various departments with perseverance, keen dedication and devotion. To avoid burnout syndrome, timely promotions, trainings, in-service education, rewards, upgrades etc should be done systematically. Moreover, there should be uniformity in salary and allowances, absence of biasness and nepotism, and there should be system of equitable evaluation. Equitable evaluation refers to evaluation as per the performance, sincerity and dedication towards the work. Mostly, evaluation is done in the same margin as per the similar criteria. Though, evaluation should be equitable and satisfactory in order to control frustration among nurses.

Hence, timely recruitment of the working manpower, systematic nurse: patient ratio, effective nursing protocols and standards, mentorship and motivation and other opportunities are the influencing factors that can contribute for the retention of nurses in cardiovascular specialty.

Honoring Life and Death in Nursing

Januka Ayer
Staff Nurse, Cath Lab

During my work as a nurse in the Coronary Care Unit, one quiet night shift introduced me to an elderly woman in critical condition—a patient whose name has faded with time, but whose presence lingers vividly in my memory.

What struck me most was her serene composure, an unusual trait for someone so gravely ill. When she spoke of her past, her eyes would ignite with a light so radiant it seemed to eclipse her suffering. In those fleeting moments, she appeared to transcend her pain, her fears, even the shadow of death itself. She would speak to me all the time, as she narrated only the most beautiful moments of her life. She never uttered a word about any regrets she might have carried. It felt as though she longed to share her life's story with someone, like an elder imparting wisdom to a younger person. Perhaps she wished to relive her cherished memories or simply needed the comfort of a listening ear. In these exchanges, I saw the quiet victory of human resilience—the ability to rise above physical frailty and emotional uncertainty, to find strength in joy and beauty, even in the face of life's final chapter.

A few days later, she passed away, but the spark in her eyes—her quiet triumph over life's heaviest burdens—remains etched in my heart.

Those outside the medical profession often assume that healthcare practitioners, especially nurses, grow apathetic to death. They believe frequent exposure has equipped us with an emotional shield, allowing us to view death and suffering as merely part of life's natural order. While this perspective might hold some truth, it isn't entirely true.

Nearly every nurse encounters death at some point in their career. While we navigate diverse work environments, care for varying patient populations, manage severe illnesses, assist in intricate surgeries, and adapt to the constant hum of machines and complex medical jargon, we are still expected to provide compassionate care with unwavering professionalism. Yet, no matter how familiar death becomes, it's something we never truly grow accustomed to.

But perhaps we aren't meant to. While doctors focus on saving lives, our role extends beyond assistance—we are entrusted with the responsibility to ease the suffering of patients. It's our duty to see them not merely as individuals battling illness, but as people yearning for relief, both physical and emotional.

I once heard someone say that the true mission of a medical practitioner should be not just to prevent death, but to enhance the quality of life. That's why, when you treat a disease, victory is uncertain; but when you treat a person, you win no matter the outcome. Compassionate care is about recognizing and understanding another person's distress, coupled with the deep desire to ease it. Healthcare professionals—whether surgeons, doctors, or nurses—must carry compassion not only within the walls of the ward or unit, but in every aspect of life. It is through this that we are able to see beyond death and suffering, and witness the incredible strength of human resilience—the triumph over pain, even in the brief moments when a patient simply narrates about their cherished moments in life.

As nurses, we have the privilege to spend a lot of time with patients, and this often affords us the opportunity to connect further. It's in these moments, when we sit with them in their vulnerability, that we realize the most important part of our job isn't always about administering medications or running tests. Sometimes, it's simply being present, offering comfort, or sharing a quiet moment.

It's a humbling responsibility, one that doesn't promise victory in the traditional sense. We might not always see a patient recover or walk out of the hospital, but when we provide compassionate care, we help them face their struggles with dignity. As nurses, we walk alongside our patients, sharing in their triumphs and tribulations, laughing and crying as they do. But we must never allow ourselves to be anaesthetized by death. We must never lose our sensitivity to the profound beauty of life. For while death may conquer the body, it can never defeat the spirit.

In the end, it's not about defeating death, nor is it about getting accustomed to it—it's about making the journey as bearable as possible for those who are on it.

So, when the inevitable happens, and the patient we cared for slips away, we carry with us the knowledge that we eased their suffering, gave them compassion, and offered them something more precious than just medical care: a sense of peace, if only for a moment. None of us want the demise of the ones in our care. Although we might not be related to the patient, we inevitably form this bond with them. Despite our professional approach, we feel this intense human connection, this profound kindness that defines what we do.

But when we truly fulfill our purpose—giving our patients something far beyond treatment—peace and dignity in their final moments, we witness something extraordinary: the quiet victory of human resilience. Even in the face of death, the spirit triumphs, leaving behind a legacy of courage, love, and strength that lingers in the hearts of those who cared for them. And that is something we can always be proud of.

Engineering And Maintenance Unit

The Engineering and Maintenance Unit of Shahid Gangalal National Heart Centre, established since the hospital's inception, has been a cornerstone in ensuring its smooth and efficient functioning, contributing tirelessly 24 hours a day. This department plays a vital role in maintaining the hospital's infrastructure, ensuring uninterrupted power supply, and providing timely maintenance of critical medical equipment essential for delivering quality healthcare. Additionally, the department ensures the continuous supply of essential medical gases such as oxygen, carbon dioxide, and compressed air, as well as vacuum, which are indispensable for patient care and surgical procedures.

The team is also respons ible for the maintenance and smooth operation of all hospital machinery, including vital equipment such as autoclaves, which are crucial for sterilization and infection control. Along with that our team works really hard for managing laundry machines, which are responsible for maintaining neat and clean clothes for further uses thus maintaining infection free environment. From the upkeep of sophisticated medical devices to managing power systems, including generators and transformers, the team works round the clock behind the scenes to ensure that every procedure and service runs seamlessly.

Their unwavering dedication and technical expertise not only uphold the hospital's operational standards but also significantly enhance its reputation as a premier cardiac care centre. The department's continuous efforts embody the spirit of service, directly impacting patient care and setting a benchmark for excellence in hospital management.

PHOTOGRAPHS

ADMINISTRATION

DEPARTMENT OF ANESTHESIOLOGY

DEPARTMENT OF CARDIOLOGY

DEPARTMENT OF PATHOLOGY

DEPARTMENT OF NURSING

INISTITUTIONAL REVIEW COMITTEE

DEPARTMENT OF CARDIOVASCULAR SURGERY

DEPARTMENT OF PEDIATRIC CARDIOLOGY

PHARMACY UNIT

DEPARTMENT OF RADIOLOGY

CRITICAL CARE TEAM

DEPARTMENT OF PREVENTIVE CARDIOLOGY & CARDIAC REHABILITATION

ENGINEERING AND MAINTAINANCE UNIT

TRANSPORTATION UNIT

JANAKPUR BRANCH

PERFUSION UNIT

INFECTION PREVENTION COMMITTEE

MORNING CONFERENCE

STAFF NAME LIST

DEPARTMENT OF CARDIOVASCULAR SURGERY

SN	NAME	DESIGNATION
1	Ashok Karkee	Perfusion Assistant
2	Ashok Shah	Perfusion Assistant
3	Dr. Alka Singh	Registrar Surgery
4	Dr. Aman Kumar Ray	Resident Doctor
5	Dr. Anurag Bhandari	Resident Doctor
6	Dr. Apurba Thakur	Registrar Surgery
7	Dr. Avash Karki	Cardiac Surgeon
8	Dr. Binit Kumar Gupta	Resident Doctor
9	Dr. Bishal Singh	Registrar Surgery
10	Dr. Bishow Pokhrel	Cardiac Surgeon
11	Dr. Dharmendra Joshi	Registrar Surgery
12	Dr. Esna Thapa	Resident Doctor
13	Dr. Gaurav Thakuri	Resident Doctor
14	Dr. Gaurav Upreti	Resident Doctor
15	Dr. Jay Mangal Chaudhary	Resident Doctor
16	Dr. Marisha Aryal	Registrar Surgery
17	Dr. Navin C Gautam	Sr. Consultant Cardiac Surgeon
18	Dr. Nirmal Panthee	Cardiac Surgeon
19	Dr. Nishes Basnet	Registrar Surgery
20	Dr. Nivesh Rajbhandari	Cardiac Surgeon
21	Dr. Prakrit Dhakal	Resident Doctor
22	Dr. Prasanna Pandey	Resident Doctor
23	Dr. Pravav Rai	Resident Doctor
24	Dr. Rabindra Bhakta Timala	Sr. Consultant Cardiac Surgeon
25	Dr. Ramesh Raj Koirala	Sr. Consultant Cardiac Surgeon
26	Dr. Rheecha Joshi	Cardiac Surgeon
27	Dr. Sachin Devkota	Resident Doctor
28	Dr. Sidhartha Pradhan	Sr. Consultant Cardiac Surgeon
29	Dr. Sourya Pant	Resident Doctor
30	Lalita Shakya	Perfusionist
31	Laxmi Shrestha(Bhattarai)	Sr. Perfusion Assistant
32	Sujan Shrestha	Perfusion Assistant
33	Umesh Khan	Perfusionist

DEPARTMENT OF CARDIOLOGY

SN	NAME	DESIGNATION
1	Dr. Ananda Khanal	Registrar Cardiologist
2	Dr. Anil Basnet	Resident Doctor
3	Dr. Anjana Acharya	Registrar Cardiologist
4	Dr. Anmol Sharma	Resident Doctor
5	Dr. Arun Maskey	Sr. Consultant Cardiologist
6	Dr. Ayushma K.c	Resident Doctor

SN	NAME	DESIGNATION
7	Dr. Bibek Baniya	Registrar Cardiologist
8	Dr. Bimal Gyawali	Resident Doctor
9	Dr. Binay Kumar Rauniyar	Consultant Cardiologist
10	Dr. Birat Krishna Timalsena	Cardiologist
11	Dr. Bishal Regmi	Resident Doctor
12	Dr. Bishal Timalsena	Resident Doctor
13	Dr. Chandramani Adhikari	Consultant Cardiologist
14	Dr. Deepak Limbu	Cardiologist
15	Dr. Dipanker Prajapati	Consultant Cardiologist
16	Dr. Himamshu Nepal	Sr. Consultant Cardiologist
17	Dr. Kailash Bhatt	Resident Doctor
18	Dr. Kartikesh Kumar Thakur	Consultant Cardiologist
19	Dr. Md. Sajjad Safi	Registrar Cardiologist
20	Dr. Mijash Pokharel	Resident Doctor
21	Dr. Monika Parajuli	Resident Doctor
22	Dr. Murari Dhungana	Consultant Cardiologist
23	Dr. Parash Koirala	Cardiologist
24	Dr. Prashant Bajracharya	Registrar Cardiologist
25	Dr. Pratik Thapa	Resident Doctor
26	Dr. Rabi Malla	Executive Director
27	Dr. Rabindra Pandey	Cardiologist
28	Dr. Rabindra Simkhada	Consultant Cardiologist
29	Dr. Rahul Yadav	Resident Doctor
30	Dr. Rakesh Bahadur Adhikari	Registrar Cardiologist
31	Dr. Ravi Sahi	Registrar Cardiologist
32	Dr. Reeju Manandhar	Cardiologist
33	Dr. Rikesh Tamrakar	Consultant Cardiologist
34	Dr. Rubin Shrestha	Resident Doctor
35	Dr. Sabin Khadka	Resident Doctor
36	Dr. Sabindra Bhupal Malla	Registrar Cardiologist
37	Dr. Safal Rajbhandari	Resident Doctor
38	Dr. Sahil Shrestha	Resident Doctor
39	Dr. Sanjay Singh K.C.	Cardiologist
40	Dr. Sanjida Ansari	Registrar Cardiologist
41	Dr. Satish Kumar Singh	Cardiologist
42	Dr. Shahid Murtuza	Registrar Cardiologist
43	Dr. Sibani Thapa	Resident Doctor
44	Dr. Subodh Bir Singh Kansakar	Sr. Consultant Cardiologist
45	Dr. Sujeeb Rajbhandari	Sr. Consultant Cardiologist
46	Dr. Surakshya Joshi	Cardiologist
47	Dr. Sushant Kharel	Registrar Cardiologist
48	Dr. Sushil Joshi	Resident Doctor
49	Dr. Uma Karki	Resident Doctor
50	Dr. Vijay Ghimire	Resident Doctor

DEPARTMENT OF ANESTHESIOLOGY

SN	NAME	DESIGNATION
1	Dr. Abhay Khadka	Registrar Anesthesiologist
2	Dr. Ashish Amatya	Consultant Anesthesiologist
3	Dr. Battu Kumar Shrestha	Anesthesiologist
4	Dr. Binish Man Shrestha	Resident Doctor
5	Dr. Manish Kumar Shah	Resident Doctor
6	Dr. Rabin Baidya	Registrar Anesthesiologist
7	Dr. Rabin Sundar Shrestha Taksari	Registrar Anesthesiologist
8	Dr. Rabindra Thapa	Resident Doctor
9	Dr. Ranish Shrestha	Registrar Anesthesiologist
10	Dr. Sandip Bhandari	Anesthesiologist
11	Dr. Sanjeep Ranjitkar	Registrar Anesthesiologist
12	Dr. Santosh Sharma Parajuli	Registrar Anesthesiologist
13	Dr. Smriti Mahaju Bajracharya	Anesthesiologist
14	Dr. Subigya Sitaula	Registrar Anesthesiologist
15	Dr. Suman Shrestha	Resident Doctor

DEPARTMENT OF PREVENTIVE CARDIOLOGY & CARDIAC REHABILITATION

SN	NAME	DESIGNATION
1	Dr. Amrit Bogati	Cardiologist
2	Dr. Dharma Nath Yadav	Consultant Cardiologist (Preventive)
3	Dr. Shaili Thapa	Sr. Cardiac Physiotherapist
4	Rajeev Kumar Yadav	Physiotherap Assistant
5	Suraksha Dhungana	Sr.Staff Nurse
6	Januka Khadka	Staff Nurse
7	Yashoda Luitel	Sr. Physiotherap Assistant

DEPARTMENT OF PEDIATRIC CARDILOGY

SN	NAME	DESIGNATION
1	Dr. Amshu Shakya	Peaditric Registrar
2	Dr. Devaki Khadka	Peaditric Registrar
3	Dr. Kripa Shree Dhakal	Resident Doctor
4	Dr. Kul Ratna Thapa	Peaditric Registrar
5	Dr. Lakshyapurna Parajuli	Resident Doctor
6	Dr. Manish Shrestha	Consultant Pediatric Cardiologist
7	Dr. Sadikshya Pandey	Peaditric Registrar
8	Dr. Shilpa Aryal	Peaditric Cardiologist
9	Dr. Subhash Chandra Shah	Peaditric Cardiologist
10	Dr. Urmila Shakya	Sr Consultant Pediatric Cardiologist
11	Dr. Vidhata Bhandari K.C	Peaditric Registrar

DEPARTMENT OF NURSING

SN	NAME	DESIGNATION
1	Aakriti Baidhya	Staff Nurse
2	Aarati Dhungana	Staff Nurse
3	Aarati Tiwari	Staff Nurse
4	Aarusha Luitel	Staff Nurse
5	Aashma Shrestha	Staff Nurse
6	Abhigya Karki	Staff Nurse
7	Alisha Thapa	Staff Nurse
8	Ambika Shrestha	Staff Nurse
9	Amisha Adhikari	Staff Nurse
10	Amrita Ghimire	Staff Nurse
11	Amrita Paudel	Staff Nurse
12	Anita Baram	Staff Nurse
13	Anita Dawadi	Staff Nurse
14	Anita Sharma Paudel	Staff Nurse
15	Anjana Gurung	Staff Nurse
16	Anjana Koirala	Sister
17	Anjana Sharma	Staff Nurse
18	Ankita Shrestha	Staff Nurse
19	Ansha Maharjan	Staff Nurse
20	Anuja Koirala	Staff Nurse
21	Anusha Humagain	Staff Nurse
22	Anusha Shrestha	Staff Nurse
23	Anushree Paudel	Staff Nurse
24	Apeksha Ghale	Staff Nurse
25	Apurwa Sawad	Staff Nurse
26	Aruna Khatri	Staff Nurse
27	Aruna Maharjan	Staff Nurse
28	Arzoo Neupane	Staff Nurse
29	Asha Kumari Jha	Staff Nurse
30	Ashmita Bajgain	Staff Nurse
31	Ashmita Sapkota	Staff Nurse
32	Ashmita Shrestha	Staff Nurse
33	Ashmita Thapa	Staff Nurse
34	Ashruta Rizal	Staff Nurse
35	Asmita Bisowkarma	Staff Nurse
36	Asmita Karki	Staff Nurse
37	Asmita Lamichhane	Staff Nurse
38	Asmita Maharjan	Staff Nurse
39	Asmita Sapkota	Staff Nurse
40	Asmita Shrestha(B)	Staff Nurse
41	Babita dhungana	Staff Nurse
42	Bal Kumari Chaudhary	Staff Nurse
43	Bandana Bogati	Staff Nurse

SN	NAME	DESIGNATION
44	Bandana Sankhi	Staff Nurse
45	Barsha Ingnam	Staff Nurse
46	Barsha Pokhrel	Staff Nurse
47	Beejina Shrestha	Staff Nurse
48	Beena Phanju	Staff Nurse
49	Bhawana Bista	Staff Nurse
50	Biddhya K.C	Staff Nurse
51	Bidhya Malla	Staff Nurse
52	Bidushi Dhital Dahal	Staff Nurse
53	Bidya Dhungana	Staff Nurse
54	Bina Sherpa	Staff Nurse
55	Bina Shrestha	Staff Nurse
56	Binda Shrestha	Staff Nurse
57	Bindiya Shrestha	Staff Nurse
58	Bindu Adhikari	Staff Nurse
59	bindu Khaptari Thapa	Staff Nurse
60	Binita Sapkota	Sr. Staff Nurse
61	Binita Tamrakar	Sr. Staff Nurse
62	Binita Thapa	Staff Nurse
63	Bishmita Chauhan	Staff Nurse
64	Bishnu Pandey	Sister
65	Bishnu Poudel	Staff Nurse
66	Chadani G.C	Staff Nurse
67	Chahana Singh	Staff Nurse
68	Chandani Shah	Staff Nurse
69	Chandra Maya Gurung	Staff Nurse
70	Chandrakala Jirel	Staff Nurse
71	Deena Prajapati	Staff Nurse
72	Deepa Dhimal	Staff Nurse
73	Deepa Tami	Staff Nurse
74	Deepa Kumari Acharya	Staff Nurse
75	Deepane Dahal	Staff Nurse
76	Deepika Maharjan	Staff Nurse
77	Deepika Shrestha	Staff Nurse
78	Deoki Saru	Nursing Supervisor
79	Diksha Gautam	Staff Nurse
80	Dikshya Guragai	Staff Nurse
81	Dikshya Karki	Staff Nurse
82	Divya Adhikari	Staff Nurse
83	Divya Shrestha	Staff Nurse
84	Eliza Paudel	Staff Nurse
85	Ereeka Bhandari	Staff Nurse
86	Eva maden	Staff Nurse
87	Finjo Wangmo Tamang	Staff Nurse
88	Gita Tamang	Staff Nurse

SN	NAME	DESIGNATION
89	Goma Gurung	Staff Nurse
90	Isha Lama	Staff Nurse
91	Janaki Ayer	Staff Nurse
92	Januka khadka	Staff Nurse
93	Jaya Thapa	Staff Nurse
94	Jayanti Karki	Staff Nurse
95	Jeba Shrestha	Staff Nurse
96	Jeny KC	Staff Nurse
97	Jina KC	Staff Nurse
98	Jyoti Dahal	Staff Nurse
99	Jyoti Dumaru	Staff Nurse
100	Jyoti Kunwar	Staff Nurse
101	Jyoti Rimal	Staff Nurse
102	Jyoti Shrestha	Staff Nurse
103	Jyoti Thapa	Staff Nurse
104	Kabita Baniya	Staff Nurse
105	Kabita Khatri	Staff Nurse
106	Kabita Shrestha	Staff Nurse
107	Kalpana D.C	Staff Nurse
108	Kalpana Lamsal	Staff Nurse
109	Kalpana Timilisina(B)	Staff Nurse
110	Kalpana Timilsina(A)	Nursing Supervisor
111	Kalpana Thapa Magar	Staff Nurse
112	Kamana Paudel	Staff Nurse
113	Kanchan Bista	Staff Nurse
114	Kanchan Kusatha	Staff Nurse
115	Karishma Kunwar	Staff Nurse
116	Kirtika Karanjit	Staff Nurse
117	Kopila Luitel	Sr. Nursing Supreviser
118	Krishna Shwari Gwachha	Sr. Staff Nurse
119	Krishna Kumari Sapkota	Staff Nurse
120	Lalita Maharjan	Nursing Supervisor
121	Lalita Maharjan(B)	Staff Nurse
122	Lalita Poudel	Sister
123	Laxmi Aryal	Staff Nurse
124	Laxmi B.C	Staff Nurse
125	Laxmi Bista	Staff Nurse
126	Laxmi Dangol	Staff Nurse
127	Laxmi Kumari Pathak	Staff Nurse
128	Laxmi Kumari Sah	Staff Nurse
129	Lila Laxmi Dhami	Staff Nurse
130	Madhushree Khanal	Staff Nurse
131	Mamata Lamichhane	Staff Nurse
132	Mamata Ojha	Sister
133	Man kumari Shrees Thapa	Sister

SN	NAME	DESIGNATION
134	Mandira Khadka(N)	Staff Nurse
135	Mandira Sunuwar	Staff Nurse
136	Manika Tamang	Staff Nurse
137	Manisha Kunwar	Staff Nurse
138	Manisha Thapa	Staff Nurse
139	Manita Karki	Staff Nurse
140	Manita Parajuli Ghimire	Staff Nurse
141	Manju Acharya	Staff Nurse
142	Manju Khadka	Staff Nurse
143	Manju Pyakurel	Staff Nurse
144	Manju Timilsina	Nursing Supervisor
145	Meena K.C	Sr. Staff Nurse
146	Meera Tamang	Staff Nurse
147	Melina K.C	Staff Nurse
148	Melina Karmacharya	Staff Nurse
149	Merina Dhungana	Staff Nurse
150	Merina Shakya	Staff Nurse
151	Monica Thapaliya	Staff Nurse
152	Monika Rijal	Staff Nurse
153	Mukta Shrestha	Staff Nurse
154	Muna Baniya	Staff Nurse
155	Muna Lama Tamang	Staff Nurse
156	Namrata Rawal	Staff Nurse
157	Natasha Shakya	Staff Nurse
158	Nikita Maharjan	Staff Nurse
159	Nira Shrestha	Staff Nurse
160	Nisha Kusum Rai	Staff Nurse
161	Nisha Thapa Magar	Staff Nurse
162	Nista Shrestha	Staff Nurse
163	Nita Dangol	Chief Nursing Superviser
164	Pabitra Dewan	Staff Nurse
165	Pabitra Duwadee	Staff Nurse
166	Pooja Bashyal	Staff Nurse
167	Pooja Pandit	Staff Nurse
168	Pooja Parajuli	Staff Nurse
169	Pooja Shrestha	Staff Nurse
170	Pooja Subedi	Staff Nurse
171	Poonam Gurung	Staff Nurse
172	Prabha Khadka	Staff Nurse
173	Prabha Paudel	Staff Nurse
174	Pragnya Sharma	Staff Nurse
175	Pragya K.c	Staff Nurse
176	Pragya Subedi	Staff Nurse
177	Prajita Shrestha	Staff Nurse
178	Prajwala Baniya	Staff Nurse

SN	NAME	DESIGNATION
179	Prakriti Medhasi	Staff Nurse
180	Prakriti Poudel	Staff Nurse
181	Pramila Shrestha	Staff Nurse
182	Pramila Subedi	Staff Nurse
183	Prapti Shrestha	Staff Nurse
184	Prasanna Shrestha	Staff Nurse
185	Prasansha Thapa Magar	Staff Nurse
186	Prati Badan Dangol	Sr. Nursing Supreviser (Matron)
187	Pratibha Thapa	Staff Nurse
188	Pratiksha ghimire	Staff Nurse
189	Pratikshya Thokar	Staff Nurse
190	Pratima Dhakal	Staff Nurse
191	Pratima Niraula	Staff Nurse
192	Pratistha Bhattarai	Staff Nurse
193	Prekshya Shakya	Staff Nurse
194	Priety Adhikari	Staff Nurse
195	Prittam Maharjan	Staff Nurse
196	Priya Bhujel	Staff Nurse
197	Priyanka Shah	Staff Nurse
198	Puja Dahal	Staff Nurse
199	Puja Kafle	Staff Nurse
200	Puja Satyal	Staff Nurse
201	Puja Thapa Magar	Staff Nurse
202	Punam Rai	Staff Nurse
203	Punam Shrestha	Staff Nurse
204	Pusham Rai	Staff Nurse
205	Pushpa Neupane	Sister
206	Puspa Karmacharya	Staff Nurse
207	Puspa Kumari Gurung	Sr. Staff Nurse
208	Rabina Ghimire	Staff Nurse
209	Radha Maharjan	Staff Nurse
210	Raj Kumari Shrestha	Sr. Staff Nurse
211	Rajita Khadka	Staff Nurse
212	Rajyalaxmi Bhele	Sister
213	Rakshya Karki	Staff Nurse
214	Rama Sharma	Staff Nurse
215	Ramala Maharjan	Staff Nurse
216	Rameswori Duwal	Sr. Staff Nurse
217	Rashmee Rai	Staff Nurse
218	Rashmi Basnet	Staff Nurse
219	Rashmi Kumari Karki	Staff Nurse
220	Rashmila Manandhar	Staff Nurse
221	Ravina Subedi	Staff Nurse
222	Reena Rimal	Staff Nurse
223	Renuka Shrestha	Staff Nurse

SN	NAME	DESIGNATION
224	Reshma Manandhar	Staff Nurse
225	Reshma Thapa	Sr. Staff Nurse
226	Reshmi Bade	Staff Nurse
227	Reshu Thakuri	Staff Nurse
228	Richa Dangol	Staff Nurse
229	Richa Khadka	Staff Nurse
230	Richa Yogi	Staff Nurse
231	Rimsha Shrestha	Staff Nurse
232	Rinku Pandit	Staff Nurse
233	Risha Manandhar	Staff Nurse
234	Rishma Basnet	Staff Nurse
235	Ritu Sinjali	Staff Nurse
236	Ritu Subedi	Staff Nurse
237	Ritu Swongamikha	Staff Nurse
238	Roji Shakya	Nursing Supervisor
239	Rojina Bhujel	Staff Nurse
240	Romy Twayana	Staff Nurse
241	Roshana Twayana	Staff Nurse
242	Roshani Manandhar	Staff Nurse
243	Roshani Shahi	Staff Nurse
244	Roshni Rauniyar	Staff Nurse
245	Rubina Prasai	Staff Nurse
246	Ruby Shrestha	Staff Nurse
247	Rumina Dhakal	Staff Nurse
248	Sabina Baral	Staff Nurse
249	Sabina Karki	Staff Nurse
250	Sabina Khatri	Staff Nurse
251	Sabina Mishra	Staff Nurse
252	Sabina Parajuli	Staff Nurse
253	Sabina Shrestha(A)	Staff Nurse
254	Sabina shrestha(B)	Sister
255	Sabina Suwal	Staff Nurse
256	Sabina Thimi	Staff Nurse
257	Sabina Tuladhar	Staff Nurse
258	Sabina Tulsibakhyo	Staff Nurse
259	Sabita Bhusal	Staff Nurse
260	Sabita Karki	Staff Nurse
261	Sagun Sharma	Staff Nurse
262	Saistha Basnet	Staff Nurse
263	Sajana Twayana	Staff Nurse
264	Sajanee Pradhan	Staff Nurse
265	Sakuntala Karki	Staff Nurse
266	Salina Shrestha	Staff Nurse
267	Samiksha Bhatta	Staff Nurse

SN	NAME	DESIGNATION
268	Samiksha Thapa	Staff Nurse
269	Samiksha Wasti	Staff Nurse
270	Samiksha Yadav	Staff Nurse
271	Samikshya Khanal	Staff Nurse
272	Samita Thapa Magar	Staff Nurse
273	Samjana Mishra	Staff Nurse
274	Samjhana Karmacharya	Staff Nurse
275	samjhana Limbu	Staff Nurse
276	Samriddhi Timalsina	Staff Nurse
277	Sandhya Bista	Staff Nurse
278	Sandhya Paudel	Staff Nurse
279	Sandhya Rijal	Staff Nurse
280	Sandhya Shrestha	Staff Nurse
281	Sandhya Tamang	Staff Nurse
282	Sandhya Thapa	Staff Nurse
283	Sangeeta Tamang	Staff Nurse
284	Sangita Baskota	Staff Nurse
285	Sangita Kafle	Sr. Staff Nurse
286	Sangita Lama	Staff Nurse
287	Sanjana Wagle	Staff Nurse
288	Sanjeeta Baskota	Staff Nurse
289	Sanjita Dhakal	Staff Nurse
290	Sanju Gautam	Staff Nurse
291	Sanju Shah	Staff Nurse
292	Santa Pandey	Staff Nurse
293	Sapana Maharjan	Sister
294	Sapana Gharti Magar	Staff Nurse
295	Saphala Pandey	Staff Nurse
296	Sarala Bajracharya	Staff Nurse
297	Sarala Malla	Staff Nurse
298	Sarina Gurung	Staff Nurse
299	Sarina Basu Shrestha	Staff Nurse
300	Sarita Dhakal	Staff Nurse
301	Sarita G.C	Staff Nurse
302	Sarita K.c	Staff Nurse
303	Sarita Maharjan	Staff Nurse
304	Sarita Pathak	Staff Nurse
305	Saugat Rai	Staff Nurse
306	Shailaja PaudelRegmi	Staff Nurse
307	Shailee Karanjit	Sr. Staff Nurse
308	Shakuntala Mahat	Staff Nurse
309	Shanta Singh Thakuri	Sr. Staff Nurse
310	Shanti Bhele	Staff Nurse
311	Shanti Gautam	Staff Nurse
312	Shanti Gurung	Staff Nurse
313	Sharmila Neupane	Staff Nurse
314	Sharmila Thapa	Sr. Staff Nurse

SN	NAME	DESIGNATION
315	Shirsi Phuyal	Staff Nurse
316	Shova Shrestha	Staff Nurse
317	Shovana Shrestha	Sister
318	Shovna Shrestha	Staff Nurse
319	Shradha Shah	Staff Nurse
320	Shreejana Gautam	Staff Nurse
321	Shreesti Kharel	Staff Nurse
322	Shristi Niroula	Staff Nurse
323	Shristi Shrestha	Sister
324	Shristi Thakuri	Staff Nurse
325	Shriya Poudel	Staff Nurse
326	Shubha Gyawali	Staff Nurse
327	Siba Laxmi Shrestha	Sr. Staff Nurse
328	Sima Shahi	Staff Nurse
329	Sinnal Raut	Staff Nurse
330	Sirjana Adhikari(A)	Staff Nurse
331	Sirjana Paudel	Staff Nurse
332	Sital Mishra	Staff Nurse
333	Smita Pun	Staff Nurse
334	Smritee Bhattarai	Staff Nurse
335	smriti Chapagain	Staff Nurse
336	Sonu Thapa	Staff Nurse
337	Sreejana Poudyal	Staff Nurse
338	Srijana Aryal	Staff Nurse
339	Srijana Bhele	Staff Nurse
340	Srijana Kayastha	Staff Nurse
341	Srijana Khadka	Staff Nurse
342	Srijana Pathak	Staff Nurse
343	Srijana Tiwari(B)	Staff Nurse
344	Subrana K.C	Staff Nurse
345	Suchi Yang Tamang	Staff Nurse
346	sudha K.c(Khatri)	Staff Nurse
347	Sudiksha Koirala	Staff Nurse
348	Sujan G.C.	Staff Nurse
349	Sujata Ghimire	Staff Nurse
350	Sujata K.c	Staff Nurse
351	Sulochana Khadka	Staff Nurse
352	Sunita Basnet	Staff Nurse
353	Sunita Gurung	Staff Nurse
354	Sunita Khadka	Nursing Supervisor
355	Sunita Pandey	Staff Nurse
356	Sunita Shrestha	Staff Nurse
357	Supriya Hamal	Staff Nurse
358	Supriya Ranjitkar	Staff Nurse
359	Suraksha Dhungana	Sr. Staff Nurse
360	Sushila Maharjan	Staff Nurse
361	Sushila Shrestha	Staff Nurse

SN	NAME	DESIGNATION
362	Sushma Kunwar	Staff Nurse
363	Sushma Thakuri	Staff Nurse
364	Sushmita Baral	Staff Nurse
365	Susma Baram	Staff Nurse
366	Susmita Sharma	Staff Nurse
367	Susmita Thapa Magar	Staff Nurse
368	Tara Tamang	Staff Nurse
369	Tripti Singh	Staff Nurse
370	Tulasa KC	Nursing Supervisor
371	Tulasa Pandey	Staff Nurse
372	Tulasha Naupane	Staff Nurse
373	Usha Ghimire	Staff Nurse
374	Usha Paudel	Sr. Staff Nurse
375	Ushna Shrestha	Sr. Staff Nurse
376	Vidhya Koirala	Sr. Nursing Supreviser
377	Yashodha upreti	Staff Nurse
378	Yogina Maharjan	Sr. Staff Nurse

ADMINISTRATION

SN	NAME	DESIGNATION
1	Arjun Giri	Administrative Sub- Assistant
2	Bhagawati Gaire	Sr. Administrative Assistant
3	Bhai Narayan Maharjan	Driver III(Star Bridhi)
4	Bharat Bahadur Khadka	Driver III(Star Bridhi)
5	Bhej Bahadur Moktan	Driver III(Star Bridhi)
6	Bhupal Acharya	Sr. Administrative Officer
7	Biju Kuwar Chhetri	Office Helper II
8	Bikash Khaniya	Sr. Administrative Assistant
9	Bimala Aryal	Dy Chief Administration
10	Bimala Sapkota	Administrative Assistant II (Star Bridhi)
11	Chunam Lama	Administrative Officer
12	Gauri Devi Sharma	Office Helper III
13	Goma Parajuli Panthi	Administrative Assistant
14	Guna Devi Acharya	Administrative Assistant
15	Gyan Kaji Maharjan	Driver III(Star Bridhi)
16	Jeet Bahadur Tamang Moktan	Administrative Sub- Assistant
17	Kabita Koirala Khatiwada	Administrative Assistant
18	Kamala Gautam	Office Helper III
19	Krishna Bahadur Budhathoki	Driver IV (Star Bridhi)
20	Laxmi Prasad Rijal	Administrative Assistant
21	Madhav Thapa	Office Helper III
22	Mahendra Lamsal	Sr. Administrative Assistant
23	Mandira Khadka	Administrative Sub- Assistant
24	Pitambar Bhujel	Driver III(Star Bridhi)

SN	NAME	DESIGNATION
25	Pratima Malla Thakuri	Sr. Administrative Assistant
26	Ram Babu Raut	Medical Record Officer
27	Rup Bdr Thapa	Driver III(Star Bridhi)
28	Sadhuram Pandit Chhetri	Driver III(Star Bridhi)
29	Santosh Parajuli	Administrative Sub- Assistant
30	Shanti KC	Office Helper III
31	Sharada Khanal	Office Helper IV
32	Shivnath Mahto	Administrative Sub- Assistant
33	Sudarsan Prasain	Administrative Assistant
34	Sudha Sigdel	Administrative Sub- Assistant
35	Sudip Chandra Dahal	Medical Record Officer
36	Sushil Bhusal	Administrative Officer
37	Sushila Bista	Office Helper III
38	Uvaraj Timilsina	Sr. Administrative Assistant
39	Yagya Bahadur Khulal	Driver III(Star Bridhi)

PATHOLOGY

SN	NAME	DESIGNATION
1	Ajita Lamichhane	Lab Technician
2	Aryatara Shilpakar	Medical Lab Technologist
3	Bibek Raj Bhattarai	Lab Technician
4	Bijaya Kumar Thakur	Lab Technician
5	Bikash Bhusal	S.r LAB TECHNICIAN
6	Bindeshwar Yadav	Sr Medical Lab Technologist
7	Binod Kumar Yadav	Sr Medical Lab Technologist
8	Chandrama Sharma	Lab Technician
9	Daltan Dahal	Lab Technician
10	Dipendra Khadka (B)	Lab Technician
11	Dr. Sobita Khadka	Registrar Pathologist
12	Gaurab Risal	Lab Technician
13	Gita Shrestha	Lab Technician
14	Karna B.K	Lab Technician
15	Keshav Acharya	Lab Technician
16	Nabina Adhikari	Lab Technician
17	Nawal Kishor Yadav	Sr. Lab Technician
18	Nita Gwachha	Lab Technician
19	Pabitra Bista	Medical Lab Technologist
20	Pradeep Khanal	S.r Lab Technician
21	Pranila Chitrakar	Lab Technician
22	Prasamsha Adhikari	Lab Technician
23	Rajnarayan Mishra	S.r Lab Technician
24	Renu Shakya	Medical Lab Technologist
25	Ritu Karki	Lab Technician
26	Sugrib Shrestha	Lab Technician

SN	NAME	DESIGNATION
27	Suresh Kumar Gupta	S.r LAB TECHNICIAN
28	Sushila Shrestha	LAB TECHNICIAN
29	Unnati Kadel	LAB TECHNICIAN

SGNHC JANAKPUR BRANCH

SN	NAME	DESIGNATION
1	Asmita Yadav	Staff Nurse
2	Bina Kumari Sah	Staff Nurse
3	Dr. Dharmesh Verma	Registrar Cardiologist
4	Dr. Naresh Mandal	Resident doctor
5	Dr. Pramod kumar Yadav	Resident doctor
6	Dr. Rajesh Kumar Shah	Cardiologist & in-charge
7	Keshab Pandey	Admin Sub-Assistant
8	Laxmi Mahato	Staff Nurse
9	Nisha Chaudhary	Staff Nurse
10	Omkar Poudel	Lab Technician
11	Sangita Kumari Yadav	Radiographer
12	Sudhir Kumar Yadav	Radiographer

PHARMACY

SN	NAME	DESIGNATION
1	Asmita Thapa	Pharmacy Assistant
2	Atmaram Timalsina	Pharmacist
3	Devendra Yadav	Sr. Health Assistant
4	Indrajit Yadav	Sr. Health Assistant
5	Jaykishor Shah	Sr. Health Assistant
6	Kamal Bahadur Rana	Sr. Pharmacy Assistant
7	Madhu Giri	Sr. Hospital Pharmacist
8	Manoj Kumar Yadav	Sr. Health Assistant
9	Nabina Thapa	Pharmacy Assistant
10	Niru Ratyal	Sr. Health Assistant
11	Prem Raj K.C.	Sr. Pharmacy Assistant
12	Ramisa Tamang	Pharmacy Assistant
13	Rita Chapain	Pharmacy Assistant
14	Sharmila Pokharel	Pharmacy Assistant
15	Shunil Acharya	Sr. Pharmacist
16	Sujan Khadka	Pharmacy Assistant
17	Sushmita Timalsina	Pharmacy Assistant
18	Upama Parajuli	Sr. Pharmacy Assistant

RADIOLOGY

SN	NAME	DESIGNATION
1	Anup Rimal	Radiographer
2	Baidh Nath Yadav	Sr. Radiography Technologist
3	Bijaya Shrestha	Sr. Radiographer
4	Dr. Asim Babu Sitaula	Registar Radiologist
5	Dr. Kritisha Rajlawot	Registar Radiologist
6	Dr. Manisha Aryal	Registar Radiologist
7	Dr. Nirmal Prasad Neupane	Radiologist
8	Indesh Thakur	Sr. Radiography Technologist
9	Laxminarayan Singh	Sr. Radiographer
10	Mahesh Khadka	Radiographer
11	Niraj Kumar Chaudhary	Radiographer
12	Prakash Timalsina	Radiographer
13	Pramod Khatri	Sr. Radiographer
14	Raj Shekhar Yadav	Radiographer
15	Rajan Shrestha	Radiographer
16	Ramesh Thapa	Dark Room Assistant III(Star Bridhi)
17	Saru Gosain	Radiographer
18	Sebika Baniya Pandit	Radiographer
19	Seema Gyawali	Sr. Radiographer
20	Shankar Budhathoki	Radiographer
21	Shulav Paudel	Sr. Radiography Technologist
22	Shyam Kumar Adhikari	Sr. Radiographer
23	Shyam Thakur	Radiography Technologist
24	Sriju K C	Radiographer
25	Sunita Khawaju	Radiographer

FINANCE

SN	NAME	DESIGNATION
1	Bibek Thapa	Sr. Account Assistant
2	Bindu Khanal	Account Sub- Assistant
3	Krishna Bahadur Kumal	Account Sub- Assistant
4	Manoj Kumar Bista	Chief Financial Administration
5	Milan K.C	Account Sub- Assistant
6	Naresh Chipalu	Sr. Finance Officer
7	Neeru Dahal	Sr. Account Assistant
8	Sanjay Maharjan	Sr. Account Assistant

ENGINEERING &MAINTEENANCE

SN	NAME	DESIGNATION
1	Bhagawan Karki	Sr. Overseer
2	Bhogendra Narayan Shah	Sub- Overseer
3	Bishwo Ram Adhikari	Plumber III(Star Bridhi)
4	Dinesh Maharjan	Plumber
5	Krishna Ray	Overseer
6	Narayan Panthi	Sub- Overseer
7	Nawaraj Roka	Sub- Overseer
8	Raj Kumar Roka	Sub- Overseer
9	Shamsher Bahadur Basnet	Plumber III(Star Bridhi)