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प्रधानमन्त्री

काठमाडौं, नेपाल



### शुभकामना

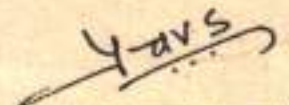
शहीद गंगालाल राष्ट्रिय हृदय केन्द्रले स्थापनाको २७ औं वार्षिकोत्सव मनाउन लागेको सन्दर्भमा आफ्ना वार्षिक क्याकलापहरू समावेश गरी स्मारिका प्रकाशन गर्न लागेको थाहा पाउँदा खुशी लागेको छ। यसमा प्रकाशित जानकारीमूलक तथ्यांकहरू, प्रतिवेदन एवं लेख रचनाहरूले जनमानसमा केन्द्रले सम्पादन गरेका सेवा सुविधाहरू एवं उपचारात्मक गतिविधिहरूको बारेमा जानकारी प्रदान गर्ने छु 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। साथै आफ्नो स्वास्थ्य उपचारको सम्बन्धमा जानकारी पाउने तथा स्वास्थ्य सेवामा समान पहुँचको हक हुने कुराको प्रत्याभूति गरेको सन्दर्भमा उपलब्ध स्रोत र साधनको दिगो एवं विवेकपूर्ण परिचालन गरी सबै नागरिकलाई आधारभूत स्वास्थ्य सेवाको सुनिश्चितता गर्नु हाम्रो पहिलो कर्तव्य हुन आउँछ।

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

आगामि दिनमा पनि अत्याधुनिक एवं प्रविधिमैत्री उपचारपद्धति अबलम्बन गर्दै मुटुरोगको उपचारमा थप गुणस्तरीय सेवा प्रदान गर्ने कार्यमा केन्द्रलाई सफलता मिलोस् भन्दै केन्द्रको सत्ताइसौं वार्षिकोत्सव समारोहको पूर्ण सफलताको लागि शुभकामना व्यक्त गर्दछु।

५ माघ २०७९

  
पुष्पकमल दाहाल "प्रचण्ड"  
प्रधानमन्त्री

पदम गिरी  
Padam Giri

स्वास्थ्य तथा जनसङ्ख्या मन्त्री  
Minister for  
Health and Population



शेपाथ सरकार  
Government of Nepal

स्वास्थ्य तथा जनसङ्ख्या मन्त्रालय  
Ministry of Health and Population

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Ramshahpath, Kathmandu, Nepal

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### शुभ-कामना मन्त्रव्य



देशकै प्रथम हृदय केन्द्रको रूपमा स्थापित त्यस शहीद गंगालाल राष्ट्रिय हृदय केन्द्रले २७ औं वार्षिकोत्सव मनाउन लागेको सुख अवसरमा म केन्द्र, आवद्ध कर्मचारी एवम् सेनाशाहीहरुमा हार्दिक बधाई तथा शुभकामना व्यक्त गर्दछु। साथै आफ्ना वार्षिक गतिविधीहरु समेटिएको स्मारिका प्रकाशन गरी केन्द्रका सूचना एवं जानकारीहरु जनता समक्ष ल्याउने कार्यका लागि धन्यवाद समेत व्यक्त गर्दछु।

यस अवसरमा म नेपालमा निरंकुश जहाँनिया शासन व्यवस्थाको अन्त्य एवं प्रजातन्त्र प्राप्तिका लागि आफ्नो जीवन बलिदानी दिनुहुने शहीद गंगालाल श्रेष्ठ लगायत सम्पूर्ण शहीदहरु प्रति भावपूर्ण सम्मान व्यक्त गर्न चाहन्छु।

विश्व स्वास्थ्य संगठनको पछिल्लो अध्ययनले दुस्कोमिक हार्ट डिजिजलाई विश्वकै सबैभन्दा ठूलो प्राणघातक रोगको रूपमा देखाएको छ। पछिल्ला दिनहरुमा नेपालमा समेत मुटुरोगका विरामी तथा यसका कारण हुने मृत्यु बढिरहेको सम्बन्धमा केन्द्रले प्र्यान गर्दै आइरहेका उपचारात्मक तथा प्रवर्द्धनात्मक सेवा र कार्यन्वयनका कारण केन्द्र स्थापनाको उपादेयता अझ बढ्न गएको देखिन्छ। मुटुरोगको निदान, उपचार, रोकथाम तथा अध्ययन अनुसन्धान सम्बन्धमा नेपाल सरकारको केन्द्रीय अस्पतालको रूपमा यस केन्द्रले आगामी दिनमा अझ विशिष्टीकृत सेवा मार्फत आफूलाई अख्यत संस्थाको रूपमा विकास र विस्तार गर्दै आम नेपाली जनतालाई सहज, सुलभ र गुणस्तरीय स्वास्थ्य सेवाको सुनिश्चितता गर्ने तर्फ अग्रसर गराउनु पर्ने आवश्यकता रहेको छ। यसका लागि मन्त्रालयको तर्फबाट साध र सहयोग हुने विश्वास दिलाउन चाहन्छु।

अन्वयमा, केन्द्रलाई गुणस्तरीय उपचार पद्धति मार्फत एक विश्वासिलो विशिष्टीकृत अस्पतालको रूपमा विकास गरी यहाँ सम्म ल्याई पुऱ्याउन प्रत्यक्ष एवं परोक्ष रूपमा योगदान गर्नुहुने सबैमा मन्त्रालयको तर्फबाट हार्दिक आभार व्यक्त गर्दछु। आगामी दिनमा मुटुरोगको उपचारमा नवीन प्रविधि सहित सम्भावित क्षमता विकास मार्फत एक उत्कृष्ट नमुना अस्पतालको रूपमा आफूलाई विकास र विस्तार गरी गुणस्तरीय स्वास्थ्य सेवा प्राप्त गर्ने नागरिकको सबैधानिक अधिकारको सुनिश्चितता तर्फ महत्वपूर्ण योगदान गर्न सकोस् भन्ने शुभकामना दिन चाहन्छु।

पदम गिरी  
मन्त्री

डा. तोसिमा कार्की  
Dr. Toshima Karki

स्वास्थ्य तथा जनसंख्या राज्यमन्त्री  
State Minister for  
Health and Population



नेपाल सरकार  
Government of Nepal

स्वास्थ्य तथा जनसंख्या मन्त्रालय  
Ministry of Health and Population



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Ramshahpath, Kathmandu, Nepal

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छताबी नं.(Dispatch No.):

मिति(Date):

शुभ-कामना



नेपाल सरकारको राष्ट्रिय स्वास्थ्य नीति अनुरूप स्वदेशमा नै विशिष्ट स्वास्थ्य सेवाहरु उपलब्ध गराउदै लैजाने उद्देश्य अनुसार हृदयरोगको निदान, उपचार तथा पुनर्स्थापनाका लागि आवश्यक उच्चस्तरीय स्वास्थ्य सेवा सर्वसुलभ रुपमा उपलब्ध गराउन तथा हृदयरोगसम्बन्धी अध्ययन र अनुसन्धानका लागि आवश्यक दक्ष जनशक्ति तयार पार्ने उद्देश्य लिएर गठन भएको त्यस शहीद गंगालाल राष्ट्रिय हृदय रोग केन्द्रले आफ्नो उद्देश्य प्राप्तितर्फ खेलेको भूमिका प्रशंसनीय छ।

स्थापनाको सत्ताइसौं वार्षिकोत्सवको अवसरमा केन्द्रले आफ्ना विविध गतिविधिहरुलाई समेटेर स्मारिका प्रकाशन गर्न लागेकोमा खुशी व्यक्त गर्दै स्मारिकाले केन्द्रबाट उपलब्ध हुने सबै सेवाहरु, मुटुरोगका कारणहरु र यसबाट बच्ने उपायहरुका बारेमा जानकारी उपलब्ध गराउने विश्वास लिएको छु। तुलनात्मकरुपमा सस्तो र गुणस्तरीय सेवा प्रदान गरी एक भरोसायोग्य उपचार केन्द्रको रुपमा स्थापित त्यस केन्द्रले मुटुरोगको उपचारका लागि विदेश जानुपर्ने बाध्यताबाट सबै नेपालीहरुलाई मुक्त गर्दै थप आधुनिक र गुणस्तरीय सेवा दिलाउन सकोस् भन्ने कामना गर्दै नेपाल सरकार, स्वास्थ्य तथा जनसंख्या मन्त्रालयको तर्फबाट केन्द्रको विकास र विस्तारमा आवश्यक सहयोग रहने प्रतिवद्धतासहित केन्द्रको उत्तरोत्तर प्रगति एवं सत्ताइसौं वार्षिकोत्सव समारोहको पूर्ण सफलताको कामना गर्दछु।

मिति : २०७९, माघ ९, गते।

डा. तोसिमा कार्की  
स्वास्थ्य तथा जनसंख्या राज्यमन्त्री

डा. तोसिमा कार्की  
स्वास्थ्य तथा जनसंख्या राज्यमन्त्री



नेपाल सरकार  
स्वास्थ्य तथा जनसंख्या मन्त्रालय

.....शाखा)

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

रामशाहपथ,  
काठमाडौं, नेपाल ।



विषय :-

शुभ-कामना

शहीद गंगालाल राष्ट्रिय हृदय केन्द्रले स्थापनाको छोटो समयमै मुटुरोग उपचारको क्षेत्रमा पाएको सफलताले मलाई अत्यन्तै खुशी लागेको छ। केन्द्रमा कार्यरत सबै पदाधिकारीको उत्तिकै लगनशिलता, कर्तव्य, निष्ठा, जवाफदेहिता सहितको कार्य सम्पादनले मात्र यो सफलता हासिल भएको हो भन्ने कुरामा म विश्वस्त छु।

यसै क्रममा, यही माघ १२ गते केन्द्रले सप्ताहौं वार्षिकोत्सव मनाउन गइरहेको र सो सन्दर्भमा केन्द्रका वार्षिक गतिबिग्रहक समावेश गरी स्मारिका प्रकाशन समेत गर्न लागेकोमा बधाई एवम पूर्ण सफलताको कामना गर्दछु।

विश्वव्यापीरूपमा नसर्ने रोगहरूमध्ये मुटुरोग एक प्रमुख स्वास्थ्य समस्याको रूपमा देखिएको छ। यसका मुख्य कारणहरूमध्ये मानिसको जीवनशैली पनि एक हो। यसबाट करोडौं मानिसहरू प्रभावित हुँदै आएका छन् र लाखौं मानिसहरूले अकालमै जीवन गुमाइरहेका छन्। मुलुकमा पछिल्ला वर्षहरूमा जीवनशैलीको परिवर्तन संगसंगै मुटुरोगसम्बन्धी समस्याहरू पनि बृद्धि हुँदै गइरहेको तथ्यांले पुष्टी गर्दछ। यस परिप्रेक्षमा मुटुरोगको निदान, उपचार र रोकथाममा केन्द्रले खेलेको भूमिका उदाहरणीय रहेको छ। यस अवस्थामा प्रकाशित हुनगइरहेको स्मारिकाले जनताको आचरण, जीवनशैली बानीव्यवहारमा परिवर्तन गरी स्वस्थ जीवनयापन गर्नमा सकारात्मक सन्देश प्रवाह गर्न सकोस् भन्दै केन्द्रको २७ औं वार्षिकोत्सव सफलताको शुभ-कामना व्यक्तगर्दछु।

२०७३/१०/०९  
देव कुमारी गुरागाई  
साँचव



नेपाल सरकार

# स्वास्थ्य तथा जनसंख्या मन्त्रालय



शाखी

४२६२५४०  
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४२२३५८०

फोन नं.

पत्र संख्या :-

पत्र संख्या :-

चलानी नं. :-

रामशाहपथ,

काठमाडौं, नेपाल ।

मिति : .....

विषय :-

शुभ-कामना



राष्ट्रिय गंगाताल राष्ट्रिय हृदय केन्द्रले स्थापनाको सताइऔं वार्षिकोत्सव मनाउने सन्दर्भमा केन्द्रका वार्षिक क्याकलापहरू समावेश गरी स्मारिका प्रकाशन गर्ने आशोक खबरले खुशी तुल्याएको छ । सर्वप्रथम स्मारिका प्रकाशनको पूर्ण सफलताको कामना गर्दछु ।

स्वास्थ्य क्षेत्रमा प्रणालीगत सुधार र कुशलकार्यसौलीका माध्यमबाट सर्वसाधारण नागरिकलाई गुणस्तरीय स्वास्थ्य सेवाको सुनिश्चितता गर्ने आवश्यक छ । हरेक संस्थाले आफ्नो आन्तरिक प्रक्रिया, जनशक्ति, वित्तीय व्यवस्थापन र प्रणालीगत पक्षमा सुधार गर्दै अगाडि बढ्नुपर्ने आवश्यकतालाई मध्यनजर गर्दै त्यस केन्द्रले विविध चुनौति र अप्ठ्याराहरूलाई चिदै आफूलाई एक अन्वय अत्याधुनिक अस्पतालको रूपमाविकास गरी मुटुरोगको उपचारमा तुलनात्मक रूपले सस्तो र गुणस्तरीय सेवा प्रदानगरी देशकै एक अरोसायोग्य उपचार केन्द्रको रूपमा स्थापितहुन सक्नु हामी सबैका लागि गौरवको विषयज्ञे । यसका लागि केन्द्र, कार्यकारी निर्देशक, आबद्ध कर्मचारी एवम् सेवाग्राहीहरूमा हादिक बढाई तथा शुभकामना व्यक्त गर्ने चाहन्छु । आगामी विनमा केन्द्रलाई समवानुकूल थपचुस्त दुरुस्त बनाई मुटुरोगको उपचारमा सस्थागत क्षमता विकास गर्दै एक उत्कृष्ट नमुना अस्पतालको रूपमा आफूलाई कायम राखिराख्न सकोम् भन्ने शुभ कामना व्यक्त गर्दछु ।

डा. रोशन पोखरेल  
सचिव

## EDITORIAL

*Shahid Gangalal National Heart centre, is a tertiary cardiac center of Nepal, which was started twenty-seven years back with limited resources and infrastructure. Over the years, it has expanded and has now established itself as an important cardiac center which every Nepali citizen can be proud of. This was possible due to dedication and commitment of its staff, good leadership and support from Nepal government. It provides treatment and cardiac care to every person irrespective of social status. No one needs to return back from cardiac illness without treatment when they come to SGNHC.*

*Presently, we have four fully functioning cath lab, providing both emergency and elective procedures. Our pediatric cardiology services and pediatric interventions have seen rapid growth in recent years. Similarly, the cardiac surgery department remains the most important center for cardiac surgery in Nepal. Recently, our diagnostic strength has increased with addition of state of art CT scan and cardiac MRI.*

*This year was a breakthrough year in cardiac intervention in our center as we started our first Transcatheter Aortic Valve Implantation (TAVI), a procedure done to cure patients with Severe Aortic stenosis who cannot undergo open heart surgery for various reasons. By the time of writing this editorial, our center have successfully completed 7 TAVI in past one year.*

*SGNHC understand the importance of preventive aspects of cardiac disease. It regularly provides health education and training, free camps and school screening program. Our institute has its own Institutional Review Board and Research Committee to encourage and assist researches. More than fifty original studies were approved to conduct last year in SGNHC. It is also one of the center for several ongoing international multicenter randomized controlled trials.*

*SGNHC in association with NHRC had initiated RHD school screening program, among the students aged 5-15 years of age, from all the schools of Budhanilkantha municipality. It's one of the largest survey of its kind in the world and it is near completion as well.*

*Our goal is to establish SGNHC as an institute with its own academic program. This is pivotal for further growth, stability and to remain competitive in future. We are optimistic our governing body and Nepal government will help fulfill in our vision.*



# ANNUAL REPORT

## 2022

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# कार्यकारी निर्देशकको वार्षिक प्रतिवेदन



मुटुरोगको रोकथाम, निदान, उपचार तथा हृदयरोगीहरुको पुर्नस्थापनाको लागि आवश्यक उच्चस्तरीय स्वास्थ्य सेवा सर्वशुलभरूपमा 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। स्थापनाकालमा ९ शैयाबाट आफ्नो सेवा सुरु गरेको यस केन्द्रमा हाल २७० शैचया संचालनमा रहेको छ। प्रारम्भमा मुटुरोगसम्बन्धी सामान्य उपचारबाट सेवा शुरु गरेको यस अस्पतालले समयको अन्तरालसँगै मुटुरोगसम्बन्धी विभिन्न किसिमका गुणस्तरीय विशेषज्ञ उपचार सेवाहरु सर्वशुलभरूपमा उपलब्ध गराउँदै आइरहेको छ। सिमित श्रोत र साधनबाट शुरु भएको यस केन्द्र हाल वैज्ञानिक प्रविधि, दक्ष जनशक्ति तथा विश्वस्तरीय अत्याधुनिक उपकरणले Super Specialty Cardiac Center रूपमा आफूलाई स्थापित गर्न सफल भएको छ। सन् २०२२ मा केन्द्रले सम्पादन गरेका मुख्य सेवाहरु यसप्रकार छन् :

सन् २०२२ मा केन्द्रबाट प्रदान गरिएका मुख्य सेवाहरुको विवरण		
क्र.सं.	सेवाहरु	जम्मा विरामी संख्या
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२	अन्तरंग (In-patient) सेवा	१२,५८१ जना
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५	Electrocardiogram (ECG)	९८०७१ वटा
६	ECHO Screening	१७४१८ वटा
७	Echocardiogram (Echo)	६०७९७ वटा
८	Tread Mill Test (TMT)	७९७८ वटा
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विगत केही वर्षहरूदेखि नेपाल सरकारले पनि मुटुरोगको उपचारमा उत्तिकै महत्व दिँदै आइरहेकोछ । आ.व. २०६३/६४ बाट शुरु भएको १५ वर्षमूिनका बालबालिकाको निःशुल्क मुटु उपचार, आ.व.२०६४/०६५ देखि ७५ वर्षभन्दा माथिका जेष्ठ नागरिकहरूको निःशुल्क उपचार, आ.व. २०६६/०६७ देखि विना अप्रेशन मुटुको साँघुरिएको भल्भ खोल्ने प्रविधि (PTMC), बाथ मुटुरोगीहरूको निःशुल्क शल्यक्रिया, गरीब विरामी राहत सुविधा लगायतका कार्यक्रमहरू नियमितरूपमा संचालन हुँदै आइरहेका छन् । यी कार्यक्रमका लागि नेपाल सरकारद्वारा गत आ.व. २०७८/०७९ मात्रै सामाजिक सेवा अनुदान अन्तर्गत ३७ करोड ६० लाख रुपैयाँ विनियोजन भएको र यसबाट गरीब असहाय विरामीहरूको उपचारमा निकै सहज भएको छ । केन्द्रले सरकारबाट प्राप्त रकमको उचित सदुपयोग गर्दै लक्षित वर्गलाई पारदर्शी तरिकाले सेवा प्रदान गर्दै आएको र यसबाट नेपाल सरकारप्रति जनताको विश्वासमा वृद्धि हुँदै गएको आभास समेत हामीले गरेको छौं । साथै केन्द्रमा संचालित स्वास्थ्य विमा कार्यक्रमबाट हालसम्म १७ हजार विरामीहरू लाभान्वित भएका छन् ।

मुटुरोग उपचार महंगो हुनुकासाथै जटिल छ । मुटुरोगको उपचार, रोकथाम तथा अध्ययन अनुसन्धानमा यस केन्द्रले उल्लेखनीय भूमिका खेल्दै आएको छ । सन् २०२२ मा अध्ययन अनुसन्धान क्षेत्रमा ३६ वटा Research Proposal स्वीकृत भएका छन् । त्यसैगरी केन्द्रले गत आ.व.मा देशका विभिन्न जिल्लाहरूमा मुटुरोगको निःशुल्क स्वास्थ्य शिविरहरू संचालन गरी ३६०० भन्दा बढी विरामीहरूको मुटु परीक्षण गरेको छ । साथै RHD Screening Program अन्तर्गत बुढानिलकण्ठ नगरपालिकाका विद्यालयहरूमा अध्ययनरत करिब १३ हजार विद्यार्थीहरूको Echo Screening गरियो । त्यसैले यो केन्द्र मुटुरोगीहरूको रोकथाम र यससम्बन्धी जनचेतना अभिवृद्धि गर्ने कार्यमा पनि निरन्तर लागि परेको कुरा जानकारी गराउन चाहन्छु । गत वर्ष २०७८ फाल्गुण १६ गते नेपालमै पहिलो पटक विना अप्रेशन Transcatheter aortic valve implantation (TAVI) शुरु गरी हालसम्म ७ जनामा सफलतापूर्वक मुटुको भाल्व प्रत्यारोपण गरियो ।

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 पठाइसकिएको साथै केन्द्रलाई प्रतिष्ठानको रूपमा विकास गरी दक्ष जनशक्ति उत्पादनमा जोड दिनुपर्ने अवस्थासमेत रहेकोले यसतर्फ नेपाल सरकारको विशेष पहल हुनुपर्ने देखिन्छ ।

अन्त्यमा, केन्द्रको विकास, विस्तार तथा स्थायीत्वको लागि निरन्तर लागि रहनु भएका केन्द्रमा कार्यरत सम्पूर्ण कर्मचारीहरू, स्वास्थ्य तथा जनसंख्या मन्त्रालय, नेपाल सरकारका सरोकारवाला निकायहरू, केन्द्रका वर्तमान एवं पूर्व संचालक समितिका सदस्यज्यूहरू, पूर्व कार्यकारी निर्देशकज्यूहरू, रक्तदाताहरू, चन्दादाताहरू, गैर-सरकारी संस्थाका प्रतिनिधिहरू, पत्रकारहरू, विरामी तथा उहाँहरूका आफन्तहरू एवं सम्पूर्ण शुभेच्छुक जनमानसमा हार्दिक धन्यवाद व्यक्त गर्न चाहन्छु ।

मिति: २०७९ माघ १५ गते, आईतबार ।

डा. चन्द्र मणि अधिकारी

कार्यकारी निर्देशक

## आ.व. २०७८/०७९ को वार्षिक कार्यक्रमको प्रगती तथा आय व्यय विवरण

-(आर्थिक प्रशासन महाशाखा)

यस केन्द्रले आ.व.२०७८/७९ मा मुख्य ८ वटा कार्यक्रम संचालन गर्ने लक्ष्य राखिएको र सो कार्यक्रम संचालनका लागि नेपाल सरकारको तर्फबाट ४८ करोड ५४ लाख ६७ हजार, स्वास्थ्य करकोषको तर्फबाट ७५ लाख र आन्तरीक श्रोतबाट १ अरब २८ करोड ९४ लाख व्यहोर्ने गरि कूल रकम १ अरब ७८ करोड २३ लाख ६७ हजार बजेटको व्यवस्था गरिएकोमा यस आर्थिक वर्षमा पुंजीगत तथा चालु गरी मुख्य ८ वटा कार्यक्रम सम्पन्न भै केन्द्रको जनकपुर शाखामा समेत गरी १ अरब ७२ करोड ६८ लाख ९९ हजार खर्च भै उक्त रकमबाट उल्लेखित कार्यक्रमहरु संचालन भएको छ ।

### १. परिक्षण सेवा:

यस आ.व.२०७८/७९ मा केन्द्र र जनकपुर समेत गरी जम्मा कूल १५०,००० जना विरामीहरुलाई बहिरंग सेवा मार्फत सेवा पुर्याउने लक्ष्य राखेकोमा १७१,५७५ जना विरामीहरुको बहिरंग सेवा मार्फत मुटुको परिक्षण गरिएको छ ।

### २. शल्यक्रया सेवा:

आ.व.२०७८/७९ मा जम्मा १५०० जना विरामीको मुटुको शल्यक्रया गर्ने कार्यक्रम राखिएकोमा १५३० जना विरामीहरुको विभिन्न खाले मुटुको शल्यक्रया गरिएको छ । यसरी वार्षिक लक्ष्यको आधारमा १०२ प्रतिशत भौतिक प्रगति देखिएको छ ।

### ३. क्याथल्याब सेवा:

आ.व.२०७८/७९ मा क्याथल्याब सेवा मार्फत जम्मा ,११,४६७ जना विरामीहरुको उपचार गरिएकोमा ५,५५४० एन्जियोग्राफी, २,३४८ एन्जियोप्लाष्टी, ६१७ पेशमेकर, ए एस डि डिभाइसक्लोजर ४५, ए एस डि डेलिभरी सिस्टम ३५२, डिभाइसक्लोजर (ए एस डि र पि डि ए) ३६०, इ पि एस र आर एफ ए ३२७ तथा अन्य लगायतका विभिन्न रोगहरुको परिक्षण तथा निदान गरिएको छ ।

### ४. सिटि स्क्यान सेवा:

आ.व.२०७८/७९ मा २६१३ कोरोनरी एन्जियोग्राफी तथा अन्य २०१५ गरी जम्मा ४६२८ जना विरामीहरु लाई अत्याधुनिक कार्डियाक सिटि स्क्यान मार्फत सेवा उपलब्ध गराईएको ।

### ५. अत्याधुनिक कार्डियाक एम आर आइ सेवा

आ.व.२०७८/७९ मा १६२ कार्डियाक एम आर आइ रुटिन तथा म्यापि, १११ कार्डियाक एम आर आइ स्टडि तथा अन्य १३५ गरी जम्मा ४०८ जना विरामीहरुलाई अत्याधुनिक कार्डियाक एम आर आइ मार्फत सेवा उपलब्ध गराईएको ।

### ६. प्रतिकारात्मक सेवा :

आ.व.२०७८/७९ मा यस केन्द्रले मुख्य मुख्य १२ स्थानमा मुटुरोग सम्बन्धी निःशुल्क शिविर संचालन गर्ने लक्ष्य राखेकोमा कोभिड १९ को महामारी पूर्ण रुपमा समाप्त नभएतापनि विभिन्न ९ स्थानमा मुटुरोग सम्बन्धी निःशुल्क स्वास्थ्य शिविर संचालन गर्न सकियो । जस मध्ये कूल ३६८१ विरामीहरुको निःशुल्क मुटु जांच गरीएकोमा २१८० जनाको इको कार्डियोग्राम र १२८७ जना को इ सि जि गरीयो । त्यस्तै गरेर बुढानिलकण्ठ नगरपालिकाका स्कुलहरुमा ११,०२६ जना बालबालिकाहरुको मुटुको जांच गरीयो ।

### ७. बाथ मुटुरोग राहत कार्यक्रम:

आ.व. २०७८/७९ मा नेपाल सरकारद्वारा बाथ रोगीहरूको मुटुको भल्भ लगायतका शल्यक्रियाको निःशुल्क उपचार गर्ने घोषित राहत कार्यक्रम अन्तर्गत ५४८ जना बाथ मुटुरोगीहरूको निःशुल्क शल्यक्रिया गरिएको छ ।

### ८. १५ वर्ष मूनीका तथा ७५ वर्ष माथिका विरामीहरूको निःशुल्क स्वास्थ्य सेवा कार्यक्रम:

आ.व. २०७८/७९ मा नेपाल सरकारद्वारा निरन्तर रूपमा शुल्क तिर्न नसक्ने मुटुका गरिब विरामीहरू १५ वर्ष मूनीका बालबालिका तथा ७५ वर्ष माथिका जेष्ठ नागरिकहरूका लागि घोषित राहत कार्यक्रम अन्तर्गत १५ वर्ष मूनीका बालबालिकाको ७०० जना र ७५ वर्ष माथिका जेष्ठ नागरिकहरूको ६०० जनाको शल्यक्रिया तथा उपचार गर्ने लक्ष्य राखिएकोमा १५ वर्ष मूनीका ७४० जना बालबालिकाको विभिन्न किसिमका शल्यक्रिया र उपचार सम्पन्न गरिएको छ भने ७५ वर्ष माथिका ६७० जना जेष्ठ नागरिकहरूको विभिन्न किसिमका मुटु रोगको शल्यक्रिया तथा उपचार गरिएको छ । यसरी वार्षिक लक्ष्यको आधारमा क्रमशः १०५ % र ११२ % भौतिक प्रगति देखिएको छ ।

### ९. पि.टी.एम.सी. (मुटुको भल्भ सांघुरिएको) विरामीहरूको निःशुल्क स्वास्थ्य सेवा कार्यक्रम:

आ.व. २०७८/७९ मा नेपाल सरकारद्वारा शुल्क तिर्न नसक्ने मुटुको भल्भ सांघुरिएको विरामीहरूको उपचारका लागि घोषित राहत कार्यक्रम अनुसार ३५० जनाको उपचार गर्ने लक्ष्य राखिएकोमा ३३९ जना गरिब विरामीहरूको मुटुको भल्भ सांघुरिएको पि.टी.एम.सी. पद्धति द्वारा उपचार गरिएको छ । यसरी वार्षिक लक्ष्यको आधारमा ९८ % भौतिक प्रगति भएको देखिन्छ ।

### १०. पुर्वाधार निर्माण तथा विकास कार्यक्रम:

- आ.व. २०७८/७९ मा निम्न उल्लेखित पुर्वाधार विकास तथा निर्माणका कार्यक्रम सम्पन्न भएको छ ।
- अत्याधुनिक ३ वटा Modular OT निर्माण प्रक्रिया ।
- केन्द्रको लागि विभिन्न आवश्यक उपकरणहरू खरीद गरिएको ।

### ११. जनकपूर शाखा:

आ.व. २०७८/७९ केन्द्रको जनकपूर शाखामा ११,८२८ जना विरामीहरूलाई बहिरंग सेवा प्रदान गरियो । जसमध्ये २८०६ जनाको इको कार्डियोग्राम, ५७६८ जनाको इ सि जि, ११७ जनाको टि एम टि तथा हल्टर, एबिपि, एक्सरे का सेवा प्रदान गरियो ।

### १२. विपन्न नागरिक उपचार कोष :

आ.व. २०७८/७९ मा २९ करोड ४२ लाख १७ हजार ८ सय ७९ बराबरको ३१५२ जना मुटुका विरामीहरूलाई नेपाल सरकार विपन्न नागरिक उपचार कोषबाट यस केन्द्रले सेवा उपलब्ध गराएको छ ।

### १३. स्वास्थ्य बीमा मार्फत उपचार:

यस आ.व. २०७८/७९ मा केन्द्रले स्वास्थ्य बीमा मार्फत ७५२७ जना विरामीहरूलाई रु.८ करोड १२ लाख १० हजार ३५१ बराबरको उपचार गरिएको ।

### निष्कर्ष:

यस केन्द्रले चालू आ.व. २०७८/७९ को वार्षिक कार्यक्रम संचालनका लागि मुख्य गरी ८ वटा कार्यक्रम तय गरी सोही बमोजिम बजेटको व्यवस्था गरेकोमा वार्षिक लक्ष्यको आधारमा नेपाल सरकार तथा स्वास्थ्य कर कोष तर्फ ४९ करोड २९ लाख ६७ हजार खर्च भई १०० प्रतिशत वित्तिय प्रगति भएको देखिन्छ भने ९२.३० प्रतिशत भौतिक प्रगति भएको देखिन्छ । केन्द्रको आन्तरिक तर्फ १ अरब २८ करोड ९४ लाख बजेटको व्यवस्था गरिएकोमा १ अरब २४ करोड ९० लाख खर्च भई ९७ प्रतिशत वित्तिय प्रगति भएको देखिन्छ ।

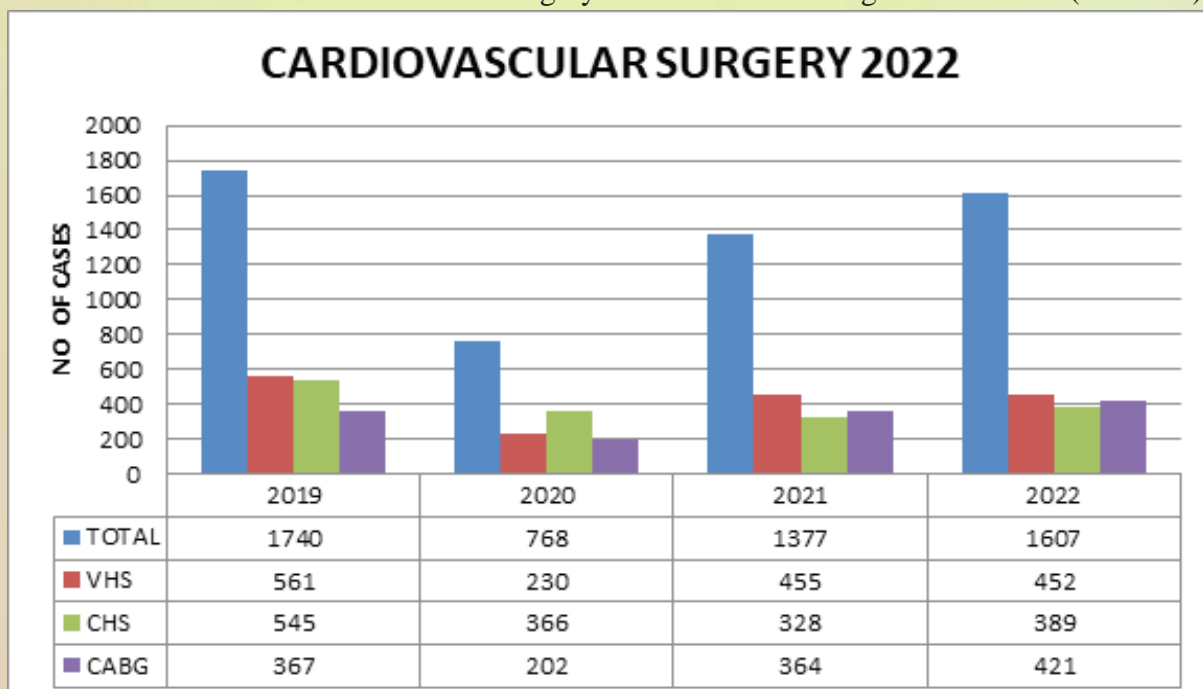


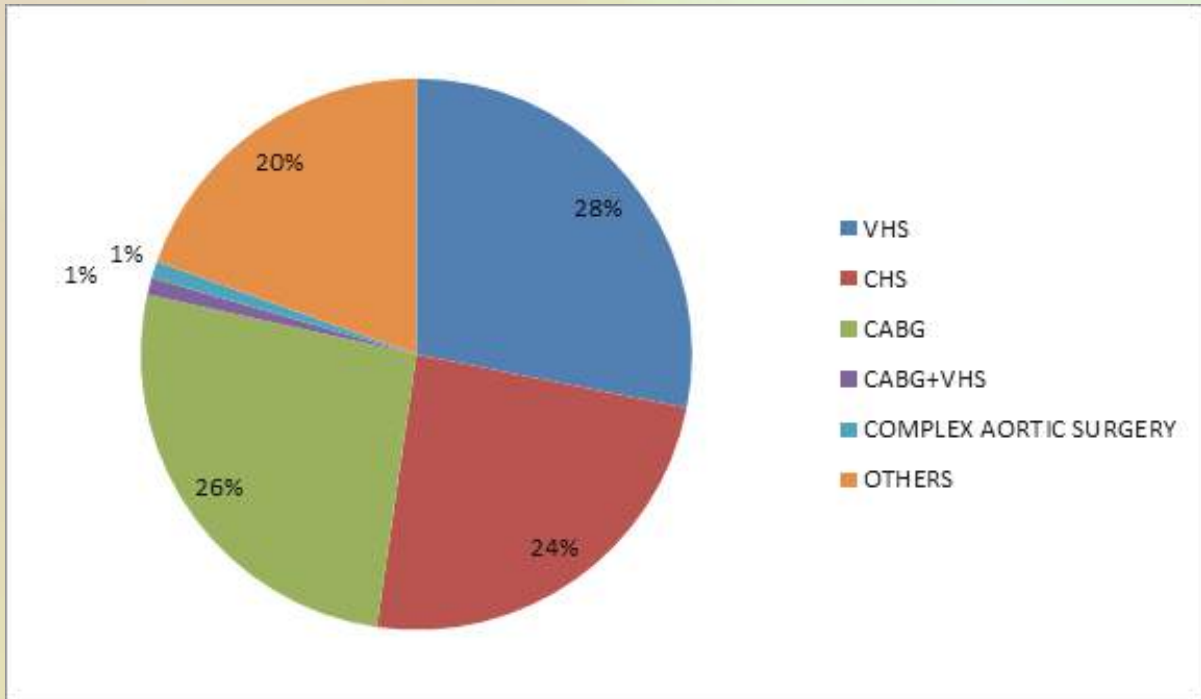
## DEPARTMENT OF CARDIOVASCULAR SURGERY

Dr. Nishes Basnet, Dr. Birat Kandel

As said, “Alone we can do so little; together we can do so much.” Likewise with the efforts of each member, the cardiovascular surgery department of SGNHC has provided the quality treatment in our home country. The compassionate, co-ordinated care and commitment to excel has strengthened the trust of people in cardiac surgery.

The department of cardiac surgery performed 1607 surgeries and had 14985 outpatient attendances in 2022. Valvular Heart surgery accounts to the largest 452 cases (28.13 %),





congenital heart surgery-389 cases (24.2%), and Coronary Artery Bypass Graft surgery -421 cases (26.2 %). There were 16 operations for Complex Aortic surgeries (Ascending aorta replacement(4 cases) and Modified Bentall's procedure(12 cases)), 15 cases were CABG with valvular heart surgery and 314 cases were miscellaneous procedures like re-explorations, LA Myxoma excision, pericardial window, pericardiectomy, creations of arterio-venous fistula, secondary closures of wound and other vascular procedures. Re-exploration rate was 3.92 %. Overall Mortality rate was 7.65 %.

## ACTIVITIES

This year we have reached the milestone of 20000 open heart surgeries. Several papers were presented by faculty members in the XX international congress on management of cardiovascular disease which happened in Kathmandu. Dr. Sidhartha Pradhan attended TAVI conference in India. Dr. Navin Gautam and Dr. Bishow Pokhrel attended IACTSCON conference in Jaipur, India. Dr. Nishes Basnet and Dr. Apurba Thakur attended in Meril Valve Symposium Vapi, India. Dr Stefano Congiu , paediatric cardiac surgeon from Barcelona visited our centre. Professor Woong-Han Kim , legendary paediatric cardiac surgeon from Seoul National University visited our centre.

## FUTURE

Our focus and determinations are as powerful as they have been in any time in our proud history. In order to be successful in the future, it will be best for Cardiologist and Cardiac Surgeon to not only work hand in hand but rather become one single entity in terms of training, education, departmental structure, and professional society.

## ARTICLES PUBLISHED

1. Aryal, M., Timala, R., Late aortic insufficiency after ventricular device closure: A case report. *J. Clinical Cardiology and Cardiovascular* , 2022; 5(5)
2. Gautam, N.C., Basnet, N., Aryal, M., Timala, R., Joshi, R., Pradhan, R., et al. Trends in the number of cardiac surgical procedures after the introduction of routine catheter intervention for isolated congenital shunt lesion. *Nepalese Heart Journal* 2022; Vol 19 (1) : 29 -33
3. Gautam, N.C., Joshi, R., Aryal, M., Pradhan, R., Timala, R., A Cardiac hydatid cyst; four years of postoperative follow up. *Nepalese Heart Journal* 2022; Vol 19 (1) : 75-78
4. Parajuli, S.S., Rajbhandari, N., Thakur. A., Comparison of logistic Euroscore with Euroscore II in predicting postoperative mortality in adult cardiac surgical patients. *Nepalese Heart Journal* 2022; Vol 19(1), 7-9
5. Panthee, N., Pradhan, S., Koirala, R., Pant, A.N., Pokhrel, B., Shah, S.C., Timala, R., Pericardial cyst in a one year old boy with ventricular septal defect and patent ductus arteriosus. *The Egyptian Heart Journal* 74, 39
6. Joshi, D., Aryal, M., Gurung, M., Timala, R., Repair of ruptured sinus of valsalva aneurysm: 15 years of single centre experience. *Nepalese Heart Journal* 2022; Vol 19(1), 45-48





## DEPARTMENT OF ANESTHESIOLOGY

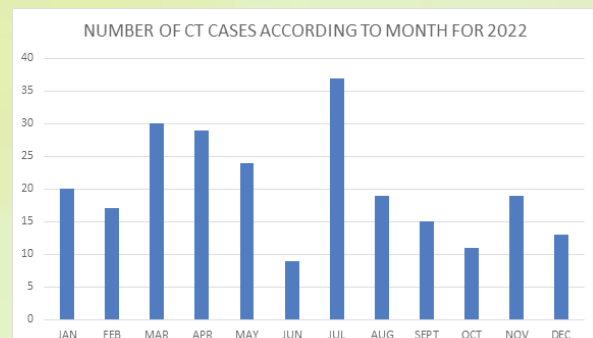
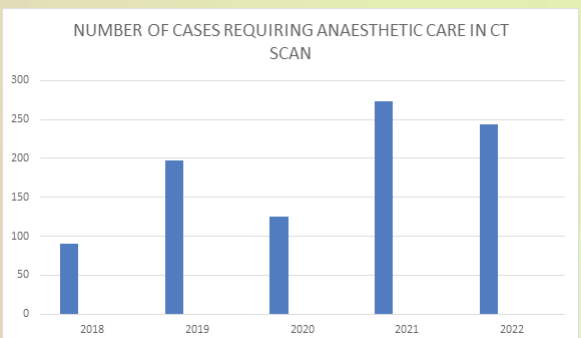
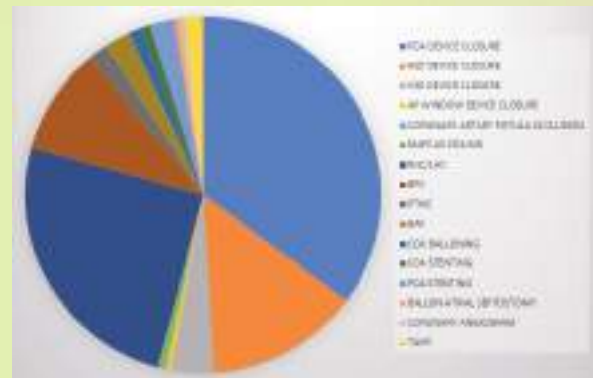
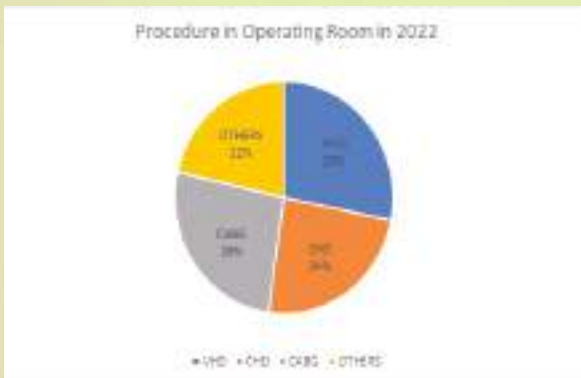
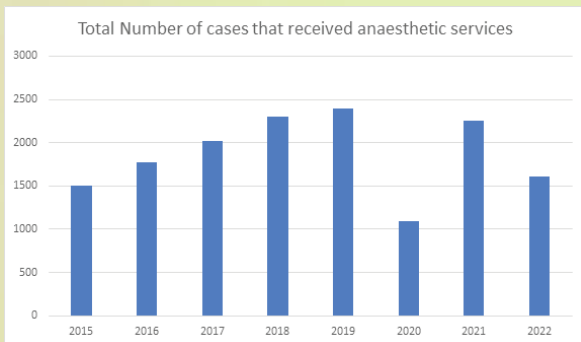
Dr. Abhay Khadka

The Department of Cardiac Anesthesia at Shahid Gangalal National Heart Centre, since its establishment in 2001, has been providing its service with its aim to provide safe and comprehensive perioperative anesthetic and critical care management of cardiac patients in this institute.

The department is run by eight registered anesthesiologists along with two residents. It is involved in providing anaesthetic care across the perioperative spectrum from the preoperative preparation, intraoperative care with transesophageal echocardiography imaging to the postoperative intensive care of cardiac surgical patients. In addition, it provides out of OR anesthetic services to procedures such as pediatric catheterization, CT scan and PCI. It also provides respiratory care to patients in the coronary care unit /medical intensive care unit. The department has also been involved in educational and training activities like running cardiac anaesthesia fellowship, teaching postgraduate residents from various medical colleges, etc. The department has also been providing intensive critical care services to patients of COVID-19 admitted in the hospital.

In 2022, Nepal was again hit with COVID-19 pandemic and the hospital had to admit patients suffering from COVID-19. The department worked as one of the frontliners caring for severe cases. Despite of the disturbance in routine work, we were able to provide anesthetic services

to the total of 2961 patients. In Operation theatre there were total of 1607 patients that was given anesthesia. Still the majority of patients we did were valvular heart diseases followed by coronary artery bypass grafting as well as congenital heart surgery as shown in chart below. Other surgeries like vascular surgery, Bentall's, pericardial surgery, cardiac tumors, rewiring, debridement constituted around 22%. There has been significant increase in the number of cases in out of OR anesthetic services provision. Pediatric patients that required Anaesthetic care in CT scan reached 243 which is less than previous year. Anaesthetic care given in catheterization lab was 944 out of which 701 were for primary PCI and 403 were for pediatric catheterization procedures. We had provided anesthesia in seven TAVI procedure which successfully done in our institution.



## EDUCATION/CONFERENCES

On the education front, our department continued its involvement in high quality teaching to anesthesia residents in the field of cardiac care. Previous year marked the completion of our first batch of fellowship in cardiac anaesthesia and enrollment of second batch fellowship this year 2022. Apart from that, postgraduate residents from National Academy of Medical Sciences, Nepalgunj Medical College, B and B Hospital and Kathmandu Medical College had their rotation as part of their residency training in our institution. In this year we are doing routine use of rotem (rational thromboelastometry) based bleeding management algorithm in bleeding cardiac surgical patients. On our quest to expand our knowledge and remain up-to-date with latest advances in the field, our faculties are regularly attending the national and international conferences.

COVID pandemic led to lesser number of physical conference but equally gave an opportunity to participate in many virtual conferences, CMEs and lectures. Our Head of Department Dr. Ashis Govinda Amatya presented article Innovation in Conquering Heart Disease in the Himalayan Region in 20th International Conference of Cardiac Society of Nepal “Goal Directed Bleeding Management in SGNHC” and “Goal Directed Bleeding Management in SGNHC “ for topic on newer treatment modalities started in the country in the field of prevention , management, and rehabilitation of cardiovascular disease in which he had been awarded. Dr Smriti Mahaju Bajracharya had the opportunity to attend 25th National Conference of the Indian Association of Cardiovascular and Thoracic Anaesthesiologist. Madurai and published article in Nepalese Heart Journal about Right Atrial Thrombus Associated with Central Venous Catheter After Surgical Repair of Co-arcuation of Aorta. All the faculties were able to attend Annual conference of Cardiac Society of Nepal. Dr. Sandip Bhandari present article on “Pediatric sedation and analgesia for Innovation in Conquering Heart Disease in the Himalayan Region in 20th International Conference of Cardiac Society of Nepal Nursing Symposium and also attended the 16th National and 7th International TEE workshop held at NH-Narayana Health Coty Bangalore on August. Likewise, Dr Abhay Khadka got an opportunity to attend ISACON conference which was held on November. In addition, our department under Cardiac Society of Nepal was able to organize CME on “Goal Directed Bleeding Management” which was a successful endeavor.

## CONCLUSION

In this era of healthcare reform, we have lots of challenges ahead of us. Our dedicated faculties have been overcoming these challenges and learning to succeed to our vision with available resources. Developments in the use of trans-esophageal echocardiography, expansion of our pediatric anesthesia and critical care subspecialty and goal directed patient blood management will be areas of particular clinical focus in the future. The department is committed to continued investment in equipment, technology and training to enhance our patient’s safety and improve perioperative care. Throughout this transition, however we will remain dedicated to delivering high quality patient care as well as excelling in educational programs that will improve the future of anesthesia care. Hope the coming year will see the beginning of a great period of renewal and expansion for our division as well as the hospital.



## NON-INVASIVE CARDIOLOGY AND OPD SERVICES

Dr Neha Siddique, Dr Bishal Shrestha, Dr Reeju Manandhar

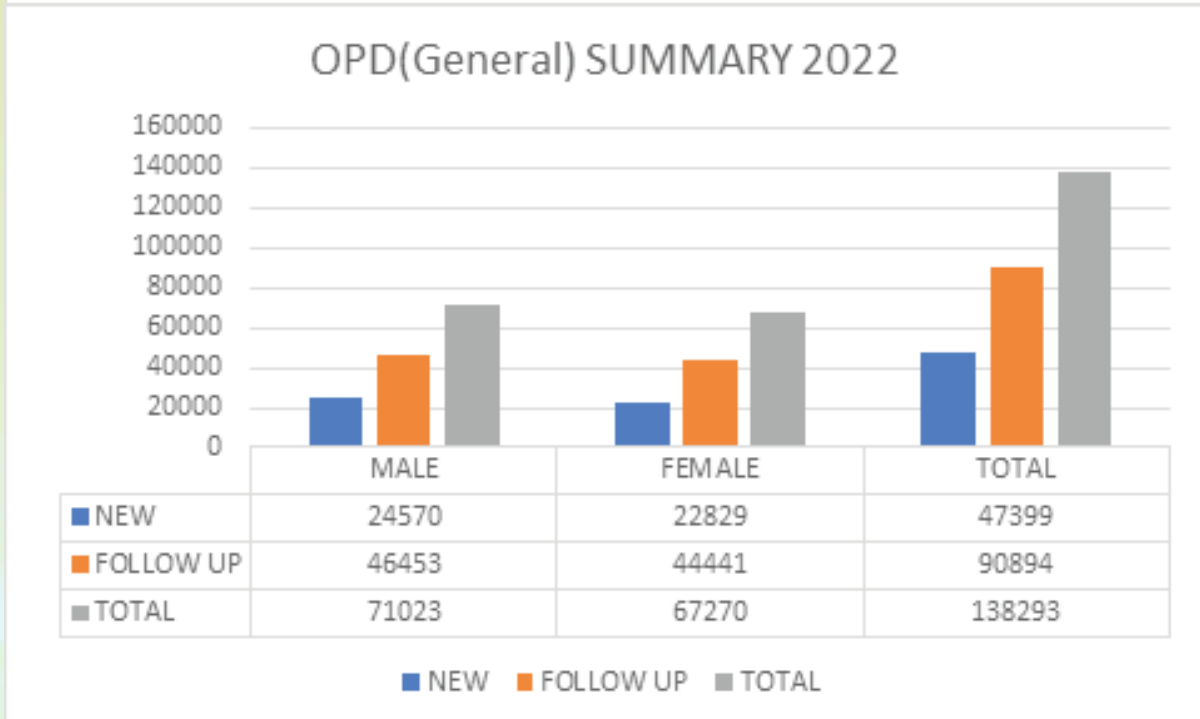
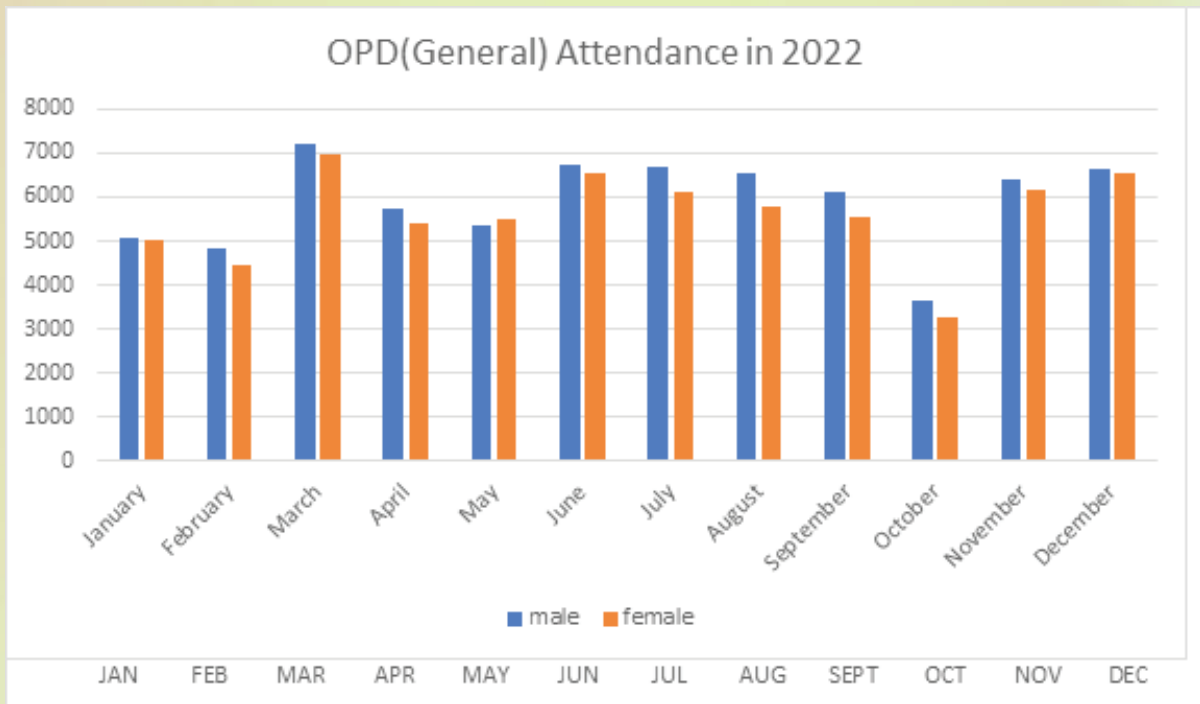
### INTRODUCTION

Shahid Gangalal National Heart Centre (SGNHC) established in 1995, is one of the oldest tertiary center for cardiovascular disease in Nepal. It has been providing all kinds of cardiac services to its people along with foreigners from different part of the world. Hundreds of thousands of patient has already been benefited from the services it has been providing for decades and the number is going up every year. Among many more discipline of cardiology, Non-invasive cardiology is one branch that focuses on the detection and treatment of cardiac disease, using external tests, imaging rather than instruments inserted into the body. By the help of our well trained and qualified healthcare professionals in noninvasive procedures, SGNHC is able to provide quality care for every kind of cardiac issues. These non-invasive procedure/ tests are safe, cost effective, uncomplicated and painless to perform. Every year we are being able to add new milestone in the number of available noninvasive cardiac tests substantially.

### SERVICES PROVIDED

As non-invasive and OPD Service provider we are able to provide the various services like Adult and Pediatric echocardiography, Stress echocardiography, Trans-esophageal echocardiography (TEE), Fetal echocardiography, 3D Echocardiography, Treadmill test, Ambulatory blood pressure (ABP) monitoring, Holter monitoring, Electrocardiogram (ECG), X-ray, Ultrasonography, Doppler study including carotid and venous Doppler, Enhanced External Counter Pulsation (EECP), Benzathine penicillin injection, CT scan and MRI . Service like carotid, various arterial and venous Doppler, Fetal echo and ultrasound are also providing

significant amount of assistance and support for prompt diagnosis of cardiovascular along with non-cardiac conditions. One of the great achievements in the department of noninvasive cardiology is the installation of Aquilion one 640 slice CT scan machine. Since then we are able to provide the services of CT coronary angiography, CT pulmonary angiography, CT aortogram in significant number in addition to CECT of various part of our body and some CT guided procedures in our center. Beside the availability of CT scan, we have also added up MRI Machine to further strengthen our resources. Each year there has been significant increase in the number of people attending our outpatient department, however in the year 2022, there hasn't been similar expected increase in number of patients probably due to various situations such as COVID, Dengue, elections. Total of 161664 (138298-general, 23366-paying) patients attended our OPD in 2022.



Investigations	Male	Female	Total
ABP MONITORING	1760	1214	2974
B/L LOWER LIMB VENOUS DOPPLER	39	22	61
BILATERAL LIMB ARTERIAL DOPPLER	372	77	449
BILATERAL LIMBS VENOUS DOPPLER	28	19	47
CAROTID DOPPLER	567	234	801
DEBUTAMINE STRESS ECHO	1	0	1
ECG	55114	42957	98071
ECHO CARDIOGRAM	32577	28220	60797
ECHO SCREENING	9573	7845	17418
FEETAL ECHO	0	2694	2694
HOLTER MONITORING	1597	1473	3070
MAGNERECG	951	757	1708
RENAL DOPPLER	185	65	250
SINGLE LIMB ARTERIAL DOPPLER	41	39	80
SINGLE LIMB VENOUS DOPPLER	56	45	101
STRESS ECHO (DOBUTAMINE)	14	7	21
TEE (Transesophageal Echocardiography)	342	699	1041
TMT	4752	3226	7978
UMBILICAL ARTERY DOPPLER	6	0	6
USG abdomen / Pelvis	1715	1326	3041
USG SMALL PARTS (THYROID/BREAST/ MUSCULOSKELETAL)	68	58	126
XRAY	32210	27024	59234



## PEDIATRIC CARDIOLOGY SERVICE

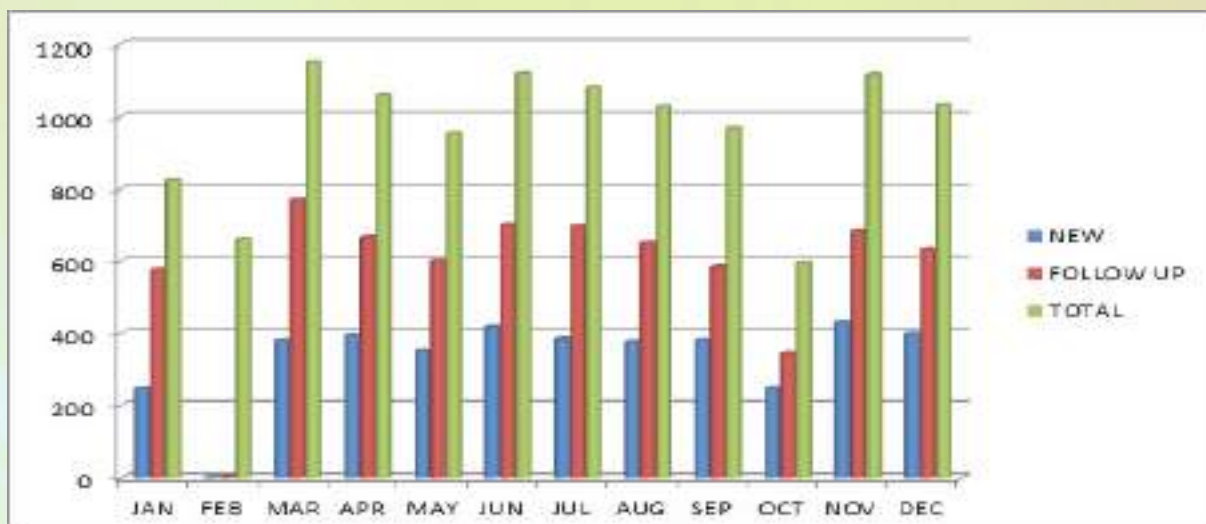
Dr. Amshu Shakya, Dr. Vidhata K.C, Dr. Anish Shakya

### INTRODUCTION

Shahid Gangalal National Heart Centre is one of the referral hospitals in Nepal providing cardiac health services to the paediatric population. Huge volume of cases and spectrum of diversity of cases not only from different corners of country but also from neighbouring countries are entertained by the centre and the numbers are multiplying by each passing year..

### SERVICES PROVIDED

Pediatric Cardiology service is being provided since 2004 AD. The services provided are expanding every year which currently includes OPD, Emergency, and Inpatient, Non-Invasive and Invasive services. We provide a comprehensive service with all the necessary diagnostic tools for cardiac imaging including echocardiography, CT angiogram and cardiac MRI. Each year there has been an increasing number of OPD attendants. The total OPD attendants this year was 11579. Among them, 7041 (60%) were male and 4538 (40%) were female. Inpatient services to paediatric patients have been started since nine years. The management of paediatric



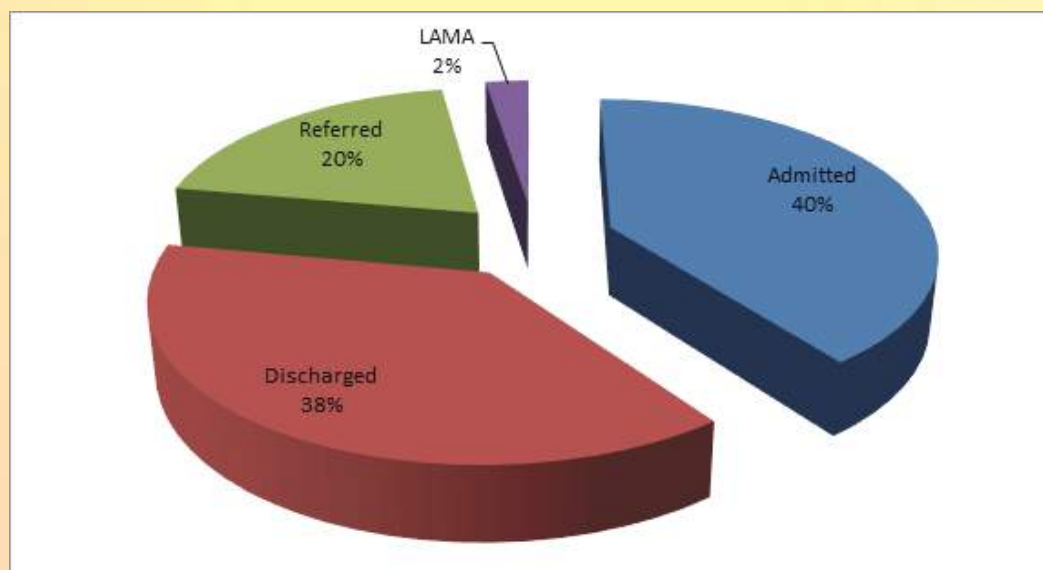
patients have been further facilitated by the provision of a 10 bedded paediatric ward managed by 24-hour in-house doctor since the year 2019. Total of 890 patients were admitted this year, among them most of the patients were admitted for catheter based intervention. Patients planned for CT angiogram are also admitted. Along with its own inpatient children, Department of Paediatric Cardiology is also looking after patients in paediatric surgical intensive care unit (PSICU) who had undergone various cardiac surgeries and those who are being admitted in various surgical wards both pre-operatively and postoperatively.

DIAGNOSIS	TOTAL NUMBER OF PATIENT
HEART FAILURE	40
RHEUMATIC HEART DISEASE	50
S/P CATHETER BASED INTERVENTION	350
S/P PERICARDIOCENTESIS	20
INFECTIVE ENDOCARDITIS	10
ACYANOTIC HEART DISEASE	250
FOR CARDIAC CT ANGIOGRAM(<1 YEAR)	150
ARRYTHMIAS	10
MISCELLANEOUS	10
TOTAL	890

*Table showing total admitted cases*

## SERVICES PROVIDED IN EMERGENCY DEPARTMENT

Total number of Paediatric patients attended in emergency department (ER) this year was 397. Among them, 40 % were critical cardiac cases and were admitted for management and others were kept on follow up on outpatient basis. Majority of cases admitted were Rheumatic heart diseases followed by structural and congenital heart diseases and arrhythmias. Non cardiac cases attended in ER were referred to general children hospital after evaluation and stabilization.

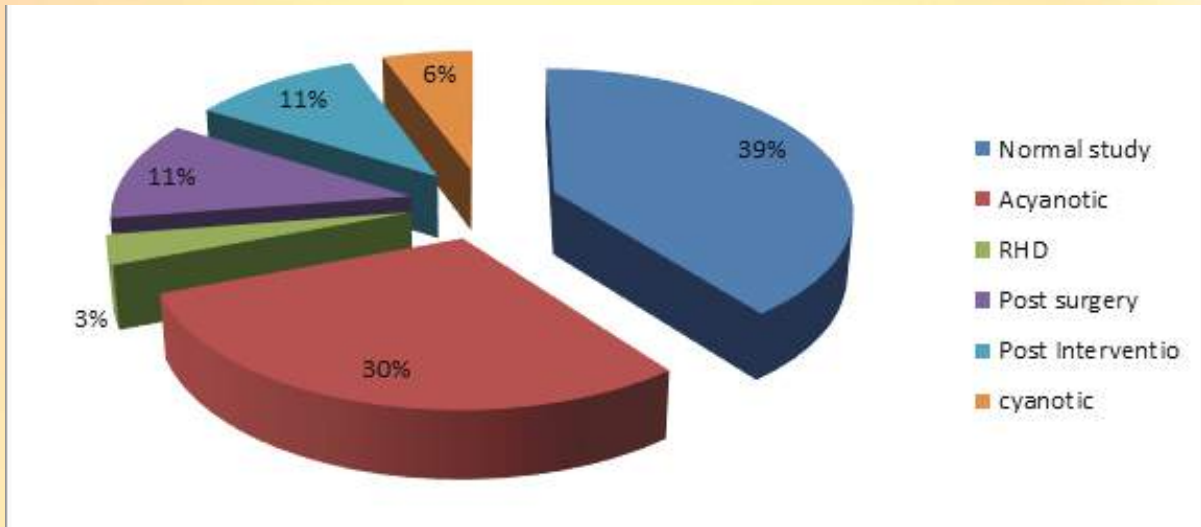


The figure shows the total number of patients attended in emergency department was 397, among which 158 (40%) were admitted, 151 (38%) were discharged, 78(20%) were referred to general hospital and 10 (2%) left against medical advice (LAMA).



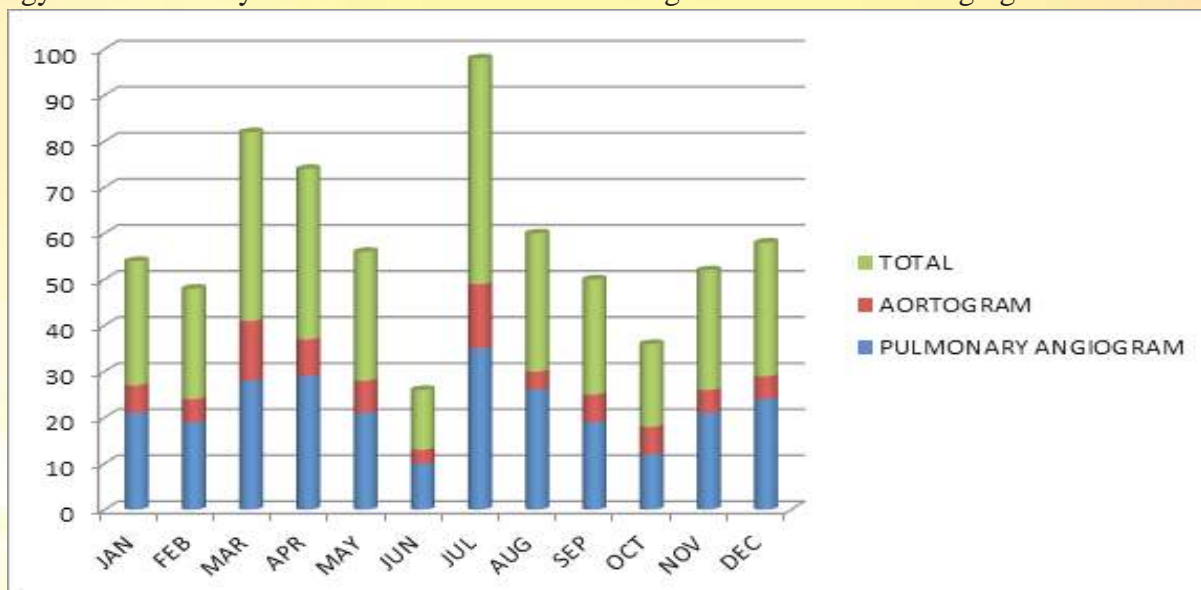
## PEDIATRIC ECHOCARDIOGRAPHY AT SGNHC

Along with our own OPD patients, we get referrals for echocardiography from other departments in the hospital and from other hospital as well. A total of 7248 patients had undergone TTE by the paediatrics department. The minimum age of child undergoing echocardiography was 1 day and maximum age was 38 years. Abnormal finding in echocardiogram was seen in 63% (n=4566) of patients with the most common finding being acyanotic Congenital Heart Disease which was present in 42.25% (n=2014) of children. Other abnormal findings were classified as Cyanotic CHD, Rheumatic Heart Disease, post intervention procedures, post-surgical procedures, Complex heart and miscellaneous diseases. The percentage of each of the categories is shown below.



## CARDIAC CT

In paediatric patients with congenital heart disease (CHD), Cardiac CT Angiography has enhanced the applicability of cross-sectional anatomical imaging and is now used widely as a diagnostic complementary tool to echocardiography, cardiac magnetic resonance imaging (MRI), and cardiac angiography particularly in patients with pulmonary artery and Pulmonary vein abnormalities. There was a vast increment in the number of patients who availed CT facility in our centre since the commencement of CT reporting by Department of Paediatric cardiology in 2018. This year a total of 347 children undergone for cardiac CT angiogram.



## FETAL ECHOCARDIOGRAM

Department of Paediatric cardiology has been providing fetal echocardiography for antenatal diagnosis and proper management of congenital heart disease. The number of patients undergoing fetal echo has increased from year to year. This service is available on all working days. A total of 1079 pregnant women benefited from this service in the year 2022.

## HUMAN RESOURCES

Shahid Gangalal National Heart Centre recently developed Paediatric Cardiology as separate department in the month of June, 2022. As for now, department comprises of one senior consultant Paediatric Cardiologist, one Consultant paediatric cardiologist, One Paediatric Cardiologist, four registrars and three resident doctors. Despite of less human resources, the department is trying their best to provide the best possible treatment to the ever increasing number of children with cardiac problems. The Department is working on to provide continuous care to the post-surgical paediatric ICU patients in order to help in the outcome of these sick children. We are also providing basic training in Paediatric Cardiology including echocardiography to interested candidates from different institutes. DM Cardiology residents from Nobel Medical College, DM Neonatology residents from BPKIHS, MD paediatric residents from Patan Academy of health Science (PAHS), KIST, Army Hospital, and LMC have pursued their elective subspecialty posting and have benefitted by the exposure to Paediatric Cardiology. We are also planning to start our own academic fellowship program in near future.

## CONCLUSION

With each passing year, there is increment in the number of patients receiving Paediatric Cardiology services. Fetal Echocardiography service has increased exponentially from last couple of years. The Department of Paediatric Cardiology was dedicated in past, is dedicated and will be dedicated to deliver quality services and will try to push our boundaries for betterment of paediatric cardiology service in Coming Days.



## ACUTE CORONARY SYNDROME IN CCU

Ramesh Dangol, Ashika Thapa, Keshab Raj Neupane, Birat K Timalsina, Amrit Bogati

### INTRODUCTION

Coronary artery disease (CAD) continues to be the leading cause of mortality and morbidity worldwide. Although CAD mortality rates worldwide have declined over the past four decades, CAD remains responsible for about one-third or more of all deaths in individuals over age 35. It places a large economic burden on health care system as CAD is one of the most frequent reason for hospital admission. The incidence of CAD has decreased over time in developed countries but it is increasing in developing countries like Nepal. At the turn of the century, it was reported that coronary heart disease mortality was expected to increase approximately 29 percent in women and 48 percent in men in developed countries between 1990 and 2020. The corresponding estimated increases in developing countries were 120 percent in women and 137 percent in men.

Acute coronary syndrome (ACS) refers to a spectrum of clinical presentations ranging from those for ST-segment Elevation Myocardial Infarction (STEMI) to presentations found in Non-ST-segment Elevation Myocardial Infarction (NSTEMI) or in Unstable Angina. It is almost always associated with rupture of an atherosclerotic plaque and partial or complete thrombosis of the infarct-related artery. Chest Pain, which is usually described as pressure, squeezing, or a burning sensation across the precordium and may radiate to the neck, shoulder, jaw, back, upper abdomen, or either arm is the most common symptoms.

ECG findings differentiates between STEMI and NSTEMI and cardiac enzymes needed to differentiate between NSTEMI and Unstable Angina. STEMI are usually managed initially with antiplatelets and revascularization either with thrombolytic therapy or with primary percutaneous intervention and other ACS initially managed with anticoagulants, antiplatelets and other supportive treatments.

### SERVICES PROVIDED

A coronary care unit (CCU) is a hospital ward specialized in the care of patients with Myocardial Infarction, Unstable Angina, Cardiac Dysrhythmia and various other cardiac conditions that require continuous monitoring and treatment. We have Three (3) specially designed, well

equipped CCU units with comprehensive central monitoring, central oxygen supply, 24hr portable x-ray, portable echocardiography, defibrillator, mechanical ventilator and IABP supports. With the expansion of CCU beds to forty (40), we are available to provide CCU care to a lot of patients.

CCU has round the clock duty of medical officers, Senior Resident (SR) Doctor with on call cardiologist 24hrs available with well-trained nursing staffs and other health professionals along with the support from anesthesia department.

The acute coronary cases were predominantly admitted through emergency department. ECG was taken within 10 minutes of patient's arrival. Patients with STEMI were managed with primary PCI according to duration of chest pain of patient. Patients arriving within 12 hours of chest pain are advised for Primary PCI. Even non affording people are helped with primary fund given by the Bagmati State. Rescue PCI was also rendered whenever necessary. Patients with STEMI, NSTEMI and high-risk UA are admitted in CCU as much as possible. However, patients with low to moderate risk UA were admitted in CCU if beds were available, otherwise in general ward in monitor beds.

## DEMOGRAPHIC FEATURES

In this year 2022, Total 2086 patients got admitted in CCU with diagnosis of ACS. Among them 1744 (83.6%) were STEMI, 206(9.87%) were NSTEMI and 136 (6.51%) were of UA. ACS showed male predominance with total of 1436(68.8%) patients whereas 650 (31.2%) were female. 221(10.6%) patients were found to be less than 45 years of age.

## PRIMARY PCI VS ELECTIVE PCI

Among 1744 STEMI cases admitted in CCU, 722 (41.4%) underwent PPCI similar to the previous year (35%). Similarly, 29 (1.4%) underwent Rescue PCI. 1245 patients (60%) of all ACS patients underwent elective PCI.

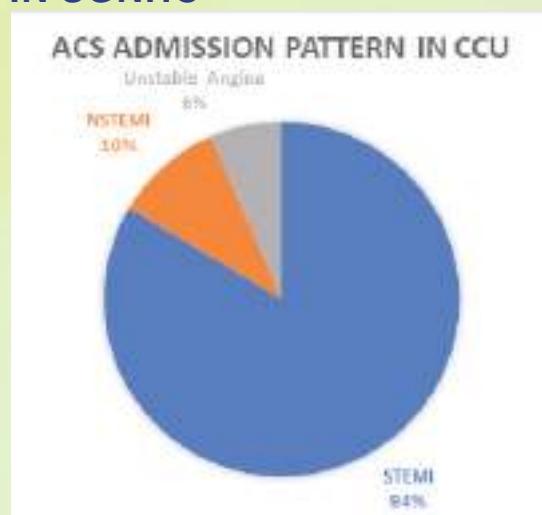
## CLINICAL OUTCOME MORTALITY

Overall mortality in patients admitted with ACS was 79(4.1%) which is slightly lower than last year (7.5%). 47 males and 32 females died due to ACS.

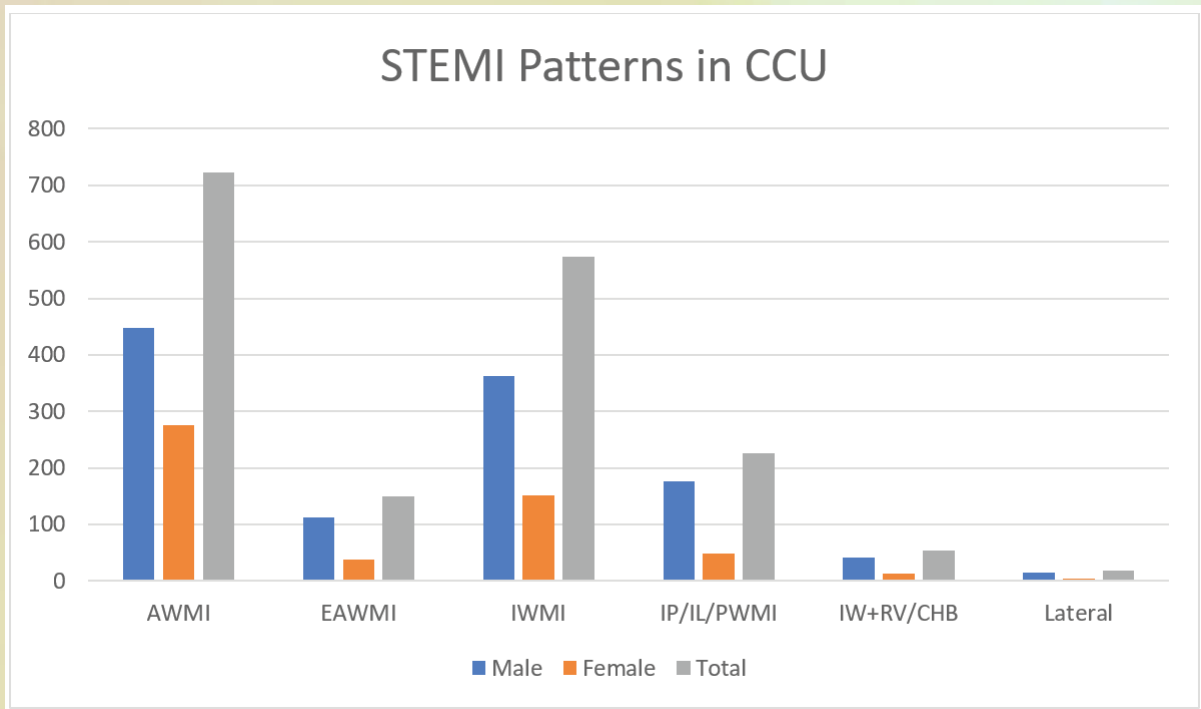
97 patients were managed medically depending upon the lesion characteristics, patient status and other comorbidities. 79 patients were planned for CABG and referred to Surgery Department.

## ACS ADMISSION PATTERN IN CCU IN SGNHC

ACS	Male	Female	Total
STEMI	1213	541	1744
NSTEMI	155	51	206
Unstable Angina	78	58	136
Total	1436	650	2086



## ACS PATTERNS AND MANAGEMENT IN CCU IN SGNHC



MI type	Male	Female	Total	PPCI	RPCI	Elective PCI	Mortality	Medical	CABG
AWMI	447	276	723	242	10	415	40	22	34
EAWMI	112	37	149	108	5	34	12	2	-
IWMI	363	152	515	173	3	373	10	23	2
IP/IL/PWMI	177	49	226	64	2	155	3	3	2
IW+RV/CHB	41	13	54	42	4	4	5	4	-
Lateral	14	4	18	7	-	7	1	4	-
NSTEMI	155	51	206	-	3	137	5	32	34
USA	78	58	136	-	2	120	3	7	7
Total	1436	650	2086	722	29	1245	79	97	79



## INTERVENTIONAL CARDIOLOGY SERVICES

Barkadin Khan, Aarju Laudari, Vijay Ghimire, Rakesh Bdr. Adhikari, Satish Kr. Singh

### INTRODUCTION

Cardiovascular diseases are a significant public health problem, with increasing prevalence and high mortality rates worldwide. In response to this epidemic, the Shahid Gangalal National Heart Center was established to provide a full range of services for the diagnosis and treatment of cardiac conditions. The center is responsible for the majority of invasive and minimally invasive cardiac interventions in the country.

The interventional cardiology branch at the center was established in 2001 AD and has since played a crucial role in the care and treatment of patients with cardiovascular diseases. To meet the growing demand for cardiovascular services, the center has four fully functional cardiac catheterization labs that provide a range of diagnostic and life-saving procedures. These labs are equipped with advanced technologies such as IVUS, FFR, and Rotablator, which assist in the outcome of interventions.

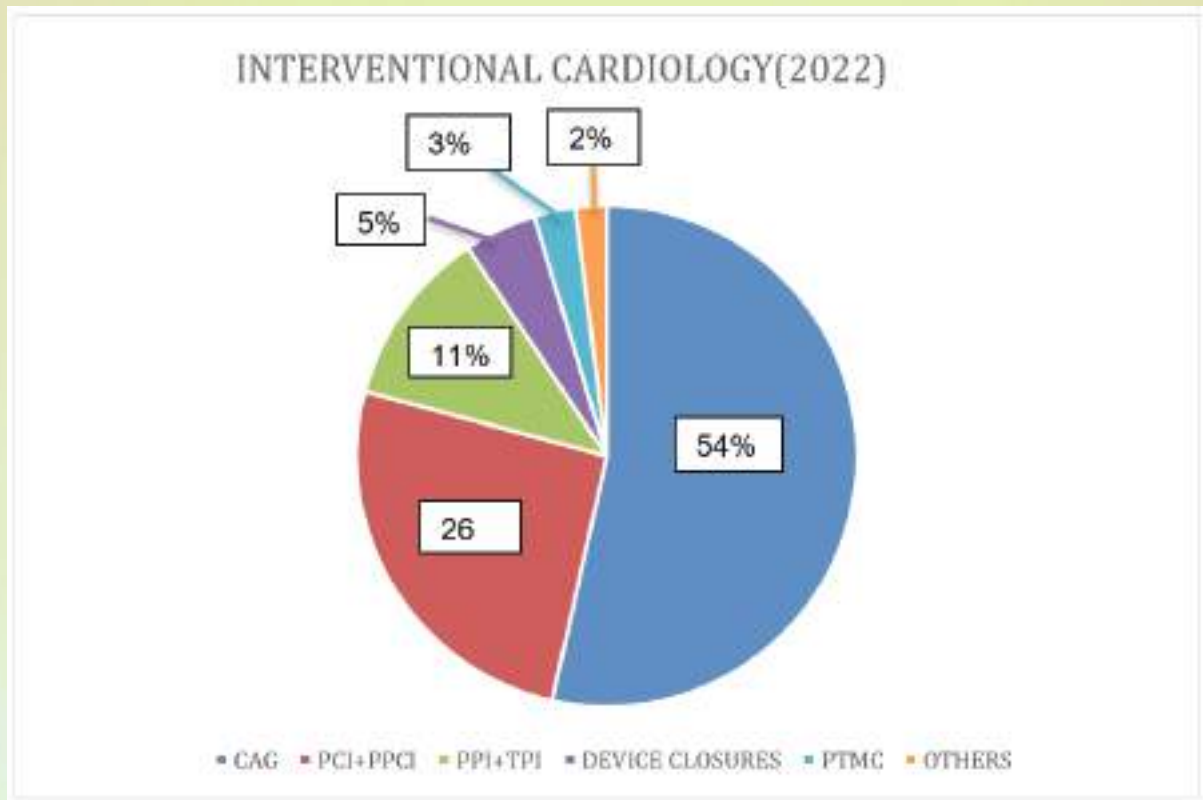
The cardiac catheterization team is highly trained and experienced in performing a wide range of procedures, including emergency coronary interventions (PPCI), BPV, BAV, PTMC, pacemaker insertions, electrophysiological studies, radiofrequency ablations, and structural interventions such as ASD, PDA, and VSD device closures.

Transcatheter Aortic Valve Implantation (TAVI) is a groundbreaking procedure for the treatment of aortic stenosis. Our center is proud to offer TAVI as a treatment option for our patients with aortic stenosis. Our team of experienced interventional cardiologists and cardiovascular surgeons is highly trained in the use of this cutting-edge technology, and we have a track record of successful outcomes for our patients. We are constantly striving to stay at the forefront of cardiovascular care, and the availability of TAVI at our hospital is a testament to our dedication to providing the highest quality of care to our patients.

Overall, the Shahid Gangalal National Heart Center is a vital resource for the diagnosis and treatment of cardiovascular diseases in Nepal and is committed to providing the highest quality of care to patients.

PROCEDURES	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	TOTAL
CAG	337	397	565	457	452	395	517	503	461	362	516	390	5352
PCI 1) ELECTIVE	87	129	163	152	148	146	174	183	138	126	204	186	1836
2) PPCI	76	48	57	62	53	68	59	73	90	48	54	42	730
PPI	40	51	62	52	51	65	55	49	58	23	59	35	600
TPI	45	51	42	46	40	52	43	85	36	29	48	30	547
PTMC	13	9	28	32	16	29	21	41	30	10	14	27	269
ASD	20	25	30	24	20	27	13	39	32	8	30	6	274
VSD	1	2	3	3	0	0	2	2	1	0	2	1	17
PDA	13	13	14	12	5	10	18	28	17	12	15	12	169
BPV	0	3	3	4	7	0	4	3	2	0	5	3	34
PAG	1	2	0	0	0	0	1	1	0	0	1	1	7
PERICARDIOCENTESIS	4	7	6	4	8	4	4	5	2	2	4	6	56
RHC	0	7	5	7	14	1	9	3	6	5	12	5	74
IVUS	2	1	6	2	3	2	2	1	0	0	1	2	22
TAVI	0	1	0	0	0	0	0	3	0	0	2	1	7
TOTAL													9,994

Month-wise demonstration of cardiac intervention





# CARDIAC ELECTROPHYSIOLOGY AND DEVICE IMPLANTATION

Dr. Surachhya Joshi, Dr. Ananda Khanal, Dr. Shova Karki, Dr. Santosh Yadav

## INTRODUCTION

Electrophysiology study (EPS) is performed to evaluate the heart's electrical system and diagnose abnormal heart rhythms known as arrhythmias. Radiofrequency ablation (RFA) destroys a small area of heart tissue that is causing the arrhythmia and helps restore the heart's regular rhythm. EPS+RFA has become a standard practice in treatment of cardiac arrhythmias and 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 in Nepal.

Device implantation is another segment of cardiac management covered by this division. Pacemakers, both single and dual chamber, are regularly being implanted for management of bradyarrhythmias like sinus node dysfunction and atrioventricular block. Device therapy which started with simple 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 meticulously selected patients with heart failure (HF) to improve the efficacy of the heart function and alleviate the symptoms which increases the Quality of Life (QoL) of HF patients.

## SERVICE PROVIDED

EPS+RFA are performed regularly twice a week (Tuesday and Friday), however, device implantation are performed regularly almost all the working days. A total of 313 patients underwent EPS+RFA in 2022 of which 187 were male and 126 female. EPS+RFA was done by conventional 2D method in 312 patients and by 3D mapping in 1 patient. 343 Device



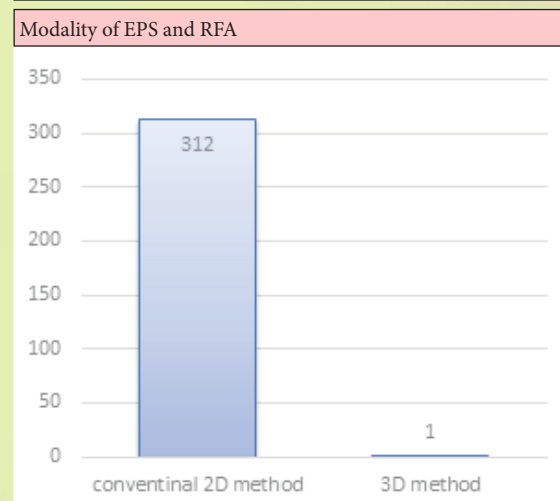
implantation were done in 2022 of which 8 were AICDs, 2 were CRT and remaining were pacemaker implantation (single/dual) including generator changes and lead adjustment.

Like every sector, our service was also affected by COVID 19 pandemic. During the lockdown period for the COVID 19 pandemic, the Electrophysiology study was on hold but the service was immediately restarted when the infection rates came down with all necessary protective measures. Device therapy was continuous even during the lockdown with all necessary protective measures considering the essential nature of the service.

Device Implantation Summary		
Single chamber pacemaker	New Implantation	227
	Generator replace-ment	64
Dual chamber pacemaker	New Implantation	30
	Generator replace-ment	8
Cardiac Resynchronization therapy (CRT)		2
Automated Implantable Cardioverter Defibrillator (AICD)		8
Pacemaker Lead Readjustment		4
<b>Total</b>		<b>343</b>

EPS+RFA by 3D mapping	
RVOT VT	0
RVOT PVCs	1
Fascicular VT	0
Right Posteroseptal PVCs	0
Parahisian PVCs	0
Parahisian VT	0
Atrial tachycardia	0
Posteroseptal	0
<b>Total</b>	<b>1</b>

EPS+RFA by conventional 2D method			
AVNRT	Typical	137	142
	Atypical	5	
AVRT	Left sided pathway	WPW	96
		Concealed pathway	23
	Right sided pathway	WPW	14
		Concealed pathway	3
	Dual pathway		3
	Parahisian		4
	Septal		12
Atrial Flutter		2	2
Non Inducible Tachycardia(EPS only)		8	8
Relapsed cases		5	5
<b>Total</b>			<b>312</b>



## CONCLUSION

The Division of Cardiac Electrophysiology and Device Implantation, SGNHC has been providing quality service to the patients with arrhythmia in Nepal at an affordable price. Even with the COVID 19 pandemic, the service was continued with all necessary protective measures.



## EMERGENCY SERVICES

Dr. Kartikesh Kumar Thakur, Dr. Sabindra Bhupal Malla, Dr. Sudip Lamsal,  
Dr. Bimal Gyawali, Dr. Prabesh Rajthala

### INTRODUCTION

Emergency department is the part of the hospital that provides 24 hours emergency care to the patients who need urgent medical attention. As patients present without any prior appointment, with any level of severity in the emergency department, the department has to be readily equipped with the proper manpower and equipment to manage the case.

Shahid Gangalal National Heart Center (SGNHC) is well equipped with competent manpower, equipment and recent services to manage the emergency cardiac cases.

This center is well known not only in the capital city but all over the country for its timely and competent management of the cardiac conditions.

### SERVICE PROVIDED

The emergency department in SGNHC is well equipped to deal with cardiac emergency. The hard working dedicated, and well-trained team of doctors, nurses and paramedics are all the time prepared to provide quality healthcare to the patients. Management is timely and is based on the latest guidelines set by ACC/ AHA.

As soon as a patient presents to emergency department, a brief history and ECG is obtained and is immediately interpreted by the cardiologist on duty. ECG, Echocardiography, and relevant blood investigations as per the symptoms are sent. Echocardiography screening is done to every patient who present with cardiac related complaints.

Acute Coronary Syndromes and life-threatening arrhythmias are dealt immediately. All acute ST elevation MI patients are immediately given the options for revascularization if indicated. Those who opt for primary percutaneous intervention (PCI) are immediately transferred to Cath lab to maintain a door to balloon time of 90 minutes. Currently, we have fund for emergency management and primary PCI for the needy patients. So financial issue is less of a concern

at Emergency Department. After initial management and stabilization, the patients are then transferred to CCU or General ward for further treatment.

Patients with life threatening arrhythmia when hemodynamically stable are managed medically. Those who are hemodynamically unstable are electrically cardioverted. Temporary Pacemaker are inserted on emergency basis as per need in cases of bradyarrhythmia and admitted for permanent pacemaker electively.

If the patients present with non-cardiac emergencies like cerebro-vascular disease, respiratory emergencies, Gastrointestinal bleeds, and many others. Such cases after initial acute management and thorough counselling are referred to respective centers for specialist care without delay.

### **Emergency department Census for the year 2022**

Total attendance	18123	
Male	10126	55.87%
Female	7997	44.13%
Admission	7172	39.57%
Discharge	9118	50.31%
Referral	1296	7.15%
Left against medical advice (LAMA)	266	1.46%
Discharge on request (DOR)	172	0.94%
Mortality	41	0.22%
Death on Arrival	51	0.28%
Absconded	2	0.01%

Table 1: Total ER attendance of 2022

Disease/ illness	Total number	%
Hypertension	3411	18.82
CAD (STEMI/NSTEMI/ Unstable Angina)	3209	17.70
Rheumatic/Valvular heart disease	1618	8.92
Non cardiac chest pain	1114	6.14
Respiratory illness	1185	6.53
Dilated cardiomyopathy/ Ischemic Cardiomy-opathy	1263	6.96
Arrhythmias	1102	6.08
Anxiety disorder	412	2.27
Cerebral vascular disease	232	1.28
Congenital heart disease	423	2.33
Pericardial disease	211	1.16
Vascular disease	96	0.52
Supratherapeutic INR	212	1.16
Others	3635	20.05

Table 2: Provisional diagnosis/ Disease distribution in 2022



## MEDICAL WARD

Subodh Sharma, Kavindra Thapa, Rakshya Aryal, Nirmal Ghimire, Bibek Baniya, Deepak Limbu

### INTRODUCTION

Owing to the increasing number of patients in Shahid Gangalal National Heart Centre, the medical ward has been on continuous expansion. The medical ward receives patients via direct admission from OPD, Emergency departments, Pre/Post-caths, referrals from surgery and steps down from CCU. Medical wards are continuously re-innovated to provide the utmost quality services to needy people.

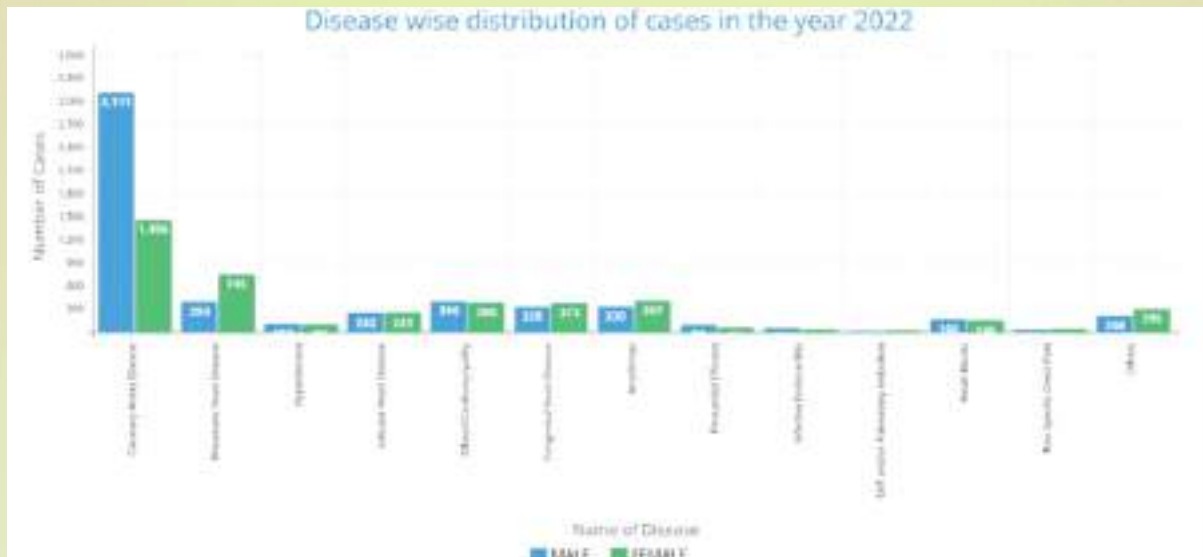
Medical wards are under the continuous supervision of assigned respective unit doctors, resident doctors, registrar cardiologists, nursing staff, and attendants around the clock.

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, Hypertension, Valvular Heart Disease, Dilated Cardiomyopathy, Congenital Heart Diseases, Arrhythmias, Pericardial Effusion, Infective Endocarditis, DVT and/or Pulmonary embolism, Heart Blocks, Non Specific Chest Pain and Others. Gender-wise Disease prevalence among patients admitted to medical wards in the year 2022 is shown in the table below.

DISEASES WISE DISTRIBUTION OF CASES IN THE YEAR 2022					
S. No.	Name of Diseases	No. of cases			% of Total
		Male	Female	Total	
1.	Coronary Artery Disease	3111	1456	4567	46.98
2.	Rheumatic Heart Diseases	393	745	1138	11.70
3.	Hypertension	102	93	195	4.96
4.	Valvular Heart Disease	242	241	483	11.70
5.	Dilated Cardiomyopathy	396	380	776	7.98
6.	Congenital Heart Diseases	328	373	701	7.21
7.	Arrhythmias	330	397	727	7.47
8.	Pericardial Effusion	94	58	152	1.56
9.	Infective Endocarditis	55	29	84	0.86
10.	DVT and/or Pulmonary embolism	07	14	21	0.21
11.	Heart Blocks	160	148	308	3.16
12.	Non Specific Chest Pain	29	37	66	0.67
13.	Others	208	295	503	5.17
Total		5455	4266	9721	100



## CONCLUSION

As shown in the table, Coronary Artery disease was the most prevalent disease amongst the patient admitted to the medical ward (46.98%), followed by Rheumatic Heart diseases(11.70%), Valvular Heart diseases(11.70%), Dilated Cardiomyopathy(7.98%) and Arrhythmias (7.47%). This year, the number of patients with Congenital heart disease (7.21%) has increased in comparison to the past years in our centre. Given the increased number of patients, we are likely to expand medical wards in years to come.



## CRITICAL CARE UNIT (NON CORONARY)

Dr. Kshitiz Mehta, Dr. Anupam Bista, Dr. Md. Sajjad Safi, Dr. Sanjaya Singh KC

### INTRODUCTION

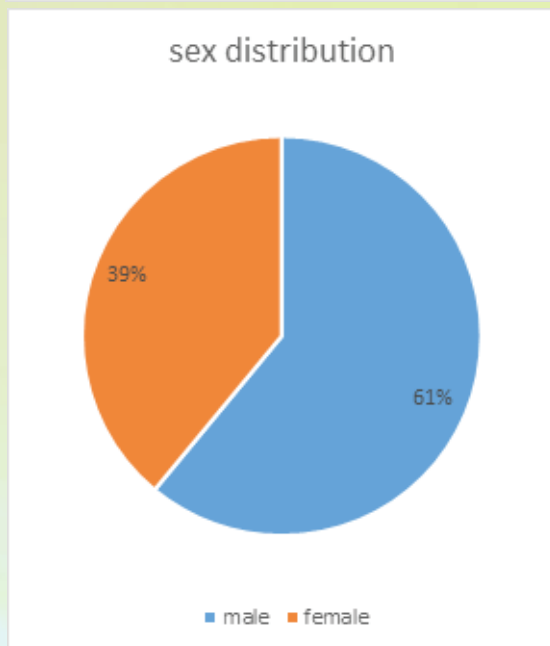
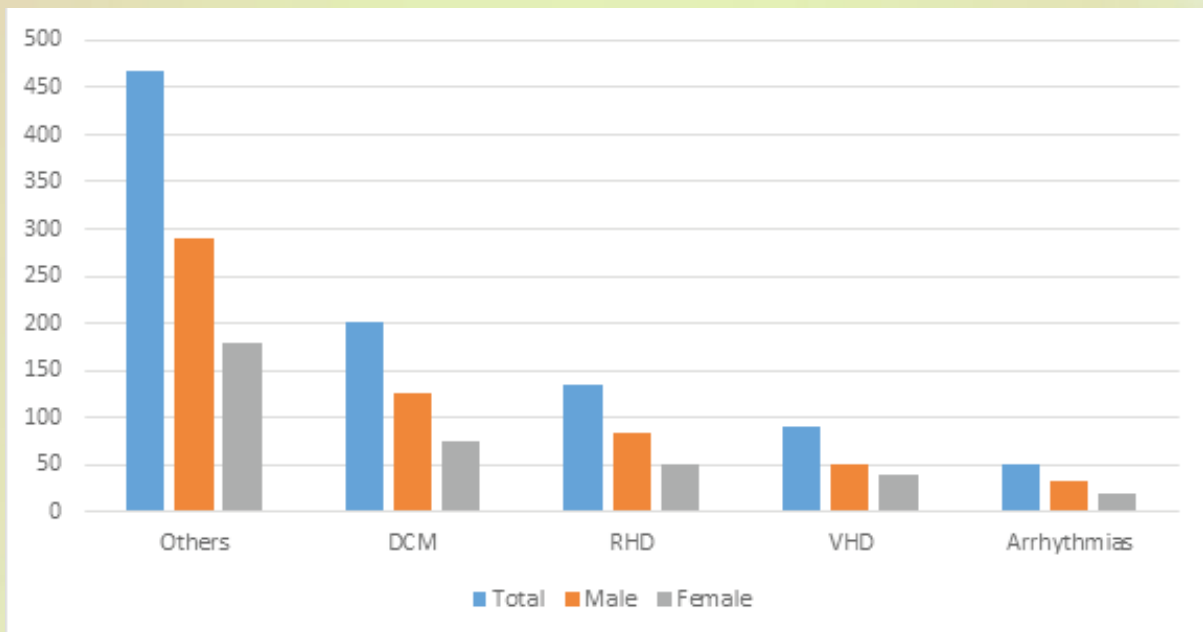
Medical ICU was established at our center on August 2002. The primary aim of this unit since its establishment, was to care for patients with cardiac failure of various etiologies. Critically ill cardiac patients with other comorbidities like CKD, Stroke and sepsis were also admitted in this patient. Medical ICU has round the clock duty of medical officer and efficient staffs trained in critical care, supported with senior resident and registrar. The department of Anesthesia has also helped to managed the cases in Medical ICU.

### SERVICES PROVIDED

With the number of beds in CCU has increased, currently the total number of beds in CCU is 45. This year total of 3975 patients were admitted in critical care unit. Out of which 942 were non coronary patients. The male and female proportion of non-coronary cases were 581 (61%) and 361 (39%) respectively. The pattern of diseases with which the patients were admitted ranged from chronic illnesses like COPD, CKD, Cardiomyopathies and Rheumatic heart diseases. The most common cause of admission to CCU was Acute Coronary Syndrome with or without intervention (76%). Dilated cardiomyopathies with various etiologies (idiopathic, ischemic, peripartum) was another leading cause of CCU admission with almost 21% of total non-coronary cases. These patients were mostly admitted due to acute decompensated heart failure which were treated with supplemental oxygen, intravenous diuretics and inotropic support. RHD including post mitral valve replacement, aortic valve replacement and stuck valve was another common illness leading to CCU admission (14%). Non rheumatic valvular heart disease is also common entity for CCU admission (9%). Admission due to other diseases

accounts for 49% of total non-coronary admissions in CCU. These includes arrhythmias (5%) including complete heart block, pericardial disease, pulmonary embolism, adult congenital heart disease, sepsis and primary respiratory illness like acute exacerbation of COPD, asthma, pneumonia.

We have our primary physicians as well as trained cardiologists, DM Residents and FCPS Residents to make decisions regarding management in such situations. We also have facilities to take frequent bedside superspeciality consultations (Nephrology, Neurology, Endocrinology, Neurosurgery, Pulmonology etc) for better patient care. We also have facility of inter hospital referrals as and when required for better patient care and management. Our CCU services also give opportunity for poor patients who require prolonged CCU management in the form of charity fund and drugs which are supplied from the Jayanti trust and Bridging the gap project.



### CONCLUSION

With this year's challenge has been done. CCU has and will be working with the same spirit in the patient management. The expanded CCU is very helpful in managing increasing number of patients.

## Diagnostic and Therapeutic Interventions in Structural Heart Diseases

Dr Poonam Sharma

Structural heart disease is a non-coronary disease condition involving the heart valves or chambers which may be congenital, acquired or both. Although usually present at birth, many of these conditions can occur later in life due to infection, wear and tear of aging and presence of any underlying condition. 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 commoner. 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. 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 2022 in catheter interventions in structural heart disease in the hospital.

INTERVENTION	Less than 15 yrs of age	More than 15 yrs of age
PDA DEVICE CLOSURE	144	18
ASD DEVICE CLOSURE	57	233
VSD DEVICE CLOSURE	16	
AP WINDOW DEVICE CLOSURE	2	
CORONARY ARTERY FISTULA OCCLUSION	1	
MAPCA COILING	2	
RHC/LHC	105	18
BPV	40	4
PTMC	7	251
BAV	10	
COA BALLONING	5	
COA STENTING	3	
PDA STENTING	9	
BALLOON ATRIAL SEPTOSTOMY	2	
TAVR		7
TOTAL	403	

Table 1 : No of Cath procedure for Structural heart disease in the year 2022



Note: PDA: patent ductus arteriosus, ASD: atrial septal defect, VSD: Ventricular Sptal defect, AP: aortopulmonary, MAPCA: multiple aorto pulmonary collaterals, RHC/LHC: right/left heart catheterization, BPV: balloon pulmonary valvulotomy, PTMC: percutaneous transcatheter mitral commissurotomy, BAV: balloon aorto valulotomy, COA: coarctation of aorta, BAS: Balloon atrial septostomy, TAVR: Transcatheter aortic valve replacement

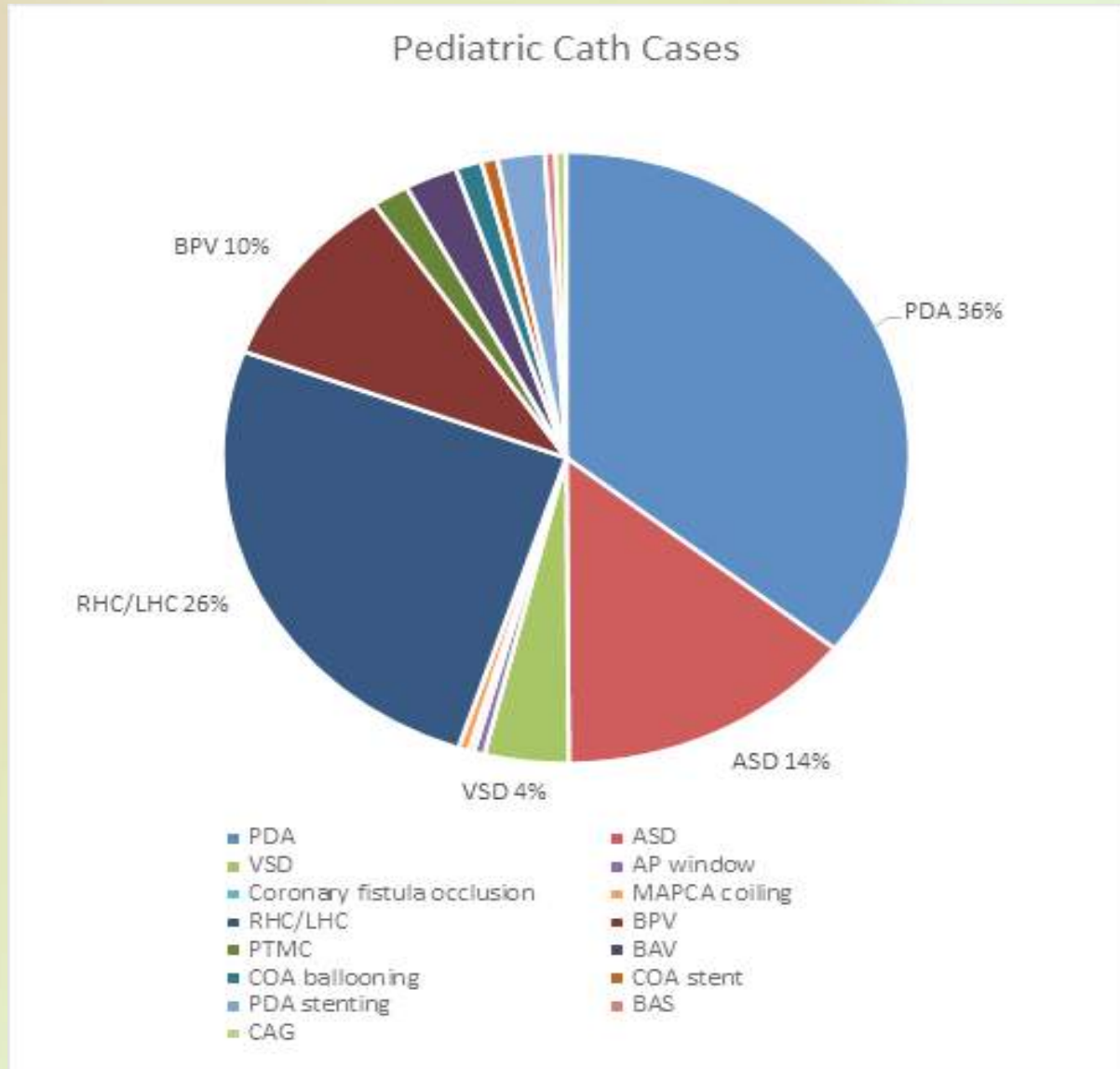


Fig 1 : Case distribution of transcatheter intervention in pediatric department 2022.

Over the past few years there has been significant increase in the number of transcatheter interventions in structural heart disease in SGNHC. These interventions have offered alternative treatment options to the patients who cannot undergo surgery due to various underlying conditions. This has also reduced the morbidity, provided faster recovery with negligible complications and pain.



## PATHOLOGY/CLINICAL LABORATORY SERVICES

Dr.Prahar Dahal

### INTRODUCTION

Clinical laboratories are considered an indispensable and fundamental component of the health system and contribute directly to the improvement of health services delivery. More than 70% of medical decisions today are based on diagnostic reports. The main objective of the laboratory medicine has been to provide meaningful, accurate results for risk assessment, diagnosis of conditions, follow up and monitoring of treatment of patients.

### ABOUT US

Calibrated and precise diagnosis is an integral element for trouble free medical/ surgical management of patient population, having said that our establishment and efforts are exclusively customer driven. Our multidisciplinary team goes above and beyond the call of duty from highest quality, accuracy to offering exceptional customer satisfaction right from venipuncture. In addition to our latest innovative technology and information systems which offer best reversion time, our services are highly affordable and safe providing impeccable patient experience. Similarly, The Laboratory Information System (LIS) module assists the user in handling all the activities of a clinical laboratory in the hospital and facilitates extensive sample tracking and maintenance of complete result history.

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

1. Fully automated 5-part and 3-part hematology analyzer
2. Fully automated and semi-automated coagulation analyzer
3. Fully automated liquid biochemistry analyzer - 3
4. CLIA based automated immunoassay analyzer- 3
5. Fully automated electrolyte analyzer -2

6. Fluorescence immunochromatographic semiautomatic analyzing system
7. Bactec Automated Blood Culture System
8. Blood bank with automated component separator and gel card centrifuge
9. Molecular biology section with Real Time PCR Machine and automated RNA extraction system.

## INVESTIGATIONS AVAILABLE

1. Hematology: Complete Blood Count, Peripheral Blood Smear Examination
2. Coagulation Assay: BT,CT,PT,APTT
3. Blood Bank: Blood Grouping and Cross-matching
4. Biochemistry: Sugar (F/PP/R), Liver Function Test (LFT) ,Renal Function Test (RFT), Lipid Profile Test, Amylase, Calcium
5. Immunology: RA, ASO, CRP, Quantitative CRP, WIDAL
6. Hormonal assay : Thyroid Function Test
7. Serology: HIV,HCV, HBsAg and VDRL.
8. Cardiac Enzymes: CPK, CPK-MB, Troponin I
9. Other Special Test: HBA1C, NT-ProBNP, Procalcitonin, D-dimer, HsCRP, Iron Profile, H.Pylori Antigen/Antibody, Microalbumin Urine
10. Infectious Panel : Rapid test for Dengue, Malaria, Leishmania, Brucella, Leptospira, Scrub typhus, Tuberculosis

## HUMAN RESOURCES

1. Pathologist:1
2. Senior Laboratory technologist:1
3. Laboratory Technologist:2
4. Senior Laboratory Technician:4
5. Laboratory Technician: 15

Department	Male	Female	Total
Bacteriology	1018	717	1735
Biochemistry	466346	351678	818024
Blood Bank	6766	3470	10236
Coagulation Assay	14176	16291	30467
Hematology	162471	118550	281021
Immunology	15066	14397	29463
Parasitology	10588	9415	20003
Molecular Biology	5819	4908	10727
Serology	31569	16216	47785
<b>Grand Total</b>	<b>713819</b>	<b>535642</b>	<b>1249461</b>

Table: Total Test Count

## FUTURE PLAN

1. Expansion of Clinical lab and separation of Emergency and OPD laboratory.
2. Expand and upgrade blood bank and microbiology unit.
3. To start Histopathology, Cytopathology and Bone marrow studies.

# RADIOLOGY SERVICES

Mr. Indesh Thakur

## INTRODUCTION

Radiology, a specialized branch of medical science, is a fastest growing medical imaging field throughout the world. It is the backbone of any medical facility. It is an indispensable diagnostic tool without which no medical treatment can be successfully bestowed. It deals with the study and application of ionizing radiations like X-rays and non-ionizing radiations like radio waves and others like ultra sound and magnetic field to diagnose and treat various diseases. Various imaging technology like Ultrasound, Computed/Digital Radiography, Computed Tomography, Magnetic Resonance Imaging, Nuclear Medicine Imaging, Positron Emission Tomography 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 can be traced back to the establishment of our reputed Shahid Gangalal National 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 the 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 radiologic services.

## PRESENT CONTEXT

With the increasing charm of medical imaging technology, Radiology Department in SGNHC has provided its services with 640 slice CT Scanner, 3 T MRI scanner, USG and Digital Radiographic systems like DR and CR for both OPD and IPD patients. We have started to provide Cardiac MRI services, the first of its type in Nepal, from October 20, 2021 and till date, we have done more than 500 cardiac MRI examinations and more than 300 non-cardiac MRI examinations in full swing. CT coronary angiography examinations have already gained popularity all over Nepal for quality CT scans and till date, we have performed more than 7,500 CT coronary angiograms in just four years of its inauguration. At present, the Radiology Department is equipped with the following advanced equipment:

1. 640 slice CT Scanner-1 (the one and only such modality available in Nepal)
2. 3 T MRI Scanner-1 (the one and only such scanner available in Government hospital of Nepal)
3. USG machine-2

4. DR systems-2
5. CR systems-2
6. Mobile x-ray machines-3
7. Dry Laser Imagers-4

## HUMAN RESOURCES

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

- 3- Radiologists,
- 3- Senior Radiography Technologists,
- 2- Radiography Technologists,
- 4- Senior Radiographers,
- 10 -Radiographers,
- 1-Senior dark room operator,
- 2- Radiologic Nurses,
- 2- Attendants

Total of 27 members.

Radiologic Technologists and Radiographers also play a vital 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 advanced USG, mobile DR systems, NMII modalities and advanced C-arm digital fluoroscopy system to provide all kinds of confirmatory diagnostic and interventional radiologic services to our patients.

## RADIATION SAFETY MEASURES

We strive to create the safest environment for our patient by implementing technology that significantly reduces radiation exposure to patient as well as staffs. All the means of radiation protection especially in Cath Lab 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. All the radiation workers are provided with TLD (Thermo-luminescence Dosimeter) that are periodically processed and doses are evaluated with Dose limit recommended by ICRP (International Commission on radiation Protection). There is a Radiation Monitoring Co-ordination Committee (RMCC) in our department which look after all the safety measures that are to be followed and comprises of 2 Senior radiologic technologists and 1 Senior radiographer lead by the In-charge.

## MISSION

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

## CONCLUSION

Radiology service here in SGNHC is a well established medical service with highly trained and competent technical manpower to provide all kinds of quality general radiography ,CT scan, MRI scan, USG and interventional services along with well equipped modern imaging modalities.

### STATISTICAL DATA OF RADIOLOGICAL EXAMINATIONS OF THE YEAR, 2022

#### CT SCAN

EXAMINATIONS	MALE	FEMALE	TOTAL
CT ABDOMEN CONTRAST	7	14	21
CT ABDOMEN PLAIN/KUB	9	5	14
CT ABDOMEN/PELVIS	3	0	3
CT ANGIGRAM CAROTID	8	4	12
CT ANGIOGRAM ABDOMEN	0	3	3
CT ANGIOGRAM AORTA	176	85	261
CT ANGIOGRAM PERIPHERAL	9	1	10
CT ANGIOGRAM PULMONARY	355	221	576
CT ANGOGRAM CORONARY	26	22	48
CT ANGOIGRAM PERIPHERAL	5	0	5
CT ANY JOINT PLAIN	1	0	1
CT CALCIUM SCORING	55	21	76
CT CEREBRAL ANGIO / PERFUSION	1	0	1
CT CEREBRAL VENOGRAM	1	0	1
CT CHEST + ABDOMEN CONTRAST	16	8	24
CT CHEST CONTRAST	73	39	112
CT CHEST HRCT	49	40	89
CT CHEST PLAIN	25	11	36
CT CORONARY ANGIOGRAM	1380	1052	2432
CT HEAD CONTRAST	8	14	22
CT HEAD AND NECK CONTRAST	0	1	1
CT HEAD PLAIN	248	229	477
CT HRCT TEMPORAL BONE	2	0	2
CT IVU	5	0	5
CT NECK CONTRAST	2	0	2
CT PNS / ORBIT / FACE CONTRAST	1	0	1
CT PNS AXIAL + CORONAL	1	0	1
CT PNS/ORBIT/FACE/PLAIN	1	0	1
CT RENAL ANGIOGRAM	4	1	5
KNEE/ANKLE/SHOULDER JT P+C	0	1	1
RENAL ANGIOGRAM	0	1	1
TOTAL CT SCAN	2471	1773	4244

## MRI

EXAMINATIONS	MALE	FEMALE	TOTAL
CARDIAC MRI ROUTINE +MAPPING	255	102	357
CARDIAC MRI ROUTINE	0	2	2
CARDIAC MRI ROUTINE +PERFUSION/VIABILITY STUDY	89	23	112
MRI ABDOMEN CONTRAST	0	3	3
MRI ABDOMEN PLAIN	1	3	4
MRI ABDOMEN ROUTINE +MRCP	0	1	1
MRI ANKLE JOINT	5	2	7
MRI BRAIN CONTRAST	4	2	6
MRI BRAIN ROUTINE	38	10	48
MRI BRAIN ROUTINE + ANGIO(MRA/MRV)	2	2	4
MRI BRAIN ROUTINE + PNS	1	0	1
MRI BRAIN ROUTINE +ORBITS	0	1	1
MRI BRAIN ROUTINE +PERFUSION STUDY	1	0	1
MRI BRAIN ROUTINE WITH STROKE/SEIZURE/EPILEPSY PROTOCOL	3	2	5
MRI BRAIN STUDY +PITUITARY FOSSA	2	0	2
MRI BREAST CONTRAST	1	0	1
MRI C SPINE +BRACHIAL PLEXUS	1	0	1
MRI CERVICAL SPINE	8	7	15
MRI DOUBLE ORGAN PLAIN	2	2	4
MRI ELBOW JOINT	2	0	2
MRI KNEE JOINT	10	4	14
MRI LUMBAR SPINE	24	11	35
MRI NECK/THYROID GLAND/SALIVARY GLAND	2	1	3
MRI PELVIS OBSTERICS	0	2	2
MRI PELVIS/PROSTATE/RECTUM/UTERUS/ OVARIES PLAIN	2	0	2
MRI PELVIS/PROSTATE/RECTUM/UTERUS/ OVARIES PLAIN CONTRAST	0	2	2
MRI SHOULDER JOINT	3	5	8
MRI SINGLE ORGAN SCREENING	2	5	7
MRI SINGLE ORGAN CONTRAST	0	1	1
MRI SINGLE ORGAN PLAIN	5	1	6
MRI THORACIC SPINE	1	0	1
MRI WHOLE BODY	2	0	2
MRI WHOLE SPINE CONTRAST	1	0	1
MRI WHOLE SPINE PLAIN	1	5	6
MRI WHOLE SPINE SCREENING	0	2	2
MRI WRIST JOINT	1	0	1
MRS	1	0	1
<b>TOTAL MRI</b>	<b>470</b>	<b>201</b>	<b>671</b>

**USG**

EXAMINATIONS	MALE	FEMALE	TOTAL
B/L LOWER LIMB VENOUS DOPPLER	39	22	61
BILATERAL LIMB ARTERIAL DOPPLER	372	77	449
BILATERAL LIMBS VENOUS DOPPLER	28	19	47
CAROTID DOPPLER	567	234	801
RENAL DOPPLER	185	65	250
SINGLE LIMB ARTERIAL DOPPLER	41	39	80
SINGLE LIMB VENOUS DOPPLER	56	45	101
UMBILICAL ARTERY DOPPLER	6	0	6
USG abdomen / Pelvis	1715	1326	3041
USG SMALL PARTS (THYROID/BREAST/MUSCULO-SKELETAL)	68	58	126
DIGITAL X-RAY EXAMINATIONS	32210	27024	59234





# MRI

IndeshThakur (Senior RT)

## INTRODUCTION

MRI stands for Magnetic Resonance Imaging and MRI in short form. MRI is a medical imaging technique and a type of scan that uses a strong magnetic field, magnetic field gradients, radio waves and a computer to create detailed, cross-sectional images of internal organs and structures of the body. An MRI scan differs from CT scans and X-rays, as it does not use potentially harmful ionizing radiation. An MRI scanner or machine contains a large powerful magnet with a tunnel through the middle where the patient lies on a movable bed.

## USES

An MRI scan can be used to examine almost any part of the body, including the:

- Brain and spinal cord
- Bones and joints
- Breasts
- Heart and blood vessels
- Spines
- Internal organs, such as the liver, pancreas, kidney, Adrenal gland, womb or prostate gland etc.

The above list is by no means exhaustive. The use of MRI technology is always expanding in scope and use. The results of an MRI scan can be used to help diagnose a variety of medical conditions, plan treatments and assess how effective previous treatment has been.

## TYPES OF MRI SCANNER

A magnetic resonance imaging (MRI) machine is a sophisticated medical imaging and diagnostic device. In the past, all MRI machines not only worked the same, but also looked the same. Today, though, there are three different types of MRI scanners available to patients.

### 1. Traditional Closed MRI Scanner

A closed MRI machine is a large tube that a patient lies in. This style of scanner almost always produces images that are of very high quality. This machine can cause a patient who is claustrophobic to panic. The small opening size of some closed MRI machines means that obese patients simply cannot be scanned.

### 2. Open MRI Scanner

In an effort to allow claustrophobic patients more comfort and to allow obese patients to be scanned, the open MRI machine was developed. But, image quality is not as good as in closed MRI machine.

### 3. Standing or Sitting MRI Scanner

Comfort is a very important part of patient care. The desire to increase comfort led to the development of MRI machines that allow patients to stand or sit. While these machines help with patient comfort, they currently don't provide a good image quality. Right now, they are only useful in very specific circumstances

## HOW TO PREPARE FOR AN MRI SCAN

On the day of your MRI scan, you should be able to eat, drink and take any medication as usual, unless you're advised otherwise. In some cases, you may be asked not to eat or drink anything for up to 4 hours before the scan, and sometimes you may be asked to drink a fairly large amount of water beforehand. This depends on the area being scanned. When you arrive at the hospital in the MRI section of Radiology department, you'll usually be asked to fill in a questionnaire about your health and medical history. This helps the MRI technologist to ensure you have the scan safely. As the MRI scanner produces strong magnetic fields, it's important to remove any metal objects from your body. These include:

- Watches, Credit/Debit cards, Metallic Belt/Zipper, electronic device,
- Jewellery, such as earrings and necklaces,
- Piercings, such as ear, nipple and nose rings
- Dentures (false teeth)
- Hearing aids
- Wigs (some wigs contain traces of metal)

MRI scan is contraindicated in the following implanted devices unless the concerned doctors provide information about the MRI compatibility of the devices and guarantee the scan to be

performed in written form. Some of these cases are :

- Cardiac pacemaker or pacemaker wires
- ICD
- Spinal cord stimulator
- Cochlear, Otologic or Ear Implant
- Coronary/Cardiac stent
- Artificial Heart Valve
- Endoscopy camera pill
- Coil ,Filter, Wire in blood vessels
- Prosthesis(eye, penile etc)
- Artificial limb/Joint Replacement
- Aneurysm Clip
- Pessary or Blader ring
- Venous umbrella
- Any metallic fragment or FB, Radiation seeds or Implants
- Bone /Joint pin, Screw, Nail, Wire, Plate etc.
- Surgical staples, Clips or Metallic sutures, IUD or Diaphragm

Any valuables can usually be stored in a secure locker. Depending on which part of your body is being scanned, you may need to wear a hospital gown during the procedure. If you don't need to wear a gown, you should wear clothes without metal zips, fasteners, buttons, underwire (bras), belts or buckles.

## CONTRAST MEDIUM OR DYE

Some MRI scans involve having an injection of contrast dye. You will have to bring blood urea /creatinine report for that and GFR should be within normal range for contrast enhanced MRI studies. Contrast medium makes certain tissues and blood vessels show up more clearly and in greater detail. Sometimes the contrast dye can cause side effects, such as:

- Feeling or being sick
- Skin rash
- Headache
- Dizziness

These side effects are usually mild and don't last very long and there is no need to worry about.

## ANAESTHESIA AND SEDATIVES

An MRI scan is a painless procedure, so anaesthesia, isn't usually needed. If you're claustrophobic, you can ask for a mild sedative to help you relax. You should ask your doctor well in advance of having the scan. If you decide to have a sedative during the scan, you'll need to arrange for a friend or family member to drive you home afterwards, as you won't be able to drive for 24 hours. Babies and young children may be given a general anaesthesia before having an MRI scan. This is because it's very important to stay still during the scan, which babies and young children are often unable to do when they're awake.

## DURING THE SCAN

An MRI scanner is a short cylinder or tunnel that's open at both ends. You'll lie on a motorised bed that's moved inside the scanner. You'll enter the scanner either head first or feet first, depending on the part of your body being scanned. In some cases, a Radiofrequency (RF) coil may be placed over the body part being scanned, such as the head or chest or abdomen. This coil contains receivers that pick up the signals sent out by your body during the scan and it can help to create a better-quality image. A computer is used to operate the MRI scanner, which is located in a control console room to keep it away from the magnetic field generated by the scanner.

The MRI technologist operates the MRI machine for the requested body part examination. But you'll be able to talk to MRI technologist, usually through an intercom, and he or she 'll be able to see you at all times on a television monitor.

A friend or family member may be allowed to stay with you while you're having your scan. Children can usually have a parent with them. They'll also have to follow the same guidelines regarding clothing and the removal of metallic objects.

The MRI scanner will make loud tapping noises at certain times during the procedure. This is the electric current in the scanner coils being turned on and off. You'll be given earplugs or headphones to wear. You're usually able to listen to music through headphones during the scan if you want to, and in some cases you can bring your own CD. You'll be moved out of the scanner when your scan is over.

## AFTER THE SCAN

An MRI scan is usually carried out as an outpatient procedure. This means you won't need to stay in hospital overnight. After the scan, you can resume normal activities immediately. But if you have had a sedative, a friend or relative will need to take you home and stay with you for the first 24 hours. It's not safe to drive, operate heavy machinery or drink alcohol for 24 hours after having a sedative.

Your MRI scan needs to be studied by a radiologist and possibly discussed with other specialists. This means it's unlikely you'll get the results of your scan immediately. For the results of an MRI scan to come through, you will have to contact report dispatch section of the radiology department.

## HOW LONG WILL AN MRI SCAN TAKE?

MRI scans vary from 15 to 90 minutes, depending on the size of the area being scanned and how many images are required. If, after the first MRI scan, the images are not clear enough for the radiologist, MRI technologist may ask the patient to undergo a second scan straight away.

## CAN A PREGNANT WOMAN HAVE AN MRI SCAN?

Unfortunately, there is no simple answer. Let a doctor know about the pregnancy before the scan. Typically, doctors do not recommend contrast material for women who are pregnant. MRI scans should be restricted during the first trimester unless the information is considered essential. MRI scans during the second and third trimester are safe at 3.0 Tesla (T) or less. The Tesla is a measurement of magnetic field strength. The guidelines also state that exposure to MRI during the first trimester is not linked to long-term consequences and should not raise clinical concerns.

## SOME FACTS ABOUT MRI

1. The concept of MRI was first conceived by Isidor Rabi, a physics professor at Columbia University in 1937. The MRI we know today was developed in 1973.
2. Originally, the MRI was called nuclear magnetic resonance (NMR). The term was changed to MRI because of the presumed negative connotation of the word “nuclear.”
3. The first successful MRI scan performed on a live human patient was performed on July 3rd, 1977.
4. By the 1980s, MRI scanners became available commercially, allowing many health care facilities across the world to take advantage of this new method.
5. In 2010, researchers in Berlin examined a live birth in an MRI machine in an attempt to better understand the relationship between the pelvis and fetus during childbirth. The researchers stopped the machine before the baby was fully delivered so its ears wouldn't be harmed by the MRI scanner's noise.
6. Japan has the highest number of MRI units per capita, with 43.1 units per million people. The United States comes in second place with 25.9 MRI units per million population.
7. 1980s saw the emergence of 1.5 T MRI scanners for clinical use where as in 2002, 3 T scanners won approval.
8. First 7 T research scanner began to emerge in 1999 and 11.7 T MRI scanner for brain study has already been started from May, 2022 in France. The world's most powerful research MRI scanner sits in the US National High Magnetic Field Laboratory with 21.1 T strength.
9. The main magnet in an MRI can create a magnetic field that is one to four thousand times stronger than the earth's magnetic field.
10. The magnets used in MRI scanners must be cooled to a temperature of absolute zero. This cooling is typically done with liquid helium.
11. Unlike X-ray or CT scans, MRI scan does not use ionizing radiation. This makes MRI a popular alternative to scans that do use radiation.
12. MRI machines are calibrated in Tesla unit. Nikola Tesla is associated with the discovery of the rotating magnetic field.



## PHARMACY SERVICE

Madhu Giri

Hospital pharmacy is the department of the hospital to manage the procurement, storage, preservation, packaging, compounding, preparation, dispensing or distribution of medicine in the hospital. The practice of pharmacy within the hospital under the supervision of a professional pharmacist is known as hospital pharmacy. Shahid Gangalal National Heart Centre has its own hospital pharmacy. The hospital has its own pharmacy committee responsible for management of pharmacy. Most of the medicine and surgical products required in hospital are available in the pharmacy. Hospital pharmacy has three units: indoor pharmacy, pharmacy store and outdoor 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 pharmacist, two pharmacists, one senior pharmacy assistant, seven pharmacy assistants, two senior health assistants and two health assistants.

### WORKING HOURS

Indoor Pharmacy : 24 hours

Outdoor pharmacy: 12 hours

Store and ward supply pharmacy: 8 hours

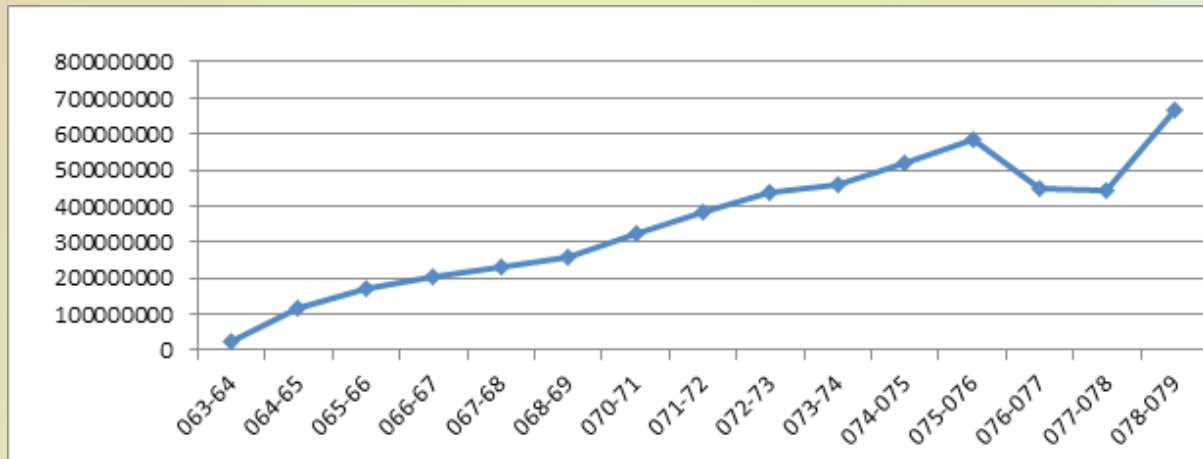
### ACTIVITIES PERFORMED IN HOSPITAL PHARMACY

- 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, our 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
- Adverse drug event reporting and implementation of safe medication practice

# PHYSIOTHERAPY SERVICES

Physiotherapy Team

## INTRODUCTION

Physiotherapy unit being an integral part of department of preventive cardiology and cardiac rehabilitation in SGNHC have been providing high quality and good physiotherapy services. Physiotherapy is located on the 2nd floor room no.170 at OPD building.

Physiotherapy is a well-established branch of medical science being practiced globally. It is a scientific physical procedure used in the treatment of patients with a disease, injury or disability to achieve and maintain functional rehabilitation and to prevent malfunction or deformity. Physiotherapy treatments are designed to minimize residual physical disability, to hasten convalescence, and to contribute to the patient's comfort and well-being.

It gives immense pleasure to inform you all that, SGNHC is the only national heart center which is running cardiac rehabilitation exercise program in physiotherapy unit.

## 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. 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 unit provides physiotherapy services to all the general medical and surgical conditions which require physiotherapy treatment however 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. It has also been running various programs like fitness program for staff, fitness program for patients with hypertension, obesity, dyslipidemia and diabetes mellitus via cardiac rehabilitation program.

STATISTICAL DATA OF THE YEAR 2022 (2078/ 2079 B.S)

In-patient	Out-patient	Cardiac Rehabilitation (In-patient)	Total
4928	85	139	5152



Months	No. of In-patients	No. of patient enroll in Cardiac rehabilitation	No. of Out Patients
JANUARY-2022 (Poush-Magh 2078)	298	7	27
FEBURARY-2022 (Magh-Falgun 2078)	268	31	15
MARCH-2022 (Falgun-Chaitra 2078)	462	14	26
APRIL-2022 (Chaitra-Baisakh2078/79)	408	7	6
MAY-2022 (Baisakh-Jestha 2098)	468	4	1
JUNE-2022 (Jestha-Ashad 2079)	502	10	3
JULY-2022 (Ashad-Shrawn 2079)	430	8	2
AUGUST-2022 (Shrawn-Bhadra 2079)	418	10	4
SEPTEMBER-2022 (Bhadra-Ashoj 2079)	320	11	Nil
OCTOBER-2022 (Ashoj-Kartik 2079)	422	13	Nil
NOVEMBER-2022 (Kartik-Mangsir 2079)	470	11	1
DECEMBER-2022 (Mangsir-Poush 2079)	462	13	Nil

## FUTURE PLAN

- Extending physiotherapy services based on new evidence practice.
- Adding skilled manpower.
- Provide safe and reliable physiotherapy service to the patients in the hospital.
- Form a good cardiac rehabilitation team.
- Deliver community exercises programs via camps organized by SGNHC.
- Enforce exercise prescription for cardiac rehabilitation patients.
- Research activities on effectiveness of various exercise protocol.
- Awareness about importance of physiotherapy services through workshop and continue physiotherapy education program.

## CONCLUSION

Physiotherapy unit at SGNHC has been playing a vital role in the prevention, management and rehabilitation program of cardiac patients. However, it also renders its services to other general medical and surgical conditions requiring physiotherapy treatments. Despite of less manpower, physiotherapy service has been running its services smoothly. Hence we would like to thank all the departments, units and the staffs for their constant support and encouragement. We hope that the hospital administration increases the manpower to improve our services and also hope to get the more referrals for cardiac rehabilitation exercise program in upcoming days. We would also like to thank our patients and their relatives for their cooperation and believing us.

# ANNUAL MORTALITY: 2022

Dr Nikosh Kunwar, Dr Prinsa Shrestha, Dr Den Prasad Acharya, Dr Ravi Shahi,  
Dr Prashant Bajracharya

## INTRODUCTION

Nepal is facing double burden of communicable and noncommunicable disease like many South East Asian Countries and LMICs. There is trend towards increasing prevalence of non-communicable diseases. Among NCDs, cardiovascular diseases have high prevalence associated with high morbidity and mortality. Increase in life expectancy along with increase in risk factors for NCDs are keys to the increasing burden of Cardio-vascular diseases (CVDs). Sahid Gangalal National Heart Center (SGNHC) is the national referral center for management of cardiovascular diseases and has significant contribution to the prevention and management of cardiovascular disease and reducing morbidity as well as mortality. However, mortality is not always avoidable or preventable despite best possible care. Annual mortality review will help to introspect the service provided with the hope of improvement in the possible areas of reforms.

## RESULTS

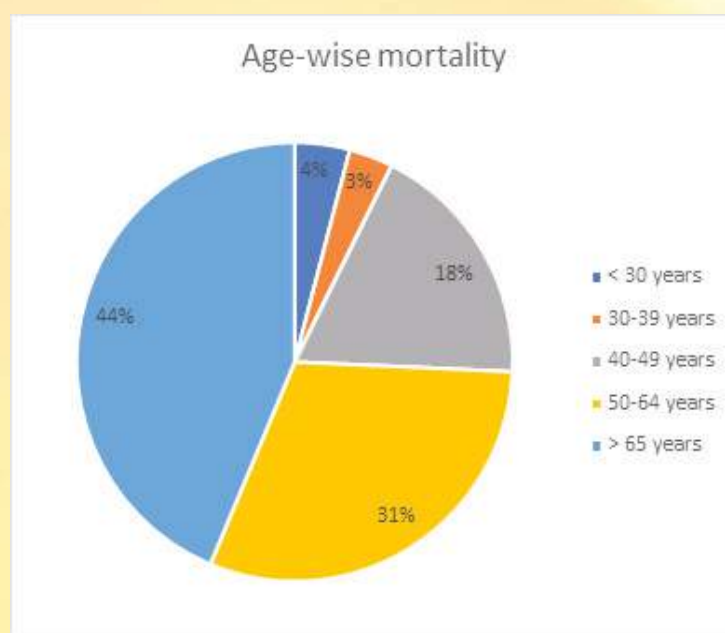
In the year 2022, a total of 10,512 patients were admitted in the SGNHC under cardiology department. Among them 245 patients died. The mortality in different wards is shown in the table no. 1 below. Patients in CCU has highest mortality of 5.7 % among admitted patient. This is largely due to severity of disease in CCU admitted patients

Ward	Total Cases	No of mortality
CCU1	2196	126 (6%)
CCU2	1049	75(7%)
CCU3	757	30 (4%)
PRECATH	742	2(0.2 %)
POSTCATH	657	6 (0.9%)
General Ward A	1952	1 (0.05%)
General Ward B	1690	5 (0.3%)
Single Cabin	905	0
Double Cabin	564	0
Total	10,512	245 (2.33%)

Table no. 1: Mortality in different wards at SGNHC in the year 2022

## Age-wise mortality

The mortality trend at SGNHC shows increasing mortality as the age increases as shown in the figure. Patients age above 65 years have highest mortality of 44%.



Causes of death are shown in the table no. 2. Coronary artery diseases (ACS/CCS) are the leading cause of death followed by heart failure. Other causes being Valvular heart diseases, RHDS, arrhythmias, sepsis, pneumonia, pulmonary embolism.

Diagnosis/cause	No. of deaths	Mortality (%)
CAD (ACS/CCS)	130	53
Heart Failure	35	14
VHD/RHD	31	12.6
Arrhythmia (AF/CHB)	7	3
Sepsis / Pneumonia	6	2
Pulmonary Embolism	4	1.6
Stroke	4	1.6
COPD	4	1.6
Infective Endocarditis	3	1.2
Stuck Valve	2	0.8
Aortic Dissection	2	0.8
Others	17	7
<b>Total</b>	<b>245</b>	<b>100</b>

## CONCLUSION

Mortality rate at SGNHC is 2.33 %. Age above the 65 years have highest mortality. CCU has the highest mortality rate. The major causes of deaths are coronary artery diseases, heart failure, valvular heart disease including rheumatic heart disease, arrhythmia, sepsis, pulmonary embolism etc. .



## PERFUSION TECHNOLOGY UNIT

Mr. Umesh Khan, Ms. Lalita Shakya, Mr. Ram Bharosh Yadav, Ms. Laxmi Shrestha,  
Mr. Ashok Karki, Mr. Sujana Shrestha

### INTRODUCTION

“A Dream does not become reality through Magic; it takes sweat, determination, and hard work”. – COLIN POWELL.

The medical profession is a vast field, and often we narrow it down to a few popular domains. One may be unaware about the other technicians and paramedical personnel, who make up large part of the team. Perfusionist is one of such profession who have a vital role in life saving cardiac surgery.

It's been said that it takes roughly 10,000 hours to become good at something, thus an arduous journey of the entire team from day first have result in operating more than 20,000 open heart surgery in our center today. An intricate knowledge and skill, ability to stay calm in stressful situation and mentally alert during surgery of entire team member have been able to provide the standard service. Perfusion technology as a sub-unit of cardiovascular surgery have completed 21 years of service and we have been improving in various aspects including advancement in evidence based medical practice. The trainings and the visit of the perfusionist from various countries have helped us to change our practice especially in field of Pediatric cardiac surgery.



Celebration of 20,000 open heart surgery in SGNHC

Heart lung machine with Mast pumps

Today we have 3 full functioning heart lung machine, 4 heater cooler machine, 1 incomplete set of ECMO machine and 3 IABP machines. We are also in process of getting 2 new sets of Heart lung machine with mast pump targeting the pediatric patients. The small team of 6 member are responsible for providing the “evidence based standard practice”.

## SERVICES

The faculty is providing perpetual service for scheduled as well as Emergency cardiac surgery. So far, we have done 20,196 cases. This year we have operated 1386 patient. Among them, 783 were Male and 603 were Female. These cases are categorized as Congenital, Valve (MVR vs MV Repair, DVR, AVR) CABG and others (Modified Bentall’s procedure, Pericardial Effusion, Constrictive Pericarditis, Aortic Aneurysm, Pulmonary Embolism, Emergency device dislodgement cases for ASD and PDA.) Also, we have been managing patient with IABP for cardiac support in OT, ICU, CCU and cath lab and ECMO support.

Their numbers are showed in the diagram and table below.



*Number wise distribution of the cases this year.*

S.N	SURGERY	TOTAL NUMBER
1.	CABG	380
2.	VALVE	468
3.	MVR/ MV REPAIR	250
4.	AVR	102
5.	DVR	116
6.	CONGENITAL	474
7..	OTHERS	64
TOTAL CASES		1386

## OTHER ACTIVITIES AND FUTURE PLAN

- Two staff attended the ISECTON cardiac conference this year which was held in Jaipur, Rajasthan.
- Three member completed certificate course in Patient Blood Management.
- One of our staff did successful completion of certificate course in ECMO specialist.
- Also, we participate and did presentation in ECMO workshop in International cardiac conference held in Hotel Hyatt.
- The visiting perfusionist with team from Korea helped us with the assembling miniaturized CPB circuit in our setting in order to reduce the priming volume in pediatric patients. It had been a valuable period to learn more about the pediatric perfusion with the Korean team and UK team.
- We are in process to get two new sets of heart lung machine with the mast pump.
- Two staff members will be attending the perfusion conference in Coimbatore, India.



## JANAKPUR BRANCH

With the initiative to decentralize cardiac care of SGNHC, Janakpur Branch was established & started its services on 2075/10/15 BS. Former health minister Shree Upendra Prasad Yadav inaugurated the branch formally on 2076/04/09 BS. Since then all OPD services are operational at SGNHC, Janakpur .

Despite various hurdles in the basic management during early days, the continuous effort from our team & with the support of all staff members, we have come a long way and set an example of a well managed hospital in the entire state. In present scenario, even with limited resources & ,limited support from higher authority, the branch operational & we have maintained the faith we gained from general population. The team gave its best even during the peak of COVID pandemic, the time in which entire state-02 was under red zone. We had limited resources, limited manpower, limited support (even RT-PCR report came after 8 days), but the commitment of our team was outstanding . 6 members of our team got infected, were on home isolation , but we continued on providing services to cardiac patients without halting even for a day.

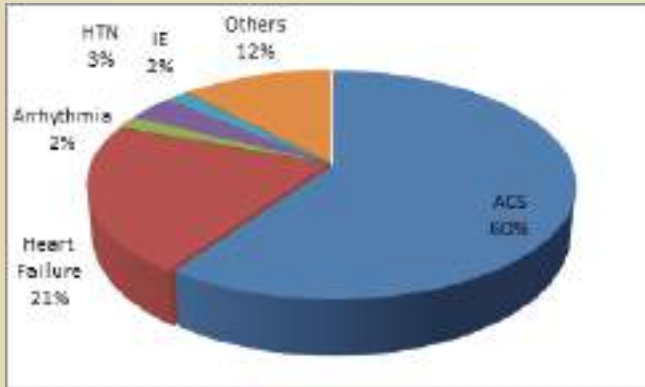
Those challenges during the early days, during the Covid pandemic and the geographical challenges we face every day, only makes us more experienced, better equipped in maintaining the dignity of this profession & this hospital. As an outcome of our limitless efforts, not only doctors or health workers of state but even our colleague, in the center trust our clinical judgment to whom we are very grateful.

Our team includes Cardiologist-2, Medical Officer-2, Nursing-4, Lab-2, Radiographer-2, Administration-1, Billing counter (Laxmi Bank)-3, Guard-3, Attendent-2.

Limited to a small OPD block & incapability of state run Madhesh Institute of Health Science

government run provincial hospital to provide us with separate cardiac block, the people of state are yet to receive inpatient services along with CCU & Cath Lab surveillance.

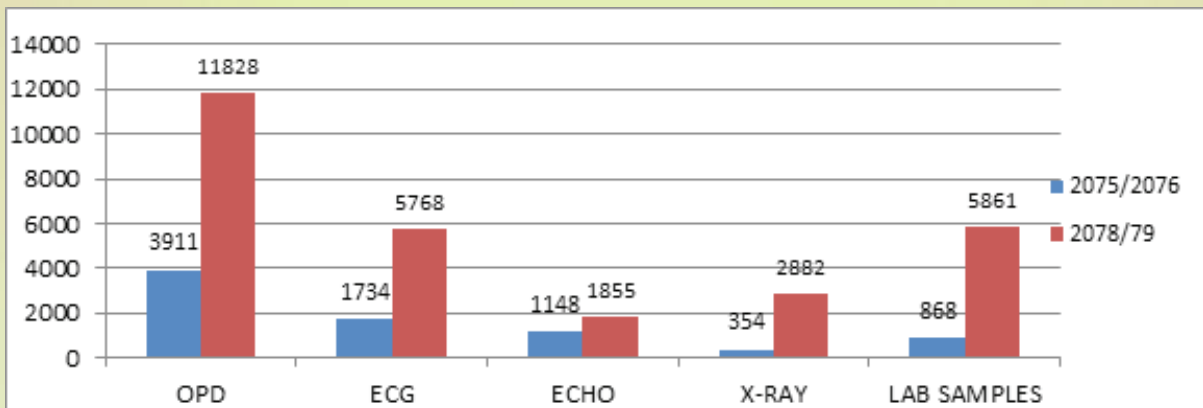
Despite the limitations we were able to provide inpatient services for patient with the help of provincial hospital during fiscal year 76/77.



The number of patient in our OPD keeps increasing with each passing year which is overwhelming for our small OPD block . As committed earlier and also mentioned in MOU, we would have our separate cardiac building with inpatient facility for ER ,cardiac ward, CCU , Cath lab, Cardiac Surgery by this time ,had the commitment been fulfilled. The land provided to us by provincial hospital is still vacant and we see no plan of expansion in near future.

Also the expansion of invasive services by establishing cath lab and cardiac surgery facility is unclear.

Comparison of Non invasive services provided in Janakpur branch in Fiscal Year 75/76 and 78/79



Branch of SGNHC in Janakpur is pride for health workers and public of Madhesh Pradesh also we would like to highlight the fact that without our own establishment and adequate manpower of doctors and supporting staff, we will not be able to provide contemporary and quality care to people.

We are still hopeful of fully functional cardiac hospital in Janakpur very soon.

# RESEARCH UNIT

Dr. Dipanker Prajapati, Suraksha Dhungana

For the past 26 years, Shahid Gangalal National Heart Centre (SGNHC) has been providing services related to the diagnosis and treatment of cardiac patients in an accessible way. Research plays a vital role in the delivery of high-quality medical services and further development of the centre. It can provide important information regarding cardiac disease trends and their risk factors; outcomes of treatment; patterns of health care, costs, and its effectiveness. SGNHC Research Unit was formed on 15th Ashad 2077 (29th June 2020) for the development of research-related activities in SGNHC

## **Aim and objective of the research unit of Shahid Gangalal National Heart Centre (SGNHC)**

- To mentor & review the research projects in the centre.
- To promote and support research in the centre.
- To initiate research of interest among the staff in the centre.
- To maintain close contact with academic and clinical staff within the SGNHC, with member national/international societies and individual members with special status to disseminate calls for prizes/grants and abstract submissions.
- To promote high-quality research through research meetings, workshops, and events.

## **RESPONSIBILITIES**

1. Encourage, promote and coordinate research.
  - a. Identify, through surveys and other means, the subject of research projects.
  - b. Develop a list of potential researchers for projects.
2. Manage research projects and submit results for the consideration of award, publication, and recognition.
  - a. Submit a proposal to different grant programs.
  - b. Submit completed research project for consideration of awards.
3. Disseminate research information. Maintain a resource library of publications and encourage members to use this resource.
4. Arrange and coordinate research activities related to promoting academic and clinical areas of the centre.
5. Coordinate with Nepal Health Research Council (NHRC) for training and conducting different research projects concerning cardiovascular health.
6. Assist and/or coordinate in different national and international research projects with other institutions conducting similar projects.
7. Promote the funding of research activities at both the local and global levels. Support the research and educational purposes, by encouraging corporate and individual grants and awards.
8. Submit an annual report of research activities to the executive director and NHRC.
9. Maintain a file of records and correspondence to pass on to the successor at the close of the academic year.



## BOARD MEMBERS OF SGNHC RESEARCH UNIT

Dr. Urmila Shakya, Senior Consultant Pediatric Cardiologist	Chairman
Dr. Dipanker Prajapati, Consultant Cardiologist	Member Secretary
Dr. Navin Chandra Gautam, Senior Consultant Cardiac Surgeon	Member
Dr. Rikesh Tamrakar, Consultant Cardiologist	Member
Dr. Santosh Sharma Parajuli, Registrar Anesthesiology	Member
Dr. Amshu Shakya, Registrar Pediatric Cardiology	Member
Ms. Deoki Saru, Supervisor	Member
Ms. Suraksha Dhungana, Senior Staff Nurse	Office Secretary

## TRAININGS

Since the basic knowledge of research is of utmost importance for research and academic activities, SGNHC Research Unit along with Institutional Review Committee (IRC) had requested different organizations to arrange necessary classes on basic training.

In the year 2020, NHRC has provided the virtual training with a workshop on the Ethical Review Process of Health Research for a total of 33 participants which includes all the members of IRC, SGNHC Research Unit, and other hospital staff including doctors and nurses.

In the year 2021, SGNHC Research Unit had requested different expertise to arrange necessary training on research. Trainings on Quantitative Research Methods for Health Professionals (Online + Practical Classes), Designing and conducting clinical research (Online Classes), and Manuscript Writing (Online Classes) were conducted in different settings. A total of 99 participants were benefitted from the training.

In the year 2022, we are processing for the site registration in online course from University of Washington regarding “Fundamentals of Global Health Research” and awaiting for the response.

## WEBSITE AND ONLINE APPLICATION

A separate website of SGNHC Research Unit has been developed. Only online submission of a research proposal through the site <https://research.sgnhc.org.np/> in the prescribed format along with required documents as per the requirements is processed.

Since its formation, SGNHC Research Unit has received a total of 155 proposals, 60 in the year 2020, 47 in the year 2021 and 48 in the year 2022.

## ANNUAL SCIENTIFIC SESSION

First Annual Scientific Session was held on 28th January 2021 and second on 28th January 2022.

SGNHC Research Unit and SGNHC IRC have decided to provide funding for the three best research proposals and awards for Best Original Article and Best Case report of SGNHC staff in the annual scientific session.

### Three winners of “SGNHC Research Grant 2021”:

**1st winner:** Effectiveness of Coronary Artery Disease Health Education among the patients of Coronary Artery Disease in tertiary Cardiac Centre, Kathmandu, Nepal. - Ms Suraksha Dhungana

**2nd winner:** Blood Lactate Clearance as a Predictor of Mortality in Children undergoing Cardiac Surgery with Cardiopulmonary Bypass. - Dr Smriti Mahaju Bajracharya

**3rd winner:** Effect of an education intervention for nursing personnel on emergency inventory and drugs checklist of resuscitation trolley in a tertiary cardiac center, Kathmandu. - Ms Sunita Khadka

**Best Original Article published by SGNHC staff in the year 2021:**

Safety and Efficacy of Single versus Dual Antiplatelets Therapy after Atrial Septal Defect Device Closure. - Dr Chandra Mani Adhikari

Best Case report published by SGNHC staff in the year 2021:

Transcatheter Closure of Post Myocardial Infarction Ventricular Septal Rupture with the Amplatzer Septal Occluder. - Dr Chandra Mani Adhikari

**The 3rd Annual Scientific Session is scheduled for 27th January 2023.**

**CONTACT ADDRESS AND OFFICE LOCATION:**

SGNHC Research Unit

Room no. 143, 2nd Floor, Academic Block, Shahid Gangalal National Heart Centre

Bansbari, Kathmandu, Nepal

P.O. Box: 11360

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Email: [researchsgnhc@hotmail.com](mailto:researchsgnhc@hotmail.com)

Website: <https://research.sgnhc.org.np/>

Please contact Office Secretary between 2:00 pm to 3:00 pm (Except Saturday), if necessary

# INSTITUTIONAL REVIEW COMMITTEE

Dr. Dipanker Prajapati, Suraksha Dhungana

## BACKGROUND

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

## OBJECTIVES

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

## MEMBERS

S.N.	NAME	DESIGNATION
1.	Dr. Sujeeb Rajbandari (Senior Consultant Cardiologist)	Chairman
2.	Dr. Dipanker Prajapati (Consultant Cardiologist)	Member Secretary
3.	Ms. Prati Badan Dangol (Senior Nursing Supervisor)	Member
4.	Dr. Manish Shrestha (Consultant Pediatric Cardiologist)	Member
5.	Dr. Nivesh Rajbhandari (Registrar Surgery)	Member
6.	Dr. Smriti Mahaju Bajracharya (Registrar Anesthesiology)	Member
7.	Dr. Surakshya Joshi (Registrar 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

Institutional Review Committee (IRC) has received a total of 327 proposals since its establishment till 2022, among them 252 proposals was approved. In the year 2022, 36 proposals were approved.

A separate website of IRC has been developed which can be accessed through <https://irb.sgnhc.org.np/>

## LIST OF APPROVED RESEARCH PROPOSALS IN 2022

S.No	Research Topics
1.	One-Year Outcome in patients with newly diagnosed non-ischemic dilated cardiomyopathy in Shahid Gangalal National Heart Centre.

2.	Clinically Diagnosed Peripheral Artery Disease in Patients attending Shahid Gangalal National Heart Center, Janakpurdham, Nepal.
3.	Procedural Success and Complications of Transthoracic Echocardiography Guided Atrial Septal Defect Device Closure in Children at tertiary Cardiac Centre, Nepal
4.	Prevalence of Diabetes and dyslipidemia patterns amongst hypertensive patients in a Tertiary Care Centre in Kathmandu, Nepal
5.	Prevalence and spectrum of iron deficiency in heart failure patients in Nepal
6.	Effectiveness of Coronary Artery Disease Health Education among the patient of Coronary Artery Disease in tertiary Cardiac Centre, Kathmandu, Nepal.
7.	Effect of an educational intervention for nursing personnel on emergency inventory and drugs checklist of resuscitation trolley in a tertiary cardiac center, Kathmandu
8.	Blood Lactate Clearance As A Predictor Of Mortality In Children Undergoing Cardiac Surgery With Cardiopulmonary Bypass
9.	Comparison of venous approach and conventional approach in children undergoing percutaneous patent ductus arteriosus closure.
10.	Clinical presentation, management and in-hospital and 90 days outcomes of Heart Failure: a single centre registry(SGNHC-HF Registry).
11.	Knowledge of Heart Failure among the patients with Heart Failure in a Tertiary Cardiac Centre, Kathmandu, Nepal.
12.	Serum Uric Acid levels among Acute Coronary Syndrome Patients in Shahid Gangalal National Heart Centre.
13.	Echocardiographic Parameters in Multisystem Inflammatory Syndrome in Children associated with Covid-19.
14.	Societal Cost of Cardiovascular Diseases in Patients attending Shahid Gangalal National Heart Centre.
15.	Clinical and Angiographic Profile of Young Acute Coronary Syndrome Patients in Shahid Gangalal National Heart Centre, Nepal.
16.	Percentage of Mitral Valve Replacement patients on Warfarin within the therapeutic range of International Normalized Ratio (INR).
17.	Blood cell parameters among stable ambulatory hypertensive patients and non hypertensive population.
18.	Echocardiography Screening for diagnosis of Rheumatic Heart Disease using hand held device by nurses: a diagnostic accuracy study in Nepal
19.	Evaluation of medicines used for treatment of hypertension in Shahid Gangalal National Heart Centre.
20.	Pattern of herbal medicine use and safety concerns among hypertensive patients in developing countries
21.	Short-term outcomes of empagliflozin in Patients with acute ST elevation Myocardial Infarction.
22.	Coronary atherosclerosis among symptomatic patients with zero coronary artery calcium score in computed tomography coronary angiography
23.	Patterns of Left Ventricular Hypertrophy and Late Gadolinium Enhancement on Cardiac MRI in Patients with Hypertrophic Cardiomyopathy – An Experience from the National Cardiac Centre of Nepal

24.	Knowledge and current practices on patients safety measures after cardiac catheterization among the nurses working at a tertiary cardiac centre
25.	Study to assess knowledge regarding Renin-Angiotensin-Aldesterone-System among cardiac nurses
26.	Knowledge regarding Spontaneous Awakening Trail and Spontaneous Breathing Trail among Critical Care Nurses of Shahid Gangalal National Heart Center
27.	Factors Predicting Alcohol Consumption Behavior Among Middle-Aged Males Diagnosed with Hypertension in Selected Hospitals, Nepal.
28.	Education adequacy and education needs of pediatric intensive care unit nurses caring for children undergoing cardiac surgery in Shahid Gangalal National Heart Center
29.	Association of Clinical and Echocardiographic Predictors with Left Atrial Clot in Patients with Severe Mitral Stenosis
30.	Association between Angiographic Severity of Coronary Artery Disease and High Density Lipoprotein Cholesterol Level
31.	Evaluation of Left Ventricular Diastolic Dysfunction in Diabetic Patients with preserved Ejection Fraction and its association with myocardial performance index
32.	Association of Carotid Artery plaque and severity of coronary artery disease in patients undergoing coronary angiogram.
33.	Evaluation of Left atrial size in patients with hypertension with left ventricular hypertrophy in a tertiary care hospital of Nepal.
34.	Correlation of Echocardiography and Cardiac Computerized Tomography in Pre-operative Evaluation of Tetralogy of Fallot
35.	Change in Pulmonary Arterial Pressure in Patients with Transcatheter closure of Secundum Atrial Septal Defects
36.	Clinical profile of admitted pericardial effusion in Shahid Gangalal National Heart Centre, Kathmandu, Nepal

## CONTACT ADDRESS AND OFFICE LOCATION

Institutional Review Committee (IRC)

Room No. 143, 2nd Floor, Academic Block, Shahid Gangalal National Heart Centre

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Website: <https://irb.sgnhc.org.np/>

Please contact Office Secretary between 2:00 pm to 3:00 pm (Except Saturday), if necessary.

# SURVEILLANCE STUDY OF INFECTION PREVENTION AND CONTROL

Manju Pyakurel, Dr. Battu Kumar Shrestha, Dr. Siddharth Pradhan, Prati Bandan Dangol

Healthcare-associated infections (HAIs), otherwise known as nosocomial or hospital-acquired infections, occur during the process of receiving care in a health facility. Healthcare-Associated Infections (HAIs) are a major cause of morbidity and mortality among hospitalized patients. Approximately 30% of patients admitted to Intensive Care Units (ICUs) in high income countries are affected by at least one episode of HAI, and this HAI is most frequently associated with the use of invasive devices. Though there is a paucity of data on the burden of HAI in low-middle income countries, some surveys from Africa revealed that up to 50% of patients in ICUs acquired HAI. In a similar note, low-middle income countries have a much higher burden of device-associated infections. These infections include ventilator associated pneumonia, catheter associated urinary tract infection, central line associated blood stream infection and surgical site infection. HAIs are a recognized global public health challenge affecting over 1.4 million patients, as a large proportion of HAI is caused by multi drug-resistant organisms, making the treatment of these infections more difficult and expensive.

The burden of HAIs in low- and middle-income countries (LMICs) has been assessed in systematic reviews. One of the reviews reported a pooled prevalence of 15.5 per 100 patients, significantly higher than in high-income countries, where HAI is around 5 per 100 patients. Another review, focused on South East Asia revealed an overall HAI prevalence of 9%. Use of central lines, ventilators and other invasive devices increase the risk of HAIs by 19 times in LMICs when compared with high-income countries. Similarly, surgical site infection (SSI) is nine times higher in LMICs and affects about two thirds of operated patients.

According to previous studies, comorbid factors (diabetes mellitus, HTN, COPD malnutrition, secondary infections) play a significant role for the patient who developed HAI. In spite of periodic surveillance and appropriate use of infection prevention and control tools and techniques, due to the lack various factors patients developed nosocomial infections. HAIs have major public health implications, including prolonged hospital stays, long-term disability, additional costs to health systems, patients and families, increased antimicrobial resistance (AMR) and unnecessary deaths of patients and health workers. Likewise, it increases the work load to the health care system to restore and maintain patients' health.

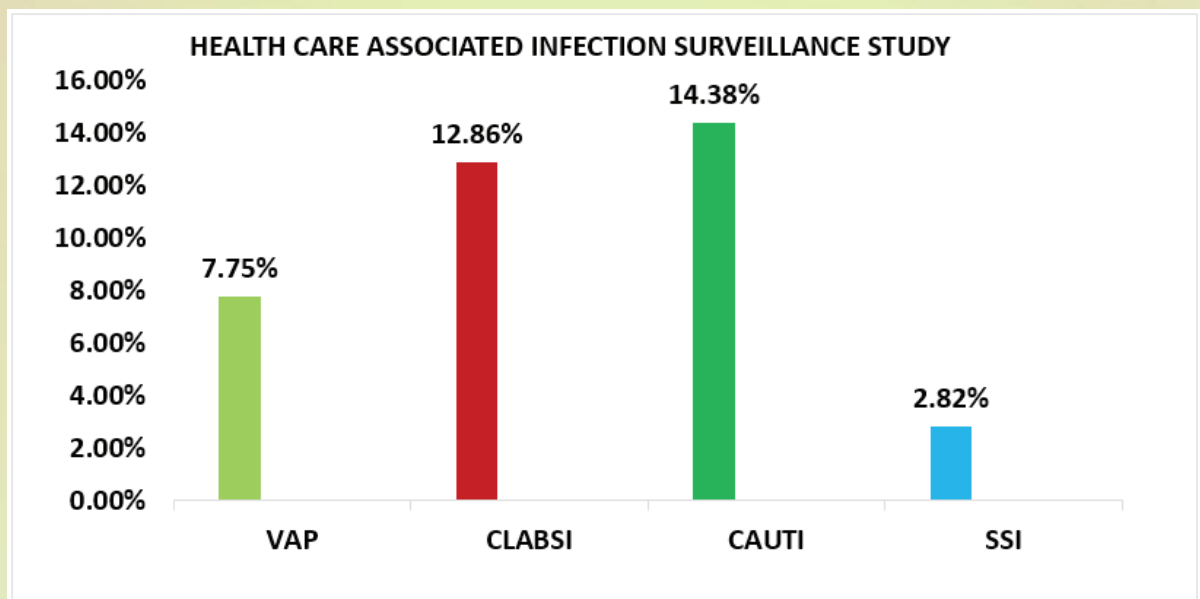
A previous study has shown an HAI incidence of 27.3/1,000 patient days with device associated infections in an intensive care unit (ICU) of the one of the teaching hospitals in Kathmandu, Nepal. Another study from the same ICU reported 96% drug resistance among Gram-negative bacterial isolates. While these studies were focused on ICUs, there is no study on outcome of

HAI from Nepal or neighboring countries which include ‘all units of a tertiary-level facility’. Such surveillance is necessary advocate for infection prevention and control (IPC) measures, as HAIs serve as a proxy indicator of the standard of IPC.

For a person to be identified as someone who has acquired infection in a health care setting, a person without prior suspected or overt infection must be admitted to a healthcare facility for at least 48hours. This surveillance is done to identify HAI and improve patient safety. Furthermore, knowledge on types of bacteria and their resistance to antibiotics is important in treating patients. In the identification of HAI, the patients’ clinical features and laboratory investigation are the essential tools.

Surveillance of HAI should ideally include all hospital wards, medical specialties as well as all types of HAI, such that fully informed, evidence-based decisions can be made. The surveillance helps to prioritize and address the relevant infection issues of that particular healthcare setting.

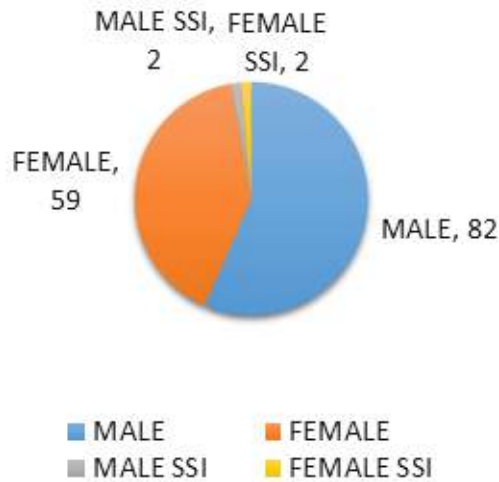
#### HERE ARE SOME EXAMPLE OF SURVEILLANCE DATA IN OUR SETTING:



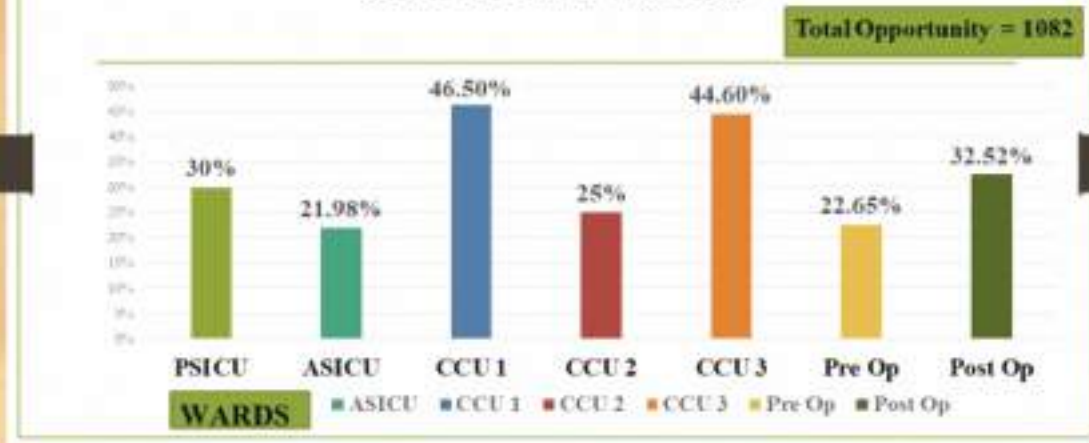
The surveillance was made amongst the post-operative patients admitted to the Surgical ICU, between the months of September and November 2022. There were total three hundred and nineteen patients who underwent heart surgery during that period. There were 14.38% patients who developed catheter associated urinary tract infection (CAUTI) per 1000 catheter days, which was the most common infection. Likewise, 12.86% of patients developed central line associated blood stream infection (CLABSI) per 1000 central line days. There were 7.75% patients who developed ventilator associated pneumonia (VAP) per 1000 ventilator days, and the least was surgical site infection (SSI), at 2.82% among the surgical cases during study period. The most common risk factors to develop HAI were diabetes mellitus, Hypertension, COPD, malnutrition. The causative organisms were Acinetobacter, Escherichia coli, Klebsiella pneumoniae and Staphylococcus aureus.

Healthcare-associated infections often result in a prolonged hospital stay, increasing comorbidity and even long-term disability. The increased resistance of microorganisms to antimicrobial agents, increases risk of mortality, while increasing morbidity, and adding a massive additional financial burden to the patient and the health system.

### TOTAL CASES OF SSI ON THE MONTH OF MANGSIR 149



### MISSED HAND HYGIENE COMPLIANCE OF DIFFERENT WARDS



## CHALLENGES FACED BY IPC PERSONNEL DURING THE PERIOD SURVEILLANCE STUDY

1. Increased staff workload due to insufficient human resources
2. Lack of sufficient resources and appropriate infrastructure facilities
3. Difficulty in changing a set attitude and behavioral pattern regarding hand hygiene
4. Lack of standardized protocol in the prevention of HAIs
5. Lack of antimicrobial resistance surveillance
6. Lack of Antibiotic Stewardship.

## KEY MESSAGE

1. Systems, policies, and procedures to measure and prevent healthcare associated infections are essential for a comprehensive response to antimicrobial resistance.
2. Surveillance of healthcare associated infections should drive the implementation of



evidence based infection prevention and control practices to reduce the incidence of these infections, decrease the transmission of resistant pathogens in healthcare settings, and improve patient safety.

3. The quality and consistency of surveillance data on the healthcare associated infections are limited in Nepal.

4. Ministry of Health agencies in Nepal, with support from the Centers for Disease Control and Prevention, are implementing health care associated infection surveillance that is tied to strengthening infection prevention and control practices and characterizing antimicrobial resistance patterns

5. In Nepal, government led initiatives can be used to advocate for and prioritize commitment and funding to sustain health care associated infection surveillance and infection prevention and control programs.

# DEPARTMENT OF PREVENTIVE CARDIOLOGY AND CARDIAC REHABILITATION (DPCCR)

Sunita Khadka, Suraksha Dhungana

## INTRODUCTION

Department of Preventive Cardiology and Cardiac Rehabilitation(DPCCR) is one of the vital department of Shahid Gangalal National Heart Center. The main activities of this department are:

### 1) Prevention of Heart Disease

- o Health education material production and distribution
- o Free cardiac camp
- o School health programs and
- o Radio program

### 2) Rehabilitation

- o Physio-therapy
- o Indoor and outdoor counseling to the cardiac patient on lifestyle modification (healthy living, including healthy dietary pattern, adherence to medicine as prescription, smoking cessation, and counseling to get rid of stress and improve mental health).

Basically, DPCCR focus on inpatient/outpatient department counseling, school health program, and public awareness program.

## FREE HEALTH CAMP REPORT

SN	Place	Date	Total Participant	ECHO	ECG
1	Barpak Sulikot	2078/12/11to 2078/12/13	180	137	76
2	Paplu, Solukhumbu	079/01/07 to 079/01/9	324	243	150
3	Mugu Rara	2079/02/12to 2079/02/15	1238	630	348
4	Tistung,Thaha Makawanpur	2079/03/01to 2079/03/03	400	336	130
5	Mahendra Bhawan school	One-day free echo screening camp on 2079/03/22	244		
6	Manang Gumba Swoyambhunath	One-day free cardiac camp. Target population- monks form Manang district. Total patient- 303 on 2079/03/26		290	110

7	Rautahat, Gaur	2079/05/23to 2079/05/25	135	58	57
8	Dhading Benighat	2079/08/09to 2079/08/11	153	126	89
9	Screening of school children in Budhanilkantha municipality	2078/9/5 on progress	11026	11026	

### INDOOR COUNSELING

Counseling service is one of the regular services in our hospital that is provided to the admitted patient especially focused on pre-discharged patient education. During counseling, we addressed their queries and counseled them about disease conditions, lifestyle modification, and advise for regular exercise according to their health condition. In the year 2022, we counseled 3989 patients and their visitors individually.



### OUTDOOR COUNSELING

This department has been running an outdoor counseling service since February 2013. It targets educating patients and visitors who are attending the outpatient department. Hypertension, Diabetes, Coronary Artery Disease, and Dyslipidemia are the most common topic of counselling. In the year 2022, we counseled 3295 Patients and their family members.

### MULTIMEDIA EDUCATION AWARENESS PROGRAM

This is another program. It is displayed on a TV monitor at the different waiting areas of the hospital. It is designed for the patient and visitors who are attending hospital. This program mainly focuses on cardiovascular heart disease, lifestyle modification and exercise. Likewise, different education programs are uploaded to the website of the hospital. Its objective is to prevent and manage Cardiovascular Disease(CVDs). Benefits of this program include; prevention of cardiac disease, early detection of cardiac symptoms, improvement of quality of life. Besides this, the radio program is broadcast weekly on Sunday at 10:00 pm on radio audio FM. The main moto of this program is prevention of CVDs.

### HEALTH EDUCATION MATERIAL PRODUCTION



Our department has been serving as a resource center for health education materials. We have produced plenty of brochures, posters, pamphlets, etc. which are freely accessible for patients.

### SPECIAL DAY CELEBRATION

#### World Hypertension Day

Every year we celebrate World Hypertension Day in May.

रक्तचाप जचाउनुहोस्, नियन्त्रण गर्नुहोस्, आयु बढाउनुहोस्।

जन्मपेलना अभिवृद्धिका लागि हाम्रो प्रयास  
आयोजक : शहीद गंगालाल राष्ट्रिय हृदयकेन्द्र, बसिबारी

### World Heart Day

Every year we celebrate World Heart Day. This year we celebrate world heart day with slogan of “Use heart for every heart”. On this occasion we organized walkathon and interaction program to make people aware of cardiovascular disease.



### **SCHOOL HEALTH PROGRAM**

RHD screening program among school children in Budhanilkantha Municipality is in progress, so far there were 11026 echo screening. We are also distributing RHD posters and brochures at different schools to prevent RHD.



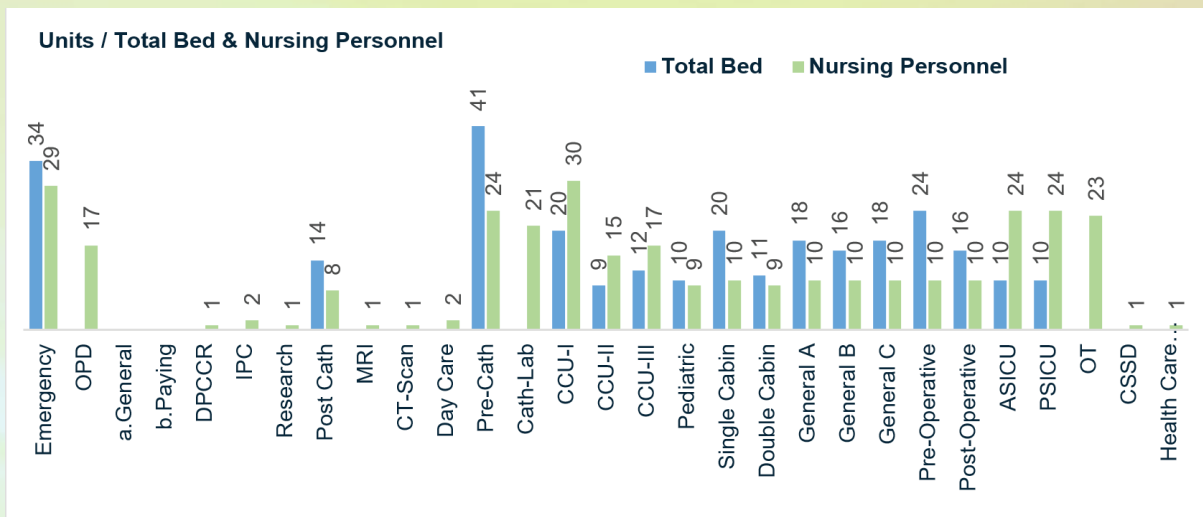


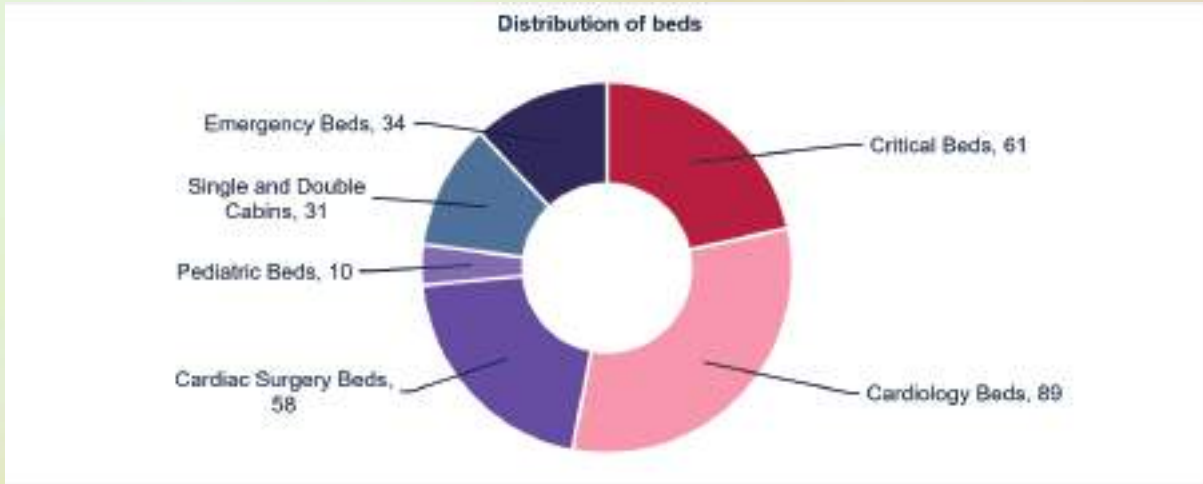
## Nursing department and its services

Prati Badan Dangol, Matron

### INTRODUCTION

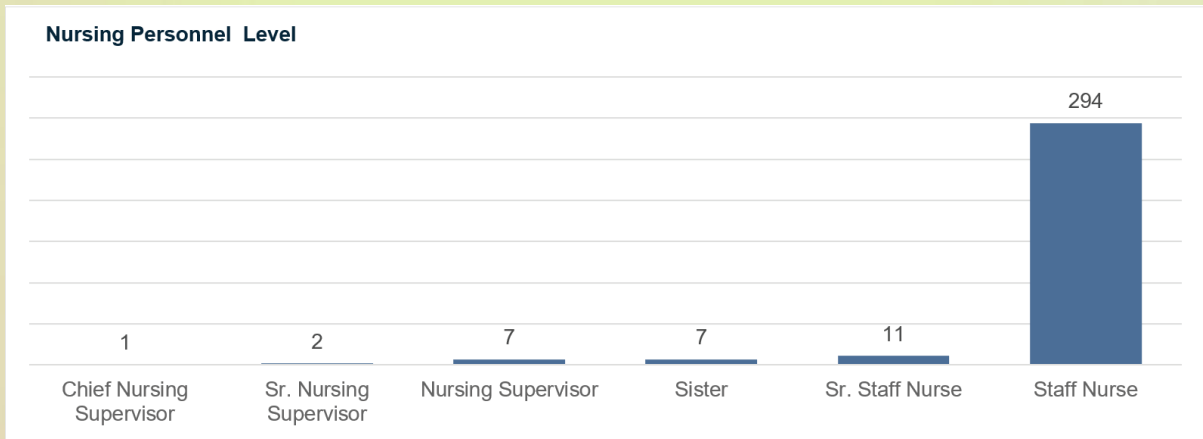
The SGNHC Nursing Department constitutes the largest single group of employees—approximately 53% and since is the main stay of the organization from the stand point of supporting patient care, we focus on “caring” rather than “curing” as every cardiac disease may not be cured but caring is possible. SGNHC nurses pose a variety of skills and proficiencies. Based upon the needs and value of the patient, SGNHC nurses are providing effective, safe, efficient, evidence based and coordinated care to meet the needs of each cardiac patient. The SGNHC nurses (including Nursing in-charge/Supervisor) are managing hospitalized patients in following units





We have dedicated and experienced nurses who offer a patient-centric, distinctive health care environment where patients and their visitors are treated with compassion and respect while providing safe, evidence-based nursing services. Extensive training, process of privileging, specialty nurses, seamless processes and above all a pleasant environment ensures high quality patient and family centered care.

The Nursing department of SGNHC has built up its “Standards of Care” to serve the ever changing and growing needs of cardiac patients because they are highly qualified, well trained and experienced to manage and take care of cardiac patients in all situations. They are responsible and take pride in all actions. They are demonstrating moral courage to speak up, be honest, principled and always do the right things and keen to improve and strive to exceed expectations continuously they are also giving respect, value and proactively support all co-staffs and operate as one team. We (Nursing supervisors) meet up (Hands over and Take over) every working day at 2 pm for 30 minutes to review of 24 hours to address the issues and sort it out as quickly as possible. This review meeting is helping our department to close the gaps, to lead up and being disciplined to our duties and responsibilities.



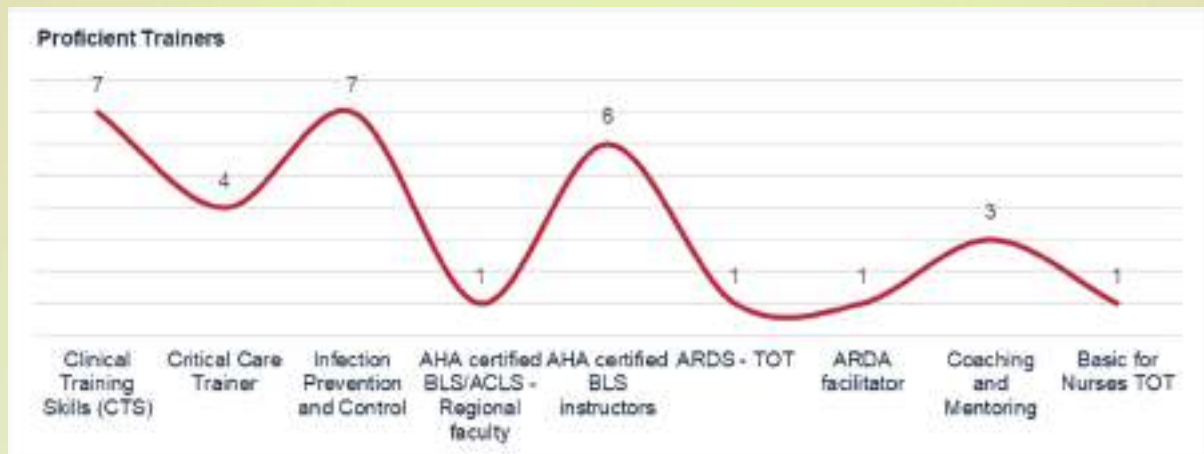
The Nursing department of SGNHC has built up its “Standards of Care” to serve the ever changing and growing needs of cardiac patients by proficient trainers

**Regular trainings conduct by SGNHC Nursing department throughout the year**

Topics	Total days
Induction training for newly appointed nurses: simulation based with coaching and mentoring	2 days

Infection prevention and control refreshers training -basic 2 days and advance module	2-6 days
Adult Basic Life Support (ABLS)	1 day
Pediatric Basic Life Support (PBLs)	1 day
Advanced Cardiac life support (ACLS)	2 days
Pediatric Advanced Life Support (PALS)	2 days
Cardiac Cath Lab Nurse Training Program(CCLNTP)	1 month / 3 months
Cardiovascular Operation Theatre Nurse Training Program	3 months
Cardiac Critical care Nurse Training program	3 months
Pediatric Critical care Nurse Training Program	3 months
Cardiac Emergency Nurse training program	1 month
Apart from this, nurse trains housekeeping staffs regularly in Infection Prevention and Control	
Continue Nursing Education Program	Twice a week
For all ward in charges/ Nursing Supervisor	Tuesday
For Staff Nurses	Thursday

We are also proud to announce that our centre has been selected for the Nursing training site by the National Health Training Centre, Nursing Social and Security division and WHO.



## CHALLENGE

Nurse turnover is a rapidly-growing human resource problem currently affecting the healthcare sector worldwide. Likewise in our centre, nurse turnover rate is 41% in 2022. This is causing negative consequences both the centre and the patients as it is leading to increased costs, decrease quality of care and decrease continuity of care. This challenge need to be addressed by government level soon.

## WAY FORWARD

The Nursing department of SGNHC is dedicated to administer high-quality, cost-effective care to patients & families, provide health promotion programs to all people, maintain a supportive environment for education of the professional nurses & promote career development of nursing employees. We also have planned to train for Basic life support training for the staffs of SGNHC.

# सार्वजनिक खरीद व्यवस्थापनका विविध पक्षहरु

-सुशील भुसाल  
प्रशासकीय अधिकृत

## विषय प्रवेश

सार्वजनिक निकायले गर्ने खरीद सार्वजनिक खरीद हो। सार्वजनिक निकायले गर्ने खरीदमा मालसामान, निर्माण कार्य, परामर्श सेवा तथा अन्य सेवा पर्दछन्। यस प्रकारको खरीद कार्य गर्दा सार्वजनिक कोष मार्फत खर्च गरिन्छ। सार्वजनिक कोषमा आन्तरीक ऋण, राजश्व तथा कर, वाह्य ऋण र अनुदानबाट संकलन गरिएको रकम जम्मा हुन्छ। सार्वजनिक खरीदको मुल मर्म Value Of Money हो। खरीदको प्रमुख उद्देश्य सबैलाई समान अवसर प्रदान गर्दै प्रतिस्पर्धाको माध्यमबाट गुणस्तरीय वस्तु तथा सेवा निर्धारित समयसिमा भित्र प्रप्ती गर्नु हो।

## खरीद व्यवस्थापनको औचित्य

सार्वजनिक निकायले आफ्नो जिम्मेवारी पुरा गर्न, आम नागरिकलाई सेवा प्रवाह गर्न, विकास निर्माणका कार्यहरु गर्न आवश्यक पर्ने वस्तु तथा सेवा आवश्यकता अनुसार छिटो, छरितो माध्यमबाट खरीद गरि संस्थाको लक्ष्य एंव उद्देश्य पुरा गर्ने कार्य नै सार्वजनिक खरीद व्यवस्थापन हो। खरीद व्यवस्थापनको माध्यमद्वारा स्रोत साधनको समूचित प्रयोग मार्फत खरीद कार्यलाई सरलीकरण गर्नुका साथै गुणस्तरीय समेत बनाउछ।

- o सार्वजनिक निकायका काम कारवाहीलाई स्वीकारयोग्य बनाउन,
- o Value Of Money कायम गर्न,
- o सार्वजनिक निकायको दैनिक कार्य प्रभावकारी रुपमा संचालन गर्न,
- o निजी क्षेत्रलाई मूलुकको आर्थिक गतिविधिहरुमा समावेश गराउन,
- o खरीद कानूनको कार्यान्वयन गर्न,
- o देशमा रहेको प्राकृतिक स्रोत साधन राष्ट्र तथा नागरिक हितमा परिचालन हुन्छ,
- o सरकारको आर्थिक विकासको लक्ष्य प्राप्त गर्न।

## सार्वजनिक खरीद व्यवस्थापनका चरणहरु

खरीदको प्रकृती तथा लागत अनुमानको आधारमा खरीदका विविध चक्रहरु रहेका हुन्छन्। यस चरणमा खरीद आवश्यकतादेखि लेखापरिक्षण सम्मका विविध कृयाकलापहरु समावेश भएका हुन्छन्। सामान्यतया खरीद प्रकृयाका चरणहरु देहाय बमोजिम उल्लेख गर्न सकिन्छ।

- o खरीद आवश्यकताको पहिचान,
- o वार्षिक बजेट तथा कार्यक्रम निर्माण,
- o विस्तृत डकुमेन्टस तयार गर्ने,
- o मूल्याङ्कन,
- o सूचना,
- o सम्झौता र करार व्यवस्थापन,
- o भुक्तानी,
- o लेखापरिक्षण र प्रतिवेदन,

खरीदका प्रत्येक चरणको प्रभावकारी कार्यान्वयन र अभ्यास सार्वजनिक खरीद व्यवस्थापन हो। संगठनको आवश्यकतालाई मध्यनजर गर्दै खरीद आवश्यकता पहिचान गर्नु पर्दछ। संस्थाको वार्षिक



बजेटका साथै स्रोत साधनको उपलब्धता वा अवस्थाको मूल्यांकन गरि खरीद कार्य गर्नुपर्ने हुन्छ । खरीद गरिने वस्तु तथा सेवा गुणस्तरीय हुनुपर्दछ । वार्षिक रुपमा गरिने खरीदको समयसिमा समेत निर्धारण गरिनुपर्दछ । तसर्थ माथि उल्लेखित चरणहरुको प्रभावकारी परिपालना गर्न सके खरीद कार्य व्यवस्थित, पारदर्शी, औचित्यपूर्ण बनाउन सकिन्छ ।

खरीद व्यवस्थापनका लागि गरिएका प्रवन्धहरु

राज्यले सार्वजनिक खरीद लाई व्यवस्थित, विश्वासयोग्य, मितव्ययी बनाउन विभिन्न कानूनी व्यवस्था गरेको छ ,

- सार्वजनिक खरीद ऐन २०६३ र नियमावली २०६४,
- आर्थिक कार्यविधि तथा वित्तिय उत्तरदायीत्व ऐन २०७६ र नियमावली २०७७,
- स्थानिय सरकार संचालन निर्देशिका २०७४,
- अन्तराष्ट्रिय विकास सहायता नीति २०७६,
- विद्युतिय खरीद प्रणाली संचालन निर्देशिका २०७४,
- विभिन्न सार्वजनिक निकाय केन्द्र, बोर्ड, परिषद लगायत विभिन्न संस्थानहरुका खरीद नियमावली,
- खरीद सम्बन्धमा विद्यमान राष्ट्रिय तथा अन्तराष्ट्रिय मूल्य, मान्यता र प्रचलन, आदी

## सार्वजनिक खरीदका प्रमुख विधिहरु

सार्वजनिक खरीदलाई मूल्य सार्थकता, विश्वसनिय र पारदर्शी बनाउनका लागि खरीदका विभिन्न तरिकाहरु प्रयोग गर्नुपर्ने हुन्छ। खरीद विधि छनौट गर्दा संस्थाको आवश्यकता र नियम अनुसार गर्नुपर्ने हुन्छ । सामान्यतया विद्यमान कानूनले निर्धारण गरेका खरीद विधिहरु निम्न अनुसार रहेका छन ।

क) निमार्ण, मालसामान र अन्य सेवा

- अन्तराष्ट्रिय स्तरको खुला बोलपत्र
- राष्ट्रिय स्तरको खुला बोलपत्र
- सिलबन्दी दरभाउ
- अमानत
- उपभोक्ता समिति
- एकमुष्ट दर विधि
- सिमित प्रतिस्पर्धा विधि
- नया लिने पुरानो दिने विधि
- उत्पादक मूल्य

ख) परामर्श सेवा

- प्रस्ताव आह्वान
- सोभै खरीद

## खरीद व्यवस्थापनमा सम्भौताका विधिहरु

संस्थाको आवश्यकतालाई मध्यनजर गर्दै खरीदको उपयुक्त विधि छनौट गरे पश्चात सामाग्री वा वस्तु प्रदान गर्ने आपूर्तिकर्ता संग खरीद सम्भौता गर्नुपर्ने हुन्छ । यसका लागि वस्तु तथा सेवाको प्रकृती अनुसार खरीद सम्भौता हुन्छ । सामान्यतया खरीद सम्भौता देहायबमोजिम गर्ने गरिन्छ ।

- Unit Rate
- एकमुष्ट रकम सम्भौता
- पिस वर्क सम्भौता
- समय र सामाग्री दर सम्भौता
- सार्वजनिक नीजि साभेदारी

## नेपालमा सार्वजनिक खरीद व्यवस्थापनमा देखिएका समस्या

- खरीद प्रकृयाका चरणहरूको गम्भीरतापूर्वक पालना नहुनु,
- सार्वजनिक खरीद ऐन नियममा रहेका अस्पष्टताहरू,
- औचित्य र आधारविना परम्परागत रूपमा म्याद थप कार्य हुँदै आएको,
- आवश्यक संख्यामा स्वदेशी आपूर्तिकर्ता तथा निर्माण व्यवसायी देशभित्र नहुँदा प्रतिस्पर्धा कमजोर भएको,
- लागत अनुमान अवास्तवीक भएतापनि नियन्त्रणको उचित प्रवन्ध नभएको,
- विद्युतीय खरीद प्रणालीलाई पूर्ण रूपमा अवलम्बन नगरिएको,
- Standard Bid Documents को समय सान्दर्भिक सुधार नहुनु,
- खरीद कार्य प्राविधिक तथा व्यवसायिक विषय भएकोले यसका प्रयोगकर्ता र निर्णयकर्तालाई आवश्यक तालिमको व्यवस्था नभएको,
- विभिन्न स्वार्थ समूह वा व्यक्तिले Specification, Packaging गर्ने कार्यमा हस्तक्षेप गर्ने प्रवृत्ति नियन्त्रण गर्न नसक्नु,
- औचित्य र आधार विना बोलपत्रका विधिहरूको प्रयोग,
- बोलपत्र मूल्यांकन गर्न विभिन्न सूचक निर्धारण गरि गर्नुपर्नेमा परम्परागत तरिका अवलम्बन गरिएको,

### अन्त्यमा

आमनागरिकबाट उठाएको करको आधारमा सार्वजनिक खरीद गर्ने भएकोले जनताको माग, चाहना, आवश्यकता, स्रोत साधनको उपलब्धता, ईमान्दारिता, पारदर्शिता जस्ता आधारभूत विषयहरूको पालनामा ध्यान दिनु पर्दछ। मूलुकको करिव ७० प्रतिशत सम्मको खरीद सार्वजनिक निकायबाट हुने भएकोले खरीद कार्य व्यवस्थित र समयानुकूल परिमार्जन हुनुपर्दछ।

स्रोत,  
सार्वजनिक खरीद ऐन तथा नियमावली  
विभिन्न पत्रपत्रिकाहरूमा आएका लेख रचनाहरू

## म एक चिकित्सक

-डा. केशव राज न्यौपाने

रातको निन्द्रा त्याग्दै  
दिनको भोक नभनी  
विरामीको सेवामा मस्त  
म एक चिकित्सक ॥

परिवारबाट टाढा सुख दुख गर्दै  
सूर्यको किरणझैं उज्यालो छर्दै  
व्यक्तिगत जीवन अस्तव्यस्त  
मानवसेवा दिने म एक चिकित्सक ॥

विरामी निको हुदा खुशी हुने  
सेवा दिँदा भेदभाव नगर्ने  
समाजलाई आफूमाथि सोच्ने  
जटिलरोगको नयाँ उपचार खोज्ने  
पढेर विज्ञान र अनुसन्धानका  
नयाँ नयाँ पुस्तक  
स्वस्थ समाज बनाउन तल्लीन  
म एक चिकित्सक ॥

देखाई सद्भाव र सम्मान  
आफ्ना सहकर्मीसँग  
मिलि गर्ने हो काम  
ल्याई सबैमा उमंग  
प्रशासनको सहयात्री  
एउटा अभिन्न अंग  
रोगीलाई उपचार गरि  
आफैं हुन्छ दंग ॥

न कुनै पदको छ स्वार्थ  
नलागोस् कसैलाई कुराको अनर्थ  
हुन्छ त केवल उ एक मानार्थ  
यत्रो मिहिनत नहोस् है व्यर्थ

जति नै थाकेपनि  
हेर्दा देखिन्छन् मनमोहक  
मनमा पीडा भुलाई हाँस्र सिपालु  
म एक चिकित्सक ॥

# I MEANT TO BE A NURSE

- Nira Shrestha  
(Staff Nurse)

I meant to be a nurse,  
Coz I do care the ill and injured;  
I aimed to be a nurse,  
As I do live for the poor & wounded !!

I'm directed to be a nurse,  
Coz I feel pathetic in their ailments ;  
I bornt to be a nurse,  
As I become empathetic in their torments

Through their hard times,  
I hardly leave them alone ;  
Even when their dear ones get exhausted  
I make effort to keep their comfort zone !!

I promised to be with them  
Days and nights; 24\*7 hours,  
I mean to be beside them ;  
From the birth to last hour !!

I take care of their all trivials,  
With concerns of beliefs & rituals;  
Coz I sighted to be a nurse,  
& I meant to be a nurse !!

I'm there, with them forever,  
Holding their hands ever ;  
**COZ I MEANT TO BE A NURSE !!**  
For the almighty ; **I AM A NURSE !!!**

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# PHOTOGRAPHS

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## ADMINISTRATION



## DEPARTMENT OF ANESTHESIOLOGY



## DEPARTMENT OF CARDIOLOGY



## DEPARTMENT OF PATHOLOGY



## DEPARTMENT OF NURSING



## INSTITUTIONAL REVIEW COMMITTEE





**DEPARTMENT OF CARDIOVASCULAR SURGERY**



**DEPARTMENT OF PEDIATRIC CARDIOLOGY**



## PHARMACY UNIT



## DEPARTMENT OF RADIOLOGY



**RESEARCH UNIT**



**DEPARTMENT OF PREVENTIVE CARDIOLOGY & CARDIAC REHABILITATION**



## ENGINEERING AND MAINTAINANCE UNIT



## TRANSPORTATION UNIT



**JANAKPUR BRANCH**



**PERFUSION UNIT**



## INFECTION PREVENTION COMMITTEE

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# STAFF NAME LIST

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## DEPARTMENT OF CARDIOVASCULAR SURGERY

SN	NAME	DESIGNATION
1	Ashok Karkee	Perfusion Assistant
2	Dr. Akalesh Patel	Resident Doctor
3	Dr. Apurba Thakur	Registrar Surgery
4	Dr. Avash Karki	Registrar Surgery
5	Dr. Birat Kadel	Resident Doctor
6	Dr. Bishow Pokhrel	Cardiac Surgeon
7	Dr. Himanshu Pathak	Resident Doctor
8	Dr. Krishna Bhatta	Resident Doctor
9	Dr. Marisha Aryal	Registrar Surgery
10	Dr. Nabin Kumar Chaudhari	Resident Doctor
11	Dr. Navin C Gautam	Sr. Consultant Cardiac Surgeon
12	Dr. Nirmal Panthee	Registrar Surgery
13	Dr. Nishes Basnet	Registrar Surgery
14	Dr. Nivesh Rajbhandari	Registrar Surgery
15	Dr. Rabindra Bhakta Timala	Sr. Consultant Cardiac Surgeon
16	Dr. Ramesh Raj Koirala	Sr. Consultant Cardiac Surgeon &HOD
17	Dr. Rheecha Joshi	Registrar Surgery
18	Dr. Ritesh Kumar Thakur	Resident Doctor
19	Dr. Ritu Sanish Shah	Resident Doctor
20	Dr. Rupak Pradhan	Resident Doctor
21	Dr. Seejan Pathak	Resident Doctor
22	Dr. Sidhartha Pradhan	Sr. Consultant Cardiac Surgeon
23	Dr. Urusha Pathak	Resident Doctor
24	Lalita Shakya	Sr. Perfusion Assistant
25	Laxmi Shrestha( Bhattarai)	Perfusion Assistant
26	Ram Bharosh Yadav	Perfusion Assistant
27	Sujan Shrestha	Perfusion Assistant
28	Umesh Khan	Perfusionist

## DEPARTMENT OF CARDIOLOGY

SN	NAME	DESIGNATION
1	Dr. Aashika Thapa	Resident Doctor
2	Dr. Amshu Shakya	Peaditric Registrar
3	Dr. Ananda Khanal	Registrar Cardiologist
4	Dr. Anish Shakya	Resident Doctor
5	Dr. Arju Laudari	Resident Doctor
6	Dr. Arun Maskey	Sr. Consultant Cardiologist
7	Dr. Barkadin Khan Miya	Resident Doctor
8	Dr. Bibek Baniya	Registrar Cardiologist
9	Dr. Bimal Gyawali	Resident Doctor
10	Dr. Binay Kumar Rauniyar	Consultant Cardiologist



SN	NAME	DESIGNATION
11	Dr. Chandra Mani Adhikari	Executive Director, Consultant Cardiologist
12	Dr. Deepak Limbu	Cardiologist
13	Dr. Devaki Khadka	Resident Doctor
14	Dr. Dipanker Prajapati	Consultant Cardiologist
15	Dr. Himamshu Nepal	Sr. Consultant Cardiologist
16	Dr. Kalpana Gurung	Resident Doctor
17	Dr. Kartikesh Kumar Thakur	Cardiologist
18	Dr. Kavindra Thapa	Resident Doctor
19	Dr. Keshab Raj Neupane	Resident Doctor
20	Dr. Kshitij Mehta	Resident Doctor
21	Dr. Kul Ratna Thapa	Resident Doctor
22	Dr. Manish Shrestha	Consultant Pediatric Cardiologist
23	Dr. Md. Sajjad Safi	Registrar Cardiologist
24	Dr. Murari Dhungana	Cardiologist
25	Dr. Neha Siddique	Resident Doctor
26	Dr. Nikosh Kunwar	Resident Doctor
27	Dr. Poonam Sharma	Peditric Registrar
28	Dr. Prabesh Rajthala	Resident Doctor
29	Dr. Prashant Bajracharya	Registrar Cardiologist
30	Dr. Prinsa Shrestha	Resident Doctor
31	Dr. Puja Adhikari	Resident Doctor
32	Dr. Rabindra Pandey	Cardiologist
33	Dr. Rabindra Simkhada	Consultant Cardiologist
34	Dr. Rakesh Bahadur Adhikari	Registrar Cardiologist
35	Dr. Rakshya Aryal	Resident Doctor
36	Dr. Ramesh Dangol	Resident Doctor
37	Dr. Ravi Sahi	Registrar Cardiologist
38	Dr. Reeju Manandhar	Registrar Cardiologist
39	Dr. Rikesh Tamrakar	Consultant Cardiologist
40	Dr. Sabindra Bhupal Malla	Registrar Cardiologist
41	Dr. Sanjay Singh K.C.	Registrar Cardiologist
42	Dr. Santosh Kumar Yadav	Resident Doctor
43	Dr. Satish Kumar Singh	Cardiologist
44	Dr. Shilpa Aryal	Peditric Registrar
45	Dr. Shova Karki	Resident Doctor
46	Dr. Subhash Chandra Shah	Peditric Registrar
47	Dr. Subodh Kansakar	Sr. Consultant Cardiologist
48	Dr. Subodh Sharma Paudel	Resident Doctor
49	Dr. Sujeeb Rajbhandari	Sr. Consultant Cardiologist & HOD
50	Dr. Surakshya Joshi	Registrar Cardiologist
51	Dr. Urmila Shakya	Sr. Consultant Pediatric Cardiologist & HOD
52	Dr. Vidhata Bhandari K.C	Peditric Registrar
53	Dr. Vijay Ghimire	Resident Doctor

## DEPARTMENT OF ANESTHESIOLOGY

SN	NAME	DESIGNATION
1	Dr. Abhay Khadka	Registrar Anesthesiologist
2	Dr. Ashish Amatya	Consultant Anesthesiologist & HOD
3	Dr. Ashok Pudasaini	Resident Doctor
4	Dr. Battu Kumar Shrestha	Registrar Anesthesiologist
5	Dr. Rabin Baidya	Registrar Anesthesiologist
6	Dr. Sandip Bhandari	Registrar Anesthesiologist
7	Dr. Santosh Sharma Parajuli	Registrar Anesthesiologist
8	Dr. Smriti Mahaju Bajracharya	Registrar Anesthesiologist
9	Dr. Subigyta Sitaula	Registrar Anesthesiologist
10	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. Murari Dhungana	Cardiologist & HOD
4	Dr. Shaili Thapa	Sr. Cardiac Physiotherapist
5	Rajeev Kumar Yadav	Physiotherap Assistant
6	Sunita Khadka	Nursing Supervisor
7	Surakshya Dhungana	Sr. Staff Nurse
8	Yashoda Luitel	Sr. Physiotherap Assistant

## DEPARTMENT OF NURSING

SN	NAME	DESIGNATION
1	Aarati Dhungana	Staff Nurse
2	Aashma Shrestha	Staff Nurse
3	Alina Pachhai	Staff Nurse
4	Alisha Bista	Staff Nurse
5	Alisha K.c	Staff Nurse
6	Alisha Shrestha(A)	Staff Nurse
7	Alisha Shrestha(B)	Staff Nurse
8	Alisha Thapa	Staff Nurse
9	Ambika Rai	Staff Nurse
10	Ambika Shrestha	Staff Nurse
11	Amisha Adhikari	Staff Nurse
12	Amrita Ghimire	Staff Nurse
13	Amrita Paudel	Staff Nurse
14	Anisha Gurung	Staff Nurse
15	Anita Baram	Staff Nurse
16	Anita Dawadi	Staff Nurse
17	Anita Mahat	Staff Nurse

SN	NAME	DESIGNATION
18	Anita Sharma Paudel	Staff Nurse
19	Anjali Khatri	Staff Nurse
20	Anjana Gurung	Staff Nurse
21	Anjana Koirala	Sister
22	Anjana Sharma	Staff Nurse
23	Ansha Maharjan	Staff Nurse
24	Anuja Koirala	Staff Nurse
25	Anusha Adhikari	Staff Nurse
26	Anusha Humagain	Staff Nurse
27	Anushree Paudel	Staff Nurse
28	Apeksha Ghale	Staff Nurse
29	Apurwa Sawad	Staff Nurse
30	Aruna Maharjan	Staff Nurse
31	Arzoo Neupane	Staff Nurse
32	Asha Kumari Jha	Staff Nurse
33	Ashmita Bajgain	Staff Nurse
34	Ashmita Shrestha	Staff Nurse
35	Ashmita Thapa	Staff Nurse
36	Ashruta Rizal	Staff Nurse
37	Asma Shrestha	Staff Nurse
38	Asmita Basyal	Staff Nurse
39	Asmita Bisowkarma	Staff Nurse
40	Asmita Karki	Staff Nurse
41	Asmita Lamichhane	Staff Nurse
42	Asmita Maharjan	Staff Nurse
43	Asmita Sapkota	Staff Nurse
44	Asmita Shrestha(B)	Staff Nurse
45	Babina Gurung	Staff Nurse
46	Bal Kumari Chaudhary	Staff Nurse
47	Bandana Bogati	Staff Nurse
48	Bandana Sankhi	Staff Nurse
49	Barsha Pokhrel	Staff Nurse
50	Basanta Sharma	Sr. Staff Nurse
51	Beena Phanju	Staff Nurse
52	Biddhya K.C	Staff Nurse
53	Bidhya Malla	Staff Nurse
54	Bidushi Dhital Dahal	Staff Nurse
55	Bidya Dhungana	Staff Nurse
56	Bijita Joshi	Staff Nurse
57	Bina Sherpa	Staff Nurse
58	Bina Shrestha	Staff Nurse
59	Binda Shrestha	Staff Nurse
60	Bindiya Shrestha	Staff Nurse
61	Bindu Adhikari	Staff Nurse
62	Binita Sapkota	Sr. Staff Nurse

SN	NAME	DESIGNATION
63	Binita Tamrakar	Sr. Staff Nurse
64	Binita Thapa	Staff Nurse
65	Bishmita Chauhan	Staff Nurse
66	Bishnu Pandey	Sister
67	Bishnu Poudel	Staff Nurse
68	Chahana Singh	Staff Nurse
69	Chandra Maya Gurung	Staff Nurse
70	Chandrakala Jirel	Staff Nurse
71	Chitra Rekha Mashwa	Staff Nurse
72	Deepa Basnet	Staff Nurse
73	Deepa Dhimal	Staff Nurse
74	Deepa Tami	Staff Nurse
75	Deepika Kathayat	Staff Nurse
76	Deepika Maharjan	Staff Nurse
77	Deepika Shrestha	Staff Nurse
78	Deoki Saru	Nursing Supervisor
79	Dikshya Karki	Staff Nurse
80	Divya Adhikari	Staff Nurse
81	Divya Shrestha	Staff Nurse
82	Eliza Paudel	Staff Nurse
83	Finjo Wangmo Tamang	Staff Nurse
84	Gita Tamang	Staff Nurse
85	Goma Gurung	Staff Nurse
86	Hira Adhikari	Staff Nurse
87	Inu Tamang	Staff Nurse
88	Isha Lama	Staff Nurse
89	Ishwori Gautam	Staff Nurse
90	Janaki Ayer	Staff Nurse
91	Januka khadka	Staff Nurse
92	Jeba Shrestha	Staff Nurse
93	Jina KC	Staff Nurse
94	Jyoti Khatiwoda	Staff Nurse
95	Jyoti Rimal	Staff Nurse
96	Jyoti Shrestha	Staff Nurse
97	Jyoti Thapa	Staff Nurse
98	Jyotsna Bhurtel	Staff Nurse
99	Kabita Baniya	Staff Nurse
100	Kabita Khatri	Staff Nurse
101	Kabita Shrestha	Staff Nurse
102	Kalpana D.C	Staff Nurse
103	Kalpana Dahal	Staff Nurse
104	Kalpana Timilsina	Nursing Supervisor
105	Kalpana Thapa Magar	Staff Nurse
106	Kamana Paudel	Staff Nurse
107	Kanchan Kusatha	Staff Nurse

SN	NAME	DESIGNATION
108	Kirtika Karanjit	Staff Nurse
109	Kopila Luitel	Sr. Nursing Supreviser
110	Krishna Shwari Gwachha	Sr. Staff Nurse
111	Kunti Khanal	Sister
112	Lalita Maharjan	Sister
113	Lalita Poudel	Sister
114	Laxmi Aryal	Staff Nurse
115	Laxmi B.C	Staff Nurse
116	Laxmi Bista	Staff Nurse
117	Laxmi Lakhaju	Staff Nurse
118	Laxmi Kumari Pathak	Staff Nurse
119	Madhushree Khanal	Staff Nurse
120	Mamata Ojha	Sr. Staff Nurse
121	Man Kumari Shris Thapa	Sister
122	Mandira Khadka ( N )	Staff Nurse
123	Manika Tamang	Staff Nurse
124	Manisha Kunwar	Staff Nurse
125	Manisha Thapa	Staff Nurse
126	Manita Parajuli Ghimire	Staff Nurse
127	Manjila Ghimire	Staff Nurse
128	Manju Acharya	Staff Nurse
129	Manju Khadka	Staff Nurse
130	Manju Pyakurel	Staff Nurse
131	Manju Timilsina	Nursing Supervisor
132	Manmaya Syangtan	Staff Nurse
133	Mausam Rai	Staff Nurse
134	Meena KC	Sr. Staff Nurse
135	Melina K.C	Staff Nurse
136	Mukta Shrestha	Staff Nurse
137	Muna Baniya	Staff Nurse
138	Nabina Bista	Staff Nurse
139	Namrata Rawal	Staff Nurse
140	Natasha Shakya	Staff Nurse
141	Nikita Maharjan	Staff Nurse
142	Nilima Joshi	Staff Nurse
143	Nira Shrestha	Staff Nurse
144	Nisha Kusum Rai	Staff Nurse
145	Nita Dangol	Chief Nursing Supervisor
146	Niti Shrestha	Staff Nurse
147	Nooyem Limbu Subba	Staff Nurse
148	Pabitra Dewan	Staff Nurse
149	Pariksha Poudyal	Staff Nurse
150	Pooja Subedi	Staff Nurse
151	Poonam Gurung	Staff Nurse
152	Prabha K.C.	Staff Nurse

SN	NAME	DESIGNATION
153	Prabha Khadka	Staff Nurse
154	Prabha Paudel	Staff Nurse
155	Pragya K.c	Staff Nurse
156	Pragya Subedi	Staff Nurse
157	Prajita Shrestha	Staff Nurse
158	Prajwala Baniya	Staff Nurse
159	Pramila Subedi	Staff Nurse
160	Prapti Shrestha	Staff Nurse
161	Prasanna Shrestha	Staff Nurse
162	Prasansha Thapa Magar	Staff Nurse
163	Prati Badan Dangol	Sr. Nursing Supreviser (Matron)
164	Pratima Acharya	Staff Nurse
165	Pratima Dhakal	Staff Nurse
166	Pratima Niraula	Staff Nurse
167	Pratistha Bhattarai	Staff Nurse
168	Prekshya Shakya	Staff Nurse
169	Priety Adhikari	Staff Nurse
170	Prittam Maharjan	Staff Nurse
171	Puja Kafle	Staff Nurse
172	Puja Satyal	Staff Nurse
173	Punam Dhital	Staff Nurse
174	Punam Shrestha	Staff Nurse
175	Pushpa Neupane	Sister
176	Pushpa Sharma	Staff Nurse
177	Puspa Karmacharya	Staff Nurse
178	Puspa Kumari Gurung	Staff Nurse
179	Rabina Ghemosu	Staff Nurse
180	Radha Maharjan	Staff Nurse
181	Raj Kumari Shrestha	Staff Nurse
182	Rajani Shrestha	Staff Nurse
183	Rajyalaxmi Bhele	Sister
184	Rakshya Karki	Staff Nurse
185	Ramala Maharjan	Staff Nurse
186	Rameswori Duwal	Sr. Staff Nurse
187	Rashana Maharjan	Staff Nurse
188	Rashmi Basnet	Staff Nurse
189	Rashmi Karki(B)	Staff Nurse
190	Rashmila Manandhar	Staff Nurse
191	Rasmi Upreti	Staff Nurse
192	Ravina Subedi	Staff Nurse
193	Reena Rimal	Staff Nurse
194	Rekha Kumari Mandal	Staff Nurse
195	Rephika Maharjan	Staff Nurse
196	Reshma Manandhar	Staff Nurse
197	Reshma Thapa	Sr. Staff Nurse

SN	NAME	DESIGNATION
198	Richa Dangol	Staff Nurse
199	Richa Khadka	Staff Nurse
200	Rimsha Shrestha	Staff Nurse
201	Risha Manandhar	Staff Nurse
202	Ritu Sinjali	Staff Nurse
203	Ritu Swongamikha	Staff Nurse
204	Roji Shakya	Nursing Supervisor
205	Rojina Bhujel	Staff Nurse
206	Rojina Guragain	Staff Nurse
207	Rojma Manandhar	Staff Nurse
208	Romy Twayana	Staff Nurse
209	Roshana Twayana	Staff Nurse
210	Roshani Manandhar	Staff Nurse
211	Roshani Shahi	Staff Nurse
212	Roshani Tamang	Staff Nurse
213	Rubee Manandhar	Staff Nurse
214	Rubina Prasai	Staff Nurse
215	Rumina Dhakal	Staff Nurse
216	Sabina Baral	Staff Nurse
217	Sabina Khatri	Staff Nurse
218	Sabina Shrestha(A)	Staff Nurse
219	Sabina shrestha(B)	Staff Nurse
220	Sabina Thimi	Staff Nurse
221	Sabina Tulsibakhyo	Staff Nurse
222	Sabita Bhusal	Staff Nurse
223	Sabita Karki	Staff Nurse
224	Sagun Sharma	Staff Nurse
225	Sajana Adhikari	Staff Nurse
226	Sajana Twayana	Staff Nurse
227	Sajanee Pradhan	Staff Nurse
228	Sakuntala Karki	Staff Nurse
229	Samiksha Wasti	Staff Nurse
230	Samiksha Yadav	Staff Nurse
231	Samita Thapa Magar	Staff Nurse
232	Samjana Mishra	Staff Nurse
233	Samjhana Karmacharya	Staff Nurse
234	Samjhana Pandey	Staff Nurse
235	Samriddhi Timalisina	Staff Nurse
236	Sandhya Rijal	Staff Nurse
237	Sandhya Shrestha	Staff Nurse
238	Sandhya Tamang	Staff Nurse
239	Sandhya Thapa	Staff Nurse
240	Sangita Baskota	Staff Nurse
241	Sangita Kafle	Sr. Staff Nurse
242	Sangita Lama	Staff Nurse

SN	NAME	DESIGNATION
243	Sanjana Wagle	Staff Nurse
244	Sanjisha Shrestha	Staff Nurse
245	Sanjita Dhakal	Staff Nurse
246	Sanju Gautam	Staff Nurse
247	Sanju Shah	Staff Nurse
248	Sapana Maharjan	Sr. Staff Nurse
249	Saphala Pandey	Staff Nurse
250	Sarala Bajracharya	Staff Nurse
251	Sarala Malla	Staff Nurse
252	Sarita Dhakal	Staff Nurse
253	Sarita K.c	Staff Nurse
254	Sarita Pathak	Staff Nurse
255	Shailaja PaudelRegmi	Staff Nurse
256	Shailee Karanjit	Sr. Staff Nurse
257	Shakuntala Mahat	Staff Nurse
258	Shanta Singh Thakuri	Sr. Staff Nurse
259	Shanti Bhele	Staff Nurse
260	Shanti Gurung	Staff Nurse
261	Sharmila Neupane	Staff Nurse
262	Sharmila Thapa	Staff Nurse
263	Shova Shrestha	Staff Nurse
264	Shovana Shrestha	Sr. Staff Nurse
265	Shovna Shrestha	Staff Nurse
266	Shreejana Bhattarai	Staff Nurse
267	Shreejana Gautam	Staff Nurse
268	Shristi Maharjan	Staff Nurse
269	Shriya Poudel	Staff Nurse
270	Shubha Gyawali	Staff Nurse
271	Shushma Tamang	Staff Nurse
272	Siba Laxmi Shrestha	Staff Nurse
273	Sima Shahi	Staff Nurse
274	Sirjana Adhikari(A)	Staff Nurse
275	Sirjana Paudel	Staff Nurse
276	Sisira Rajthala	Staff Nurse
277	Smita Pun	Staff Nurse
278	Smritee Bhattarai	Staff Nurse
279	Sobina Thapa Magar	Staff Nurse
280	Srijana Adhikari(B)	Staff Nurse
281	Srijana Bhele	Staff Nurse
282	Srijana Khadka	Staff Nurse
283	Srijana Pathak	Staff Nurse
284	Srijana Tiwari(B)	Staff Nurse
285	Suchi Yang Tamang	Staff Nurse
286	sudha K.c(Khatri)	Staff Nurse



SN	NAME	DESIGNATION
287	Sudiksha Koirala	Staff Nurse
288	Sujan G.C.	Staff Nurse
289	Sujata Ghimire	Staff Nurse
290	Sujata K.c	Staff Nurse
291	Sulochana Khadka	Staff Nurse
292	Sunita Basnet	Staff Nurse
293	Sunita Gurung	Staff Nurse
294	Sunita Khadka	Nursing Supervisor
295	Sunita Pandey	Staff Nurse
296	Sunita Shrestha	Staff Nurse
297	Supriya Hamal	Staff Nurse
298	Supriya Ranjitkar	Staff Nurse
299	Suraksha Dhungana	Sr. Staff Nurse
300	Sushila Maharjan	Staff Nurse
301	Sushmita Baral	Staff Nurse
302	Susma Baram	Staff Nurse
303	Susmita Pun	Staff Nurse
304	Tina Gurung	Staff Nurse
305	Tripti Singh	Staff Nurse
306	Tulasa KC	Nursing Supervisor
307	Tulasa Pandey	Staff Nurse
308	Tulasha Naupane	Staff Nurse
309	Usha Neupane	Staff Nurse
310	Usha Paudel	Staff Nurse
311	Ushna Shrestha	Sr. Staff Nurse
312	Vidhya Koirala	Nursing Supervisor
313	Yogina Maharjan	Sr. Staff Nurse

## 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	Sabin Manandhar	Sr. Account Assistant
9	Sanjay Maharjan	Sr. Account Assistant

## ADMINISTRATION

SN	NAME	DESIGNATION
1	Bhagawan Karki	Sr. Overseer
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	Bhogendra Narayan Shah	Sub- Overseer
7	Bhupal Acharya	Sr. Administrative Officer
8	Biju Kuwar Chhetri	Office Helper II
9	Bikash Khaniya	Sr. Administrative Assistant
10	Bimala Aryal	Dy Chief Administration
11	Bimala Sapkota	Administrative Assistant II ( Star Bridhi)
12	Bishwo Ram Adhikari	Plumber III(Star Bridhi)
13	Chunam Lama	Administrative Officer
14	Dinesh Maharjan	Plumber
15	Gauri Devi Sharma	Office Helper III
16	Guna Devi Acharya	Administrative Sub- Assistant
17	Gyan Kaji Maharjan	Driver III(Star Bridhi)
18	Jeet Bahadur Tamang Moktan	Administrative Sub- Assistant
19	Kabita Koirala Khatiwada	Administrative Assistant
20	Kamala Gautam	Office Helper III
21	Krishna Bahadur Budhathoki	Driver IV (Star Bridhi)
22	Laxmi Prasad Rijal	Administrative Assistant
23	Madhav Thapa	Office Helper III
24	Mahendra Lamsal	Sr. Administrative Assistant
25	Mandira Khadka	Administrative Sub- Assistant
26	Nawaraj Roka	Sub- Overseer
27	Pitambar Bhujel	Driver III(Star Bridhi)
28	Pratima Malla Thakuri	Sr. Administrative Assistant
29	Raj Kumar Roka	Sub- Overseer
30	Ram Babu Raut	Medical Record Officer
31	Rup Bdr Thapa	Driver III(Star Bridhi)
32	Sadhuram Pandit	Driver III(Star Bridhi)
33	Santosh Negi	Sub- Overseer
34	Shamsher Bahadur Basnet	Plumber III(Star Bridhi)
35	Shanti KC	Office Helper III
36	Sharada Khanal	Office Helper IV
37	Sudarsan Prasain	Administrative Sub- Assistant
38	Sudha Sigdel	Administrative Sub- Assistant
39	Sudip Chandra Dahal	Medical Record Officer
40	Sushil Bhusal	Administrative Officer
41	Sushila Bista	Office Helper III
42	Yagya Bahadur Khulal	Driver III(Star Bridhi)
43	Yuba Raj Timilsina	Sr. Administrative Assistant

## PATHOLOGY

SN	NAME	DESIGNATION
1	Ajita Lamichhane	LAB TECHNICIAN
2	Aryatara Shilpakar	Medical Lab Technologist
3	Bijaya Kumar Thakur	LAB TECHNICIAN
4	Bikash Bhusal	S.r LAB TECHNICIAN
5	Bindeshwar Yadav	Sr Medical Lab Technologist ( Incharge )
6	Daltan Dahal	LAB TECHNICIAN
7	Dipendra Khadka (B)	LAB TECHNICIAN
8	Dr. Prahar Dahal	Registrar Pathologist
9	Gaurab Risal	LAB TECHNICIAN
10	Karna B.K	LAB TECHNICIAN
11	Keshav Acharya	LAB TECHNICIAN
12	Nawal Kishor Yadav	S.r LAB TECHNICIAN
13	Pabitra Bista	LAB TECHNICIAN
14	Pradeep Khanal	LAB TECHNICIAN
15	Pranila Chitrakar	LAB TECHNICIAN
16	Prasamsha Adhikari	LAB TECHNICIAN
17	Rajnarayan Mishra	S.r LAB TECHNICIAN
18	Renu Shakya	Medical Lab Technologist
19	Ritu Karki	LAB TECHNICIAN
20	Sugrib Shrestha	LAB TECHNICIAN
21	Suresh Kumar Gupta	S.r LAB TECHNICIAN
22	Sushila Shrestha	LAB TECHNICIAN
23	Unnati Kadel	LAB TECHNICIAN

## SGNHC JANAKPUR BRANCH

SN	NAME	DESIGNATION
1	Asmita Kumari Yadav	Staff Nurse
2	Bina Kumari Shah	Staff Nurse & Nursing Incharge
3	Dr. Amit Kumar Sing	Cardiologist
4	Dr. Naresh Mandal	Resident Doctor
5	Dr. Pramod Kumar Yadav	Resident Doctor
6	Dr. Rajesh Kumar Yadav	Cardiologist & Incharge
7	Keshab Pandey	Admin Sub-Assistant
8	Laxmi Mohato	Staff Nurse
9	Nisha Chaudhary	Staff Nurse
10	Omkar Poudel	Lab Technician
11	Roshan Yadav	Lab Technician
12	Sangita Kumari Yadav	Radiographer
13	Sudhir Kumar Yadav	Radiographer

## PHARMACY

SN	NAME	DESIGNATION
1	Atmaram Timalisina	Pharmacist
2	Devendra Yadav	Sr. Health Assistant
3	Indrajit Yadav	Sr. Health Assistant
4	Jaykishor Shah	Sr. Health Assistant
5	Kamal Bahadur Rana	Sr. Pharmacy Assistant
6	Madhu Giri	Sr. Hospital Pharmacist
7	Manoj Kumar Yadav	Sr. Health Assistant
8	Nabina Thapa	Pharmacy Assistant
9	Niru Ratyal	Sr. Health Assistant
10	Prem Raj K.C.	Sr. Pharmacy Assistant
11	Ramisa Tamang	Pharmacy Assistant
12	Rita Chapain	Pharmacy Assistant
13	Sharmila Pokharel	Pharmacy Assistant
14	Shunil Acharya	Sr. Pharmacist
15	Sushmita Timalisina	Pharmacy Assistant
16	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	Registrar Radiologist
5	Dr. Kritisha Rajlawot	Registrar Radiologist
6	Dr. Nirmal Prasad Neupane	Radiologist
7	Indesh Thakur	Sr. Radiography Technologist
8	Laxminarayan Singh	Radiographer
9	Mahesh Khadka	Radiographer
10	Prakash Timalisina	Radiographer
11	Pramod Khatri	Sr. Radiographer
12	Raj Shekhar Yadav	Radiographer
13	Ramesh Thapa	Dark Room Assistant II(Star Bridhi)
14	Saroj Chhetry	Radiography Technologist
15	Sebika Baniya Pandit	Radiographer
16	Seema Gyawali	Sr. Radiographer
17	Shulav Paudel	Sr. Radiography Technologist
18	Shyam Kumar Adhikari	Sr. Radiographer
19	Shyam Thakur	Radiography Technologist
20	Sriju K C	Radiographer
21	Sunita Khawaju	Radiographer



