

DMCH SCAN

TOWARDS EXCELLENCE IN MEDICARE & EDUCATION

JANUARY - DECEMBER 2017



Departmental Profile
Nephrology

Focus
ECMO

Special Procedures
VATS, TIPS



**DMCH
DNA
TESTING**

**MOLECULAR
GENETICS LAB**



- Quality Health Care
- Excellence in Medical Education
- Relevant Medical Research
- Latest Technology
- Personal Touch

Dayanand Medical College & Hospital

Units : Hero DMC Heart Institute
DMCH Cancer Care Centre
Ludhiana, Punjab (India)



Sh Prem Kumar Gupta
Secretary
DMCH Managing Society

The management of Dayanand Medical College is now focusing on cost effective, high quality medical care for patients of this region. We have been growing in terms of infrastructure, equipments and highly qualified manpower. Now, we want to add facilities and procedures which are not available at present. To that end we have started a Molecular genetics lab realizing the need for this facility. Interventional radiology section provides all invasive procedures including Transjugular intrahepatic portosystemic shunt (TIPS). Liver transplant services are fast growing and we have done some cadaveric transplants also. In fact other organ transplant facility will be added shortly. We now have the most qualified cornea transplant surgeon in the region. Less invasive surgery is the need today and facility of Video-assisted thoracoscopic surgery (VATS) is being used frequently by our surgeons.

We also realize that basic infrastructure has to be strong. We have developed state of art Laundry service with the best equipment. I have personally spent many hours to make sure that high quality medicines are available at the lowest possible rates. Today, DMCH pharmacy provides medicines at one of the lowest rates in the country. Thanks to our predecessors, Past Presidents Mr Hans Raj Dhanda and Mr Brijmohan Lall Munjal, Secretaries Mr Jagdish Lal Behal and Mr Prem Nath Gupta who devoted many valuable years of their life to this institution. I am thankful to all the respected members of the governing body and managing society for their support and guidance. We are thankful to our distinguished faculty for the quality services they provide with devotion and dedication. We recognize the contribution of our administrators, paramedical staff, nurses and other employees for their cooperation and hard work. It is the teamwork of all members of DMCH family which is responsible for the progress that has happened.



Dr. Sandeep Puri
Principal, DMCH

DMCH has been in existence for the last 53 years and it has been a great journey for the institution to be ranked among the top 20 medical colleges of the country and rated as the best private medical college of North India.

The dedicated, transparent and visionary managing society along with an excellent and hardworking faculty is committed to provide the best possible medical care and medical education of the highest standards. The hospital information system has streamlined the functioning of patient admission, lab investigations pharmacy and maintenance of purchase and inventory. The research and development wing along with the genetic lab have infused a new life into the research activities of the institution. The new state of art molecular genetics lab will go a long way in providing targeted therapies for cancer patients and detection of genetic abnormalities. The ultra modern nursing college has excellent facilities and ambience along with a dedicated teaching staff.

May the Almighty continue to shower his blessings on this wonderful institution.



36th Annual Conference of North Zone Orthopedic Association

36th Annual Conference of North Zone Orthopedic Association 'NZOACON-2017' was held from **10th-12th February, 2017** to deliberate current and future trends in orthopaedic surgery by eminent faculty from India & abroad.

AHA accredited BLS & ACLS course

Department of anesthesiology along with American Heart Association organized Basic Life Support (BLS) and Advanced Cardiac Life Support (ACLS) course on **20th February, 2017**.



Adolescent Health Workshop

Department of pediatrics along with Ludhiana academy of pediatrics organized adolescent health workshop on **5th March, 2017** to discuss various issues of adolescence parenting, obesity and sexuality.

National Undergraduate Medical Conference (NUMCON-2017)

The NUMCON-2017 was held on **22nd April, 2017** to enlighten undergraduate students about various aspects of medical profession and keep themselves updated with various medical advancements.



PUNCIPS-2017

Annual conference of Punjab & Chandigarh branch of the Indian psychiatry society was held on **14th May, 2017**, on the theme 'Controversies in Psychiatry' to update the knowledge of mental health professionals in managing various psychiatric and mental disorders.

'Neonatal Echocardiography' & 'Point of Care Ultrasound' Workshop

Department of pediatrics organized two-day workshop on 'Neonatal Echocardiography' from **29th-30th April, 2017** to enlighten the neonatologists about diagnosing problems of new born using bedside ultrasound machines.



SURGICON-2017

The annual conference of association of surgeons of India was held from **27th-29th October, 2017**. The conference included scientific sessions and hands-on-workshops to enhance the surgical and clinical skills of delegates.



CME on Interventional Radiology

Department of Radio-diagnosis and Imaging in association with Indian Society of Vascular and Interventional Radiology organized Interventional Radiology CME on **29th October, 2017** emphasizing rapid growth in diagnostic imaging.

CME on Trauma Critical Care Management

Department of critical care medicine & anaesthesiology organised a CME on trauma critical care update on **17th Dec. 2017** to update the latest advancements in trauma resuscitation and critical care.



Cancer Survival Day

Cancer Survival Day (**30th March, 2017**) was celebrated with full enthusiasm by patients, doctors and hospital staff . This day the patients were motivated to fight this dreadful disease with sheer grit and determination.

World Health Day

World health day was observed on **7th April, 2017**. Quiz competition on 'Depression-Let's Talk', competition on super foods and three day yoga camp was organised to highlight the importance of adopting healthy lifestyle.



Hypertension Awareness Month

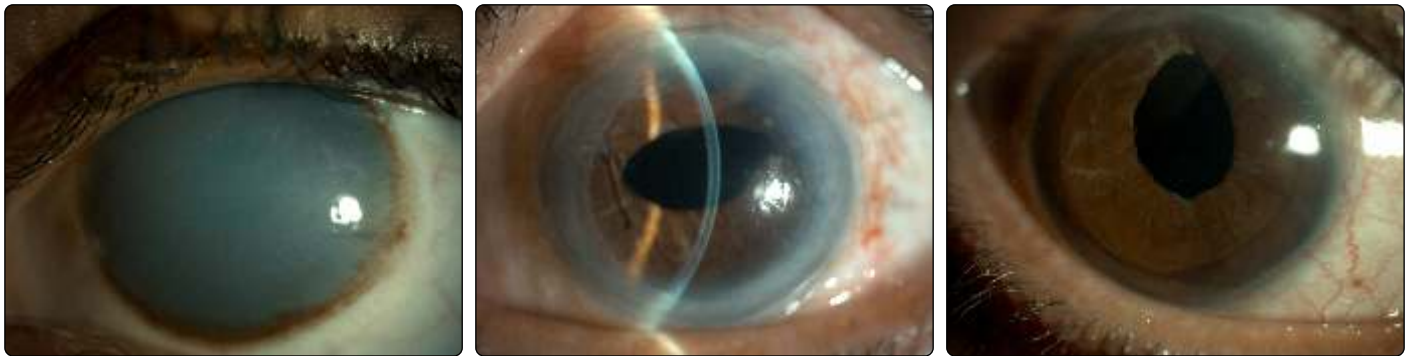
Hypertension awareness month (**1st-31st May, 2017**) was observed by Dr Mohinder P Sambi Hypertension Chair and Clinic. Free BP check-up was done of more than 4000 individuals, the hypertensive patients were also given consultation and dietary advice.

Corneal Transplant and Eye Banking

Department of ophthalmology offers successful corneal transplant and eye banking by highly skilled doctors. It has a 24 x 7 functional eye bank. More than 100 corneal transplants have been successfully performed in the last 2 years. The program has gained prominence for its clinical outcomes and the expertise available at DMCH.

Eligibility

The cornea can be donated upto 6 hours after death. Absolute contra-indications includes sepsis, diseases like HIV, hepatitis, syphilis, leukemia and malignancy with metastasis. Most commonly used corneas are from donors aged between 1 to 65 years.



Procedure

The procedure essentially requires one day admission and is frequently done under local anaesthesia. Post operative there is no need for systemic immunosuppression, only topical eye drops are needed.

Advantages of lamellar corneal transplant

In addition to improved long term outcome, Descemet's stripping automated endothelial keratoplasty (DSEK) / Descemet's membrane endothelial keratoplasty (DMEK) essentially is a sutureless surgery. Consequently, there are no suture related complications like astigmatism, infection, faster visual rehabilitation and improved visual outcome.

Advancements in corneal transplant surgery

Cornea has multiple layers. Today, we can transplant only the selective layer which is diseased/abnormal, thereby decreasing chances of allograft rejection and improving graft survival. (Lamellar transplant)



Department of Ophthalmology celebrates national eye donation fortnight every year from 25th August to 8th September. A felicitation function is held for the family members of those who donate their eyes. The purpose is to spread message to the people for being the part of eye donation or eye pledging for giving normal life to the needy. More than 200 members of DMCH family have pledged to donate their eyes after death.



DMCH College of Nursing came into existence in October 2002 and is one of the most modern and highly equipped nursing colleges in the state Punjab. It is widely recognized as center of excellence in the field of nursing education with job training facilities in north zone. The college is situated at Malakpur, Ludhiana and is spread over 10 acres of land and has beautiful lawns. The College is affiliated to Baba Farid University of Health Sciences, Faridkot and is recognized by Indian Nursing Council, New Delhi and approved by Punjab Government. It admits 100 students in B.Sc Nursing and 25 students in M.Sc Nursing with five specialities: Psychiatric Nursing, Pediatric Nursing, Community Health Nursing, Obstetrical Nursing and Medical Surgical Nursing. The institute has highly qualified and experienced faculty, many of whom have received national and international recognition for their research and publications.

College of Nursing DMCH has become pioneer in starting Nurse Practitioner in Critical Care (Post Graduation Residency) programme in the state of Punjab. This course enables nurse practitioners to help in management of clinical illnesses for prevention and promotion of health.

FACULTY - COLLEGE OF NURSING





DMCH
College of Nursing has an independent and elegant building for academic and hostel purposes. It also has ultra modern laboratories and large playground with green surroundings for various outdoor sports.



Nephrology

Department of Nephrology is equipped with a wide range of facilities pertaining to renal care and also offers renal transplantation at an affordable cost. The department maintains active clinical facilities for inpatient and ambulatory care, including acute and chronic dialysis.

Golden History

Nephrology department was established in 1981 by Dr Satish Chabbra as founder head and Dr Jasvinder Singh Sandhu as his associate with two dialysis machines initially. The reins of the department were taken by Dr NS Khaira from Sept 1991 to 2010. In 2010, Dr. Jasvinder Singh Sandhu became the Head and under his able guidance DM Nephrology programme was started in 2013. Presently, the department is headed by Dr Vikas Makkar with a team having four consultants and 6 DM residents. The department has state of the art dialysis unit with 19 machines, including SLED machine for critically ill patients, ultra sound machine for interventions.

FACULTY



Sitting L To R : Dr PM Sohal (Asst. Prof.) , Dr Vikas Makkar (Professor & Head)
Dr Suman Sethi (Asst. Prof.) Dr Simran Kaur (Asst. Prof.)

Standing L To R : (Senior Residents) Dr Saurabh, Dr Sudhir, Dr Manpreet, Dr Hemanth, Dr Sourbh

Services

- Dialysis facilities
- Renal Transplantation
- Interventional Nephrology

Daily Nephrology OPD from monday to saturday caters to the patients from Punjab and neighboring state



Speciality clinics

Renal transplant clinic	: Tuesdays 12:00 to 2:30 pm
Continuous Ambulatory Pertioneal Dialysis Clinic	: Wednesdays 12:00 to 2:30 pm
Lupus Nephritis Clinic	: Mondays 12:00 to 2:30pm
Hypertension Clinic	: Saturdays 12:00 to 2:30pm

Facilities

- 24 bedded, fully air conditioned nephrology ward with central oxygen and suction.
- 24 hours daily emergency services.
- Fully equipped ICU with state of the art facilities.
- Multi parameter monitors and round the clock blood gas analyzers.
- Bed side dialysis facility for sick ICU patients
- Highly efficient and cooperative nursing personals.

Hemodialysis

The department has 19 advanced hemodialysis and SLED machines and performs more than 1700 hemodialysis sessions per month.

Renal Transplantation:

- Live related living donor transplant.
- Cadaveric (Deceased donor) Transplant -*starting shortly*.
- Pre transplant work up of recipient and donor.
- Peri and post transplant care.

Interventional Nephrology

- USG guided Renal Biopsies
- Internal Jugular dialysis catheter insertion
- Permanent dialysis catheter insertion
- AV fistula creation
- CAPD catheter insertion
- Acute peritoneal dialysis catheter insertion



ECMO (Extracorporeal Membrane Oxygenation)

Extracorporeal Membrane Oxygenation (ECMO) is a temporary cardio respiratory or respiratory support in critically ill patients who are unresponsive to conventional management. It is a highly specialised form of ICU management, where we put a wide bore canula in the major vein and return it back to heart with the help of pump after oxygenation.

Q1 Is ECMO similar to cardiopulmonary bypass?

Ans: There are several fundamental differences such as direct cannulation to heart (central cannulation) is not required routinely, less anticoagulant requirement during ECMO and the ECMO support can be continued for months. Moreover, ECMO can be safely performed bed side in ICU.

Q2 Is there any difference for cardiorespiratory support & respiratory support during ECMO?

Ans: In cases when both cardiorespiratory support is required we perform VA (Veno Arterial) ECMO where canula is placed through femoral vein and blood is returned back through femoral artery which not only improves the oxygenation but also help in maintaining cardiac output. When cardiac functions are sufficient and the only lung functions are compromised V.V (Venovenous) ECMO helps in maintaining the gas exchange by returning back the oxygenated blood to right side of heart through internal jugular vein.

Q3 What are the conditions where ECMO should be instituted?

Ans: The common conditions where ECMO support is beneficial are:

- **VA ECMO**
 - » Post Cardiac Surgical support
 - » Toxic Myocarditis
 - » Viral Myocarditis
 - » Pulmonary Embolism in haemodynamic compromised
 - » ECPR
 - » Cardiogenic shock
- **V.V ECMO**
 - » ARDS
 - » Severe hypoxemia
 - » Airway surgery
 - » Bridge to cardiac transplant
 - » Pulmonary Embolism with hypoxia
 - » Airway trauma

Q4 Is ECMO beneficial in all cardiac or respiratory condition?

Ans: ECMO support whether cardiac or respiratory function as a temporary support. Patient selection should be



ECMO TEAM *"Caring for life"*

done carefully only for recoverable conditions or as bridge to definitive therapy such as transplant. Moreover patient with indeterminate neurological status, intracranial haemorrhage, grossly deranged coagulation or terminal malignancy may not be the candidates for ECMO support.

Q5 When a patient should be referred for ECMO?

Ans: A patient who is not responding to conventional life support strategies such as not maintaining oxygenation even with high ventilator support or cardiac functions & haemodynamics is worsening even with high vasoactive drugs and other measures and condition seems to be reversible.

Q6 Can we transport a patient on ECMO?

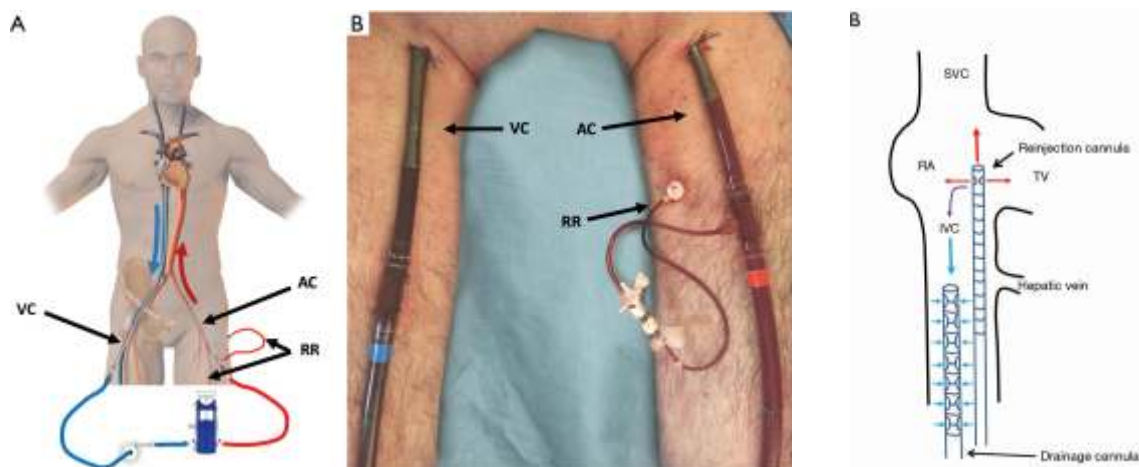
Ans: If the patient is too critical to shift to HDHI, Our team is trained to go & initiate the ECMO and bring the patient back to HDHI on ECMO support.

Q7 What are our future plans?

Ans: We are further extending our ECMO program for paediatric patients and in future we will focus on neonatal ECMO to save more lives. We also wish to involve our organization in research and development of ECMO technology.

Q8 How is ECMO setup and can it be initiated in any ICU?

Ans: As an extensive procedure in ICU it is the best example of multidisciplinary team approach and requires ECMO specialist, Cardiac anaesthesiologist, Intensivist, Cardiovascular surgeon, Cardiologist, Perfusionist, trained ECMO nurses and support from other specialities such as nephrology, gastroenterology, neurology, respiratory physicians etc. The set up requires not only a high end ICU with continuous extensive monitoring but surgical back up also. The ECMO machine (centrifugal pump with monitor), pump head, oxygenator, heater cooler unit, oxygen blender, wide bore tubings with monitoring ports along with wide bore access canulas make complete ECMO set up.



Video Assisted Thoracoscopic Surgery (VATS)

Video Assisted Thoracoscopic Surgery (VATS) is a form of minimally invasive keyhole surgical technique used to diagnose and treat problems in chest. VATS was started in DMCH in 2004 and till date around 2000 procedures have been performed with excellent results. Small cuts are made on the body, a tiny camera and surgical instruments are inserted into chest wall. The camera transmits images of the inside of chest onto a video monitor thus guiding the surgeon in performing the procedure.

Benefits of VATS

- Small incision surgery with better vision and less pain.
- Less blood loss, short hospital stay and early recovery.
- Better chance of breathing normally and better quality of life after surgery.

VATS helps in the treatment of :

- Benign and malignant (cancerous) lesions
- Pleural effusion (fluid in chest)
- Acute and chronic empyema (pus in chest)
- Resection of bleb and bullae
- Repair of bronchopleural fistula (BPF)
- Tuberculosis
- Aspergilloma with hemoptysis
- Hydatid cyst
- Necrotizing pneumonitis
- Bronchiectasis
- Excision of mediastinal cyst and tumour
- Thymus excision for thymoma & myasthenia gravis
- Achlasia esophagus
- Benign tumour of esophagus
- Closure of patent pleuroperitoneal canal
- Eventration of diaphragm
- Sympathectomy for hyperhidrosis of axilla and palm
- Chronic abdominal pain

The procedure is safe even in debilitated patients with marginal pulmonary reserve, where it can be done even under local intercostal block with sedation.



Transjugular Intrahepatic Portosystemic Shunt (TIPS)

Transjugular Intrahepatic Portosystemic Shunt (TIPS) procedure is done to connect the portal vein to the hepatic vein in the liver by placing a stent between these two veins, allowing it to bring blood draining from the bowel back to the heart while avoiding the liver. In DMCH, approximately 100 TIPS procedures have been performed so far without any major complications. TIPS is used to treat portal hypertension and its complications. The patients who will benefit from treatment with TIPS include, those suffering from acute variceal bleeding refractory to medical therapy, refractory cirrhotic ascites, portal gastropathy and budd-chiari syndrome.

Procedure

TIPS is performed by specially trained interventional radiologist in a dedicated catheterization lab under fluoroscopic guidance, with the patient under conscious sedation. Firstly, using ultrasound guidance, the internal jugular is identified and a small incision made at the site and a puncture needle on catheter inserted into it. Through this point of entry, a guide wire and catheter are inserted, contrast injected and the hepatic veins and portal venous system are identified. Pressures are then measured in the hepatic vein and right atrium to confirm the diagnosis of portal hypertension. Access is then gained from the hepatic vein to the portal system and a stent is placed extending from the portal vein to the hepatic vein. No sutures are needed on completion and a simple compression bandage is applied to the site of puncture.

Benefits

- Minimally invasive procedure that typically has a shorter recovery time than open surgery and without the risks that accompany open surgery.
- The stent is entirely inside the diseased liver, and is removed with it during a transplant.
- No surgical incision or sutures are required.

Over 90% people who undergo TIPS for prevention of bleeding from varices experience little to no bleeding thereafter. When TIPS is performed for ascites, 60-80% of people get relief in their ascites.



TIPS Procedure



DMCH Pharmacy

DMCH started its own pharmacy in the year 2013. The pharmacy has three major branches:

Purchase

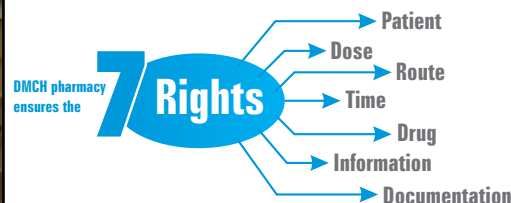
Bulk Store

Retail Pharmacy

The above departments work in coordination with each other for seamless, better patient services which is the mission and vision of the institute. DMCH has 19 retail pharmacies out of which 5 pharmacies are open 24x7 for better patient services. DMCH pharmacy procures branded, generic medicines of good quality from the reputed pharmaceutical companies. The medicines are available at a very reasonable price to the patients.

Highlights

- More than 150 registered pharmacists are associated with our pharmacy, the highest number in north India.
- DMCH pharmacy strictly adheres to drug and cosmetics acts as well as narcotics and psychotropic's act.
- The institution regularly organizes training sessions to upgrade professional knowledge of pharmacists.
- Molecule control committee and drugs & therapeutic task force ensures the proper functioning.
- Hospital formulary is available to all the faculty members.
- Modern management techniques like always better control (ABC) & vital essential desirable (VED) analysis are used for the management of inventory.
- Economic order quantity is followed to prevent over stocking of the drug.



Laundry and Linen Section

Laundry and Linen service plays a very important role in maintaining and safeguarding the health and hygiene of both the inpatients and the medical staff. The quality and standard of this service determines in a large measure, the quality of any healthcare system. The main purpose of this department is to provide clean material to the patients and ensure that hygienic conditions are maintained in the process. The clean bedding and clean clothes instils psychological confidence in the patients and the public and enhances their faith in the services rendered by the hospital.

Functions

1. Collecting soiled linen from various places
2. Sorting the linen and processing them
3. Cleaning and disinfecting the used linen and drying
4. Inspecting and repairing or replacing damaged materials.
5. Folding and pressing of cleaned linen
6. Storage of clean linen before distribution
7. Distributing clean linen to the respective user departments.

Quantum of work

Presently, approximately 10,000 pieces of dirty Linen is received every day for washing and drying for distribution in all operation theatres and wards of the hospital.





DMCH Molecular genetics laboratory is the finest genetic laboratory in the state of Punjab. Genetic testing includes the identification of specific alleles, mutations, genotypes or karyotypes that are related to heritable traits, diseases or susceptible to disease for the individual or their descendants and for the evaluation of malignancies and risk assessment for familial cancer. The lab is at its early stage and offers DNA analysis for diagnosis and carrier testing for metabolic and other genetic disorders (thalassemia, thrombophilia, leukemia & other cancers). The genetic tests are performed by using PCR, ARMS PCR, RFLP & real time PCR. The DMCH molecular genetics lab provides genetic consultation, focuses on the physician-patient relationship and the potential roles of the primary care provider in this dynamic field. The following tests are being performed:

Thrombophilia

- Factor V Ladien (R506Q) genotyping
- MTHFR (A1298C and C677T) genotyping
- Prothrombin(G20210A) genotyping

Leukemia and other

Myeloproliferative Disorders

- JAK-2 (V617F) genotype
- Qualitative BCR-ABL

Thalassemia

- Beta thalassemia
- XMN1 Polymorphism

Infertility

- FSHR (S680N) genotype

Cervical cancer/lesions

- HPV 16/18 DNA testing

For more information write to : dmchmoleculargenetics@gmail.com

EDITORIAL TEAM

Dr Gurpreet Singh Wander (Chairperson) | Dr Suneet Kant Kathuria (Secretary) | Dr Virender Pal Singh
Dr Manish Munjal | Dr Atul Mishra | Dr Shikha Gupta | Dr Sarit Sharma | Dr Navkiran S Mahajan
Dr Bharti Mahajan | Dr Rajesh Kumar | Dr Monika Singla | Dr Kanchan Gupta | Dr M Rupinder Kaur

Co-ordinators : Dr Suneet Kant Kathuria, Mr Aayush Chaku & Ms Muskan Sharma

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