

# What's Up? @St John's Hospital

Issue 18, February 15<sup>th</sup>, 2019



On a sunny day – A panoramic view of 'The lawn in front of St John's Medical College'.

PC: Dr. Rakesh



# IamAndIWill  
# WorldCancerDay

#### EDITORIAL TEAM:

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St John's National Academy of Health Sciences  
St John's Medical College Hospital, Bengaluru





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## MESSAGE FROM THE EDITORIAL TEAM

***Bonjour à tous!!!***

We are pleased to share the eighteenth issue of “What’s Up? @ St John’s Hospital” magazine today. We welcome a new member, Dr. Santu Ghosh (Assistant Professor, Biostatistics) to our team. We now have 17 members on board!

The present issue highlights World cancer day and its theme ‘I am and I will. We thank Dr. Nirmala. S (Professor and Head, Department of Radiation Oncology) for providing us with a write up on cancer awareness.

From this issue we start a new section called ‘Team of the Month’ in which we feature one team, which strives hard backstage, to maintain seamless functioning of the hospital. We portray Biomedical Waste Management department in the present issue.

Do read ‘Know your Hospital’ Section this time to know about the Interventional Radiology facilities available in St. John’s Hospital.

Please feel free to communicate with us to publish your achievements, events and any feedbacks are welcome.

**Editorial Team**



# UPDATES THIS WEEK

## WORLD CANCER DAY – 4<sup>th</sup> February

- **Dr. Nirmala S**

- (Professor and Head, Department of Radiation Oncology)

World Cancer Day is an international day marked on February 4<sup>th</sup> to raise awareness of cancer and to encourage its prevention, detection, and treatment.

World Cancer Day was founded by the Union for International Cancer Control (UICC) to support the goals of the World Cancer Declaration, written in 2008. At the 19th World Cancer Congress (Washington 2006), the global cancer community united behind a call for urgent action to deal with the worldwide cancer crisis by launching the first World Cancer Declaration, which outlines the steps needed to begin to reverse the global cancer crisis by 2020. This revised declaration was adopted at the World Cancer Summit in Cologny, Geneva, on 30 August 2008 and endorsed by the 20th World Cancer Congress (Geneva 2008). The declaration is a tool to help cancer advocates bring the growing cancer crisis to the attention of health policymakers at national, regional and global levels.

In the year 2018, 9.5 million people worldwide were expected to die from Cancer amounting to almost 26000 cancer deaths daily.

The primary goal of World Cancer Day is to significantly reduce illness and death caused by cancer and to rally the international community to end the injustice of preventable suffering from cancer. World Cancer Day targets misinformation, raises awareness, and reduces stigma.

On this day all the organisations and the public worldwide, come together and work together to create awareness about cancer and to make cancer the first health priority in the world. On this day, throughout the world, public and the communities organise various programs like cancer walk, run for cancer, seminars, public information campaigns, street plays and stage shows, to educate the public about cancer disease, and how fight the disease if afflicted.

The first priority is to do screening and early detection of cancer among the people. To educate people about healthy food habits, physical activities, healthy habits and to stay away from tobacco usage in any form and also to pressurise the health authorities to make cancer the first health priority are other ways.



# UPDATES THIS WEEK

## WORLD CANCER DAY

UICC has declared the following theme and campaigning of this theme for the next three years. It is **“I am and I will”**. This is to create personal commitment by individuals so that the cancer burden on the world can be reduced.

**“I am”** - As an Individual, we can cultivate Healthy life style, healthy food habits, and indulge in physical activities. This should be effected for the whole family. We can educate ourselves about signs and symptoms of cancer and various screening methods to detect it at an early stage.

If we are cancer survivors, then sharing our experiences with others and joining hands with the support groups may enrich them. We should strive to create a positive attitude among other cancer patients.

If a cancer patient ourselves or our family member, once the treatment is over, returning to normalcy, to the work, and to the society is essential. To become self-dependent both physically and economically is also necessary.

### **What we can do to others? “I will”**



We can support the cancer patients socially and morally. People in responsible positions can pressurise the government to allocate higher budget for cancer treatment and also to create better facilities for treatment and rehabilitation.

We can educate the others also, alongside educating ourselves.

We can prevent the spread of rumours about the disease and dissify the myths about the disease and its treatment.

We can see to the availability of nutritional balanced food in schools and colleges, and implementation of physical activities to students. We can work towards the Implementation of prohibition of smoking in public and work places and help others to adopt healthy life style.

So this can start at an individual level and go a long way in fighting the cancer menace.



# UPDATES THIS WEEK

## WORLD CANCER DAY – 4<sup>Th</sup> February

### PUBLIC AWARENESS PROGRAM IN ST JOHN'S MEDICAL COLLEGE HOSPITAL



Public Awareness program on the account of World Cancer Day was organised by St. John's College of Nursing. An educative skit was performed by the nursing students. There were awareness talks by Rev. Fr. Pradeep Kumar Samad (Associate Director Hospital) and Dr. Nirmala.S (Professor and Head, Department of Radiation Oncology) about this year's theme 'I Am and I Will'.

There was also an awareness program for the aid girls by the department of hospital based cancer registry.

# UPDATES THIS WEEK

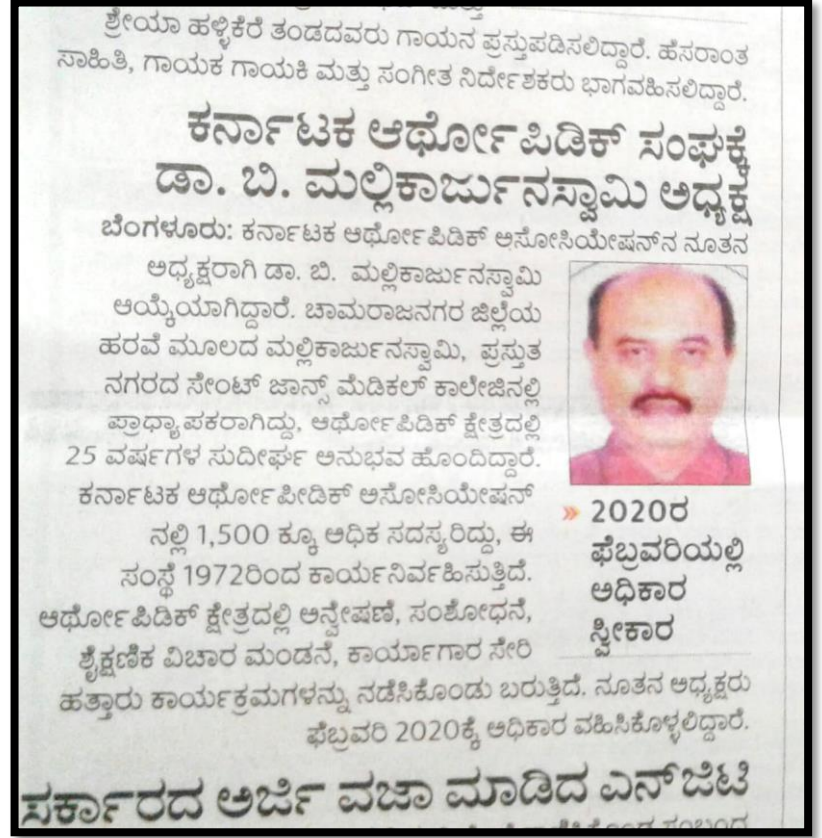
## DEPARTMENT OF ORTHOPEDICS

**Dr. Mallikarjunaswamy (Professor) has been elected as President of Karnataka Orthopedic Association**

Dr. Mallikarjunaswamy. B, Professor and Head of Unit I of Department of Orthopedics has been elected as 'President Elect 2019' of Karnataka Orthopaedic Association.

The Karnataka Orthopedic Association is a very prestigious organisation, which was founded in the year of 1972. It is having more than 1500 life members actively involved in various scientific programs throughout the country.

The elections were held recently, the result was declared on 5<sup>th</sup> February 2019 to the Annual General Body meeting of the association which was conducted as a part of 43<sup>rd</sup> annual conference of Karnataka Orthopedic Association in Bangalore.



**HEARTY CONGRATULATIONS AND  
BEST WISHES TO  
DR. MALLIKRJUNASWAMY B**



# UPDATES THIS WEEK

## FRIDAY CLINICAL MEETING

**18th January 2019**

### **Corruption in Health Care**

The Friday clinic meeting was held on 18th January 2019 at 2.45pm at mini auditorium, St. John's Medical College Hospital. The topic of the meeting was corruption in health care by Dr G.D. Ravindran, Professor of Medicine and Head of Medical Ethics, St. John's Medical College Hospital. He began by defining corruption as the abuse of entrusted power for private gain. He then elaborated on the different forms that corruption can assume, such as, bribery, nepotism and extortion. He spoke about how these forms of corruption affect healthcare in India and the impact it can have on patient outcomes. As examples, he gave instances of the nexus between medical doctors, diagnostic laboratories and pharmacies, stent pricing problems and hysterectomies carried out without consent of patients in India.

The common areas of corruption in health care are construction and maintenance of health facilities. Purchase and supply of medicines, use of medicines, recognition of quality products, diagnostics, admission into medical colleges, appointment with medical professionals. Corruption in patient care deals with bribes, kick backs, unnecessary referrals and unnecessary investigations.

The effects of corruption are, mortality due to illnesses and negligence, reduced trust on health care professionals and people going against medical ethos. The reasons for corruption are two fold. The structural reasons and individual reasons. The structural reasons are poor infrastructure, low wages, prolonged work schedule. The individual reasons are greed for more money and recovery of the money spent on education.





# UPDATES THIS WEEK

## FRIDAY CLINICAL MEETING

### Corruption in Health Care

There are various theories that explain about corruption and also justify that corruption is right. Ethical theories, theories of utilitarianism, theories of relativism and Freud's egoism theory are some of the theories which explain about corruption. When we analyse how this corruption started, in Africa there is a culture called "Ubuntu" which means the act of giving back or reciprocity. In China we give gifts to others in a red envelope which later turned out to be a bribe happening in the red envelope. In India, at hospitals when there is a birth or when the patient gets discharged, patients will be thanking the medical team by giving sweets.

There are certain laws against corruption. Some of them are Indian Penal Code, 1860, Prevention of Corruption Act, 1988, The Benami Transactions (Prohibition) Act. The ways to prevent corruption are having personal integrity, transparency in decisions and strict action on the people who involve in corruption.



# Team of The Month

## WASTE MANAGEMENT DEPARTMENT



Biomedical waste (BMW) is any waste produced during the diagnosis, treatment, or immunization of human or animal research activities pertaining thereto or in the production or testing of biologicals or in health camps. It follows the cradle to grave approach which is characterization, quantification, segregation, storage, transport, and treatment of BMW (BMW Rules 2016/2018).

The basic principle of good BMW Management (BMWM) practice is based on the concept of 4Rs, namely, Reduce, Reuse, Recycle, and Replenish. And central to the theme of 4Rs are the best possible segregation at source, practices and efforts towards minimisation of waste generation.



# Team of The Month

## **WASTE MANAGEMENT DEPARTMENT**

The ultimate objective of bio medical waste management apart from compliance to the legislation(s) is also to promote Occupational safety among health care personnel including staff involved in handling this waste stream both within the health care institutions and at common BMW treatment facilities (including that of municipal corporations) and Hospital Infection Control.

Few of the core steps involved in “managing” BMW are segregation of waste at the point of generation by the personnel generating that waste, containment (including labelling and use of biohazard symbol), tagging and barcoding), disinfection of waste (for example as is being done for needles, blood bags and laboratory waste), safe storage of waste post scanning the barcodes and responsibly handing over the waste to common biomedical treatment facility operators (for St. John’s the contractor is Maridi Eco Industries Ltd.,). BMW Management also includes annual health appraisal of staff including vaccination, continuous training sessions, problem-solving centred monitoring and supervision by designated staff of HICC-Quality Dept., systematic documentation of injuries and accidents apart from following due protocols as prescribed by HICC/Quality Department.

In St. Johns Medical College Hospital, the waste management unit is situated opposite to the unit of hope building and behind the staff car parking area. The department is headed by Mr. J. L. Stephens (General manager) and assisted by Mr. Sathish (Management executive).

There are in total eight field staff/helpers in the waste management team.

### **The duty timings of the staff is as follows:**

In order to meet the demands of our hospital, these eight helpers work in split shift.

- The first team reports for work at 7.30am & leaves by 4pm.
- The second team reports at 9am & leaves by 5.30pm.



# Team of The Month

## **WASTE MANAGEMENT DEPARTMENT**

Each staff is assigned to collect waste from two floors of the hospital according to the colour coding norms as under the BMW Rules 2016/18.. All the staff are trained and motivated to wear the personal protective equipment while handling the waste.

The helpers before lifting the Bio-medical waste bags from the respective departments, should ensure that the waste liners bags are provided with barcode stickers. The basic idea of pasting a barcode sticker is to ensure the accurate amount of waste generated in each and every department.

Once the waste reaches the Central Waste Collection Unit, it is weighed by the management executive and the barcodes are scanned using an application. This bar coding facility was created and implemented by a local company known as M/s. CODELAND.

The Barcodes which are scanned at our waste yard, gets directly stored in the cloud server, where the KSPCB (Karnataka State Pollution Control Board) authorities have direct access to review these data. These details of waste generated by St. Johns are monitored by the KSPCB on a periodic basis.

The amount of waste collected at the end of each month is tabulated and kept as our record and, this record is submitted to the KSPCB at the end of every year. In addition St.John's also has created a weblink at the official website of SJNAHS wherein details of the BMW is displayed.

The BMW collected in our central waste yard is cleared by the KSPCB approved contractor on a daily basis. Technically there are four approved contractors for clearing the BMW in Bangalore. The one who is assigned for our area is M/s. Maridi Eco Industries.



# Team of The Month

## WASTE MANAGEMENT DEPARTMENT

We have an annual contract agreement with this company. The waste collected in our premises is transported in their own Bio Medical Waste transportation vehicle to their facilities, where it is handled and treated as per the pollution control board norms specified for a common treatment facility.

The staff are working harmoniously and they are sincerely accomplishing their assigned task each day tirelessly.



**THE TEAM:** Mr. Shivanna, Mr. Abel Raju, Mr. John Peter, Mr. Srinivas, Mr. Ramachandra, Mr. Satish (Management Executive), Mr. Shikamani, Mr. Mahadeva, Mr. Balaraj.C, Mr. Ramesh

**For emergency contact: 437 or 7899914437**

*'No work is small or big, therefore salute each other for A harmonious functioning .....*



# IG NOBEL

## 1993 - BIOLOGY

### Paul Williams Jr. & Kenneth W. Newell

#### SALMONELLA EXCRETION IN JOY-RIDING PIGS

Paul Williams Jr. of the Oregon State Health Division and Kenneth W. Newell of the Liverpool School of Tropical Medicine, bold biological detectives, for their pioneering study, "Salmonella Excretion in Joy-Riding Pigs." [Published in American Journal of Public Health and the Nation's Health, vol. 60, no. 5, May 1970, pp. 926-9.]

*The effect of stress on the excretion of Salmonellae by pigs is examined by means of an experiment. The implications of this experiment for understanding the path of Salmonellae from domestic animals to man is discussed.*

#### SALMONELLA EXCRETION IN JOY-RIDING PIGS

*Leslie P. Williams, Jr., D.V.M., Dr.P.H., and Kenneth W. Newell, M.D., D.P.H.*

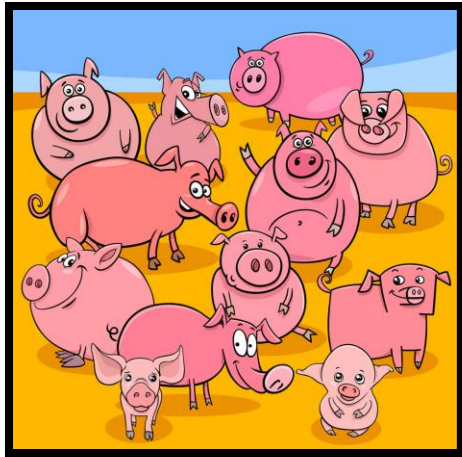
A number of workers over a period of years observed that when swine were examined on the farm, the Salmonella infection rate, as measured by rectal swabs, was low. However, if swine were similarly examined in holding pens at the slaughterhouse, or by caecal or rectal swabs taken after slaughter, the observed infection rate was often from 30 to 80 per cent.

This experiment showed that stress of travel in the truck meant for slaughter house increased the salmonella excretion in the pigs. Illustration of experiment in the Next Page.

# IG NOBEL

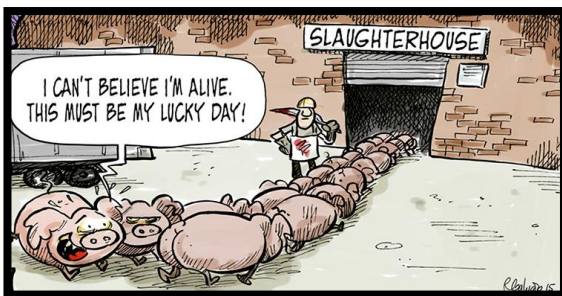


## SALMONELLA EXCRETION IN JOY-RIDING PIGS



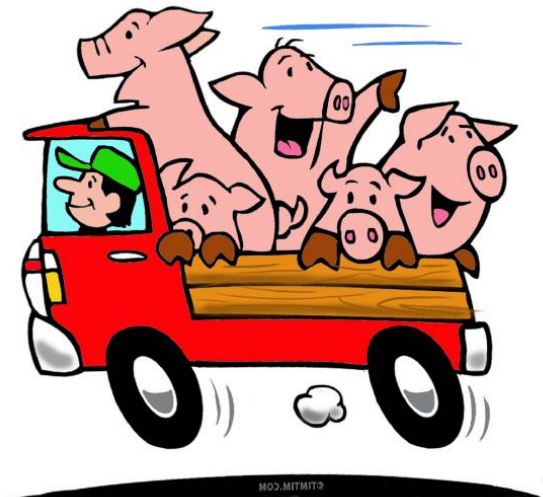
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Feed Them with Stale food containing Salmonella



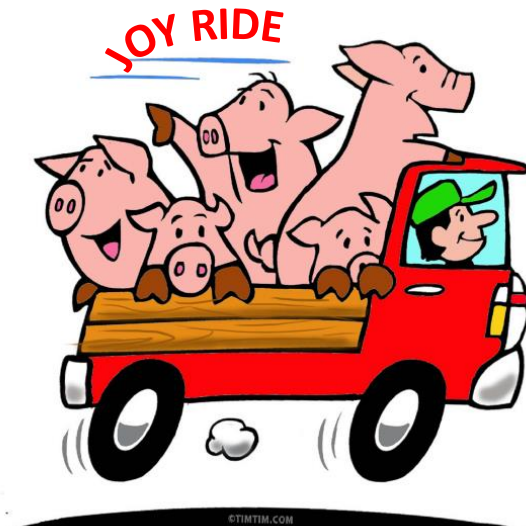
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The Pigs were taken for a Ride on a Cleaned Truck, as though they will be slaughtered



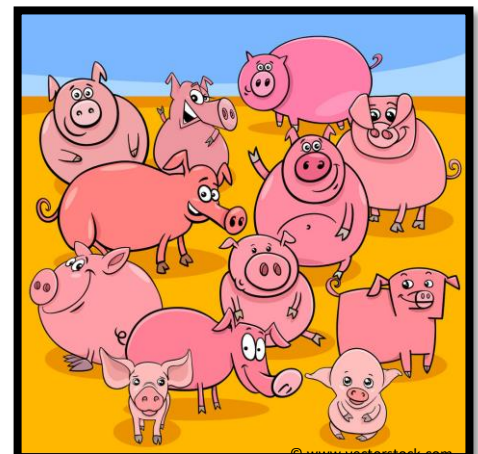
MOO.MITTI

They were not Slaughtered, Instead, the truck would go on a **JOY RIDE**.



©TIMTM.COM

**BACK TO THE FARM:**  
Pigs were tested for Salmonella excretion



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## VASCULAR AND INTERVENTIONAL RADIOLOGY AT ST. JOHN'S MEDICAL COLLEGE HOSPITAL

Interventional radiology (IR), sometimes known as vascular and interventional radiology (VIR), is a medical specialty which provides minimally invasive image-guided diagnosis and treatment of disease. Minimally invasive image-guided techniques are increasingly being used where surgery was previously the only option.

The practice of interventional radiology in India began in the early 1970s. Very few medical colleges in India provide exposure to postgraduate students of Radiology in the field of IR, and it has been a few years that the speciality got a subspecialty status in India.

As a subspecialty, IR has grown from performing multiple minor procedures, to a veritable array of vascular and non-vascular interventions over the past couple of years and currently it is one of the fastest growing speciality. Today, IR is an integral part of various clinical procedures, finding a role in vascular diseases, oncology, stroke management, women's health and paediatrics.

As per a report in 2019, there is only one interventional radiology expert available per every 2.18 lakh population

### LOCATION:

OPD in the USG counter- **Room 6.**

**OPD timings** - Monday to Saturday from 9:00 am – 12: 00 am.

Consultant- **Dr. Abhinandan Ruge** (Vascular and Intervention Radiologist)



## VASCULAR AND INTERVENTIONAL RADIOLOGY AT ST. JOHN'S MEDICAL COLLEGE HOSPITAL



### SJMCH INTERVENTIONAL RADIOLOGY (IR) SERVICES

We are living in an era where minimally-invasive interventions are rapidly gaining ground in clinical practices. St John's Academy takes pride that we are one of those few Medical College hospitals, to have a Specialist in Interventional Radiology and is offering learning exposure to postgraduate students of radiology and to provide affordable and quality care to the patients.

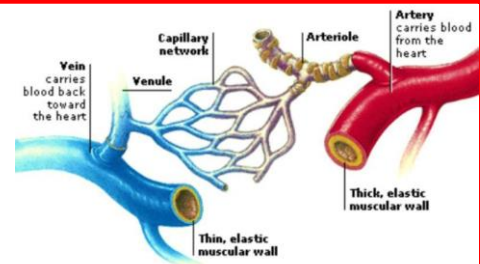
The interventional procedures are managed by Dr. Abhinandan Ruge, under the patronage of Dr. Babu Philip.

IR team has performed over 2500 procedures in the last 2 years.

## SERVICES OFFERED

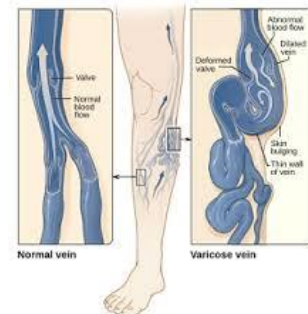
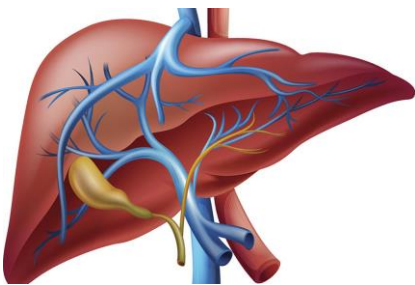
### VASCULAR PROCEDURES

- Peripheral angioplasty/ stenting
- Intra vascular thrombolysis
- Thrombolysis for DVT
- Diagnostic Angiogram – cerebral
- BRTO (Balloon-occluded Retrograde Transvenous Obliteration) – for gastric varices
- IVC Filter Placement/Retrieval – to prevent pulmonary embolization
- Venous stenting – for SVC / subclavian stenosis etc
- Intra Vascular Foreign Body Retrieval –for misplaced central line catheters /wires etc.
- Intra Arterial Chemotherapy
- Sclerotherapy
- Treatment of venous and lymphatic malformations



### VARICOSE VEIN MANAGEMENT

- EVLA – Endo Venous Laser ablation
- Sclerotherapy
- MOCA
- Glue ablation



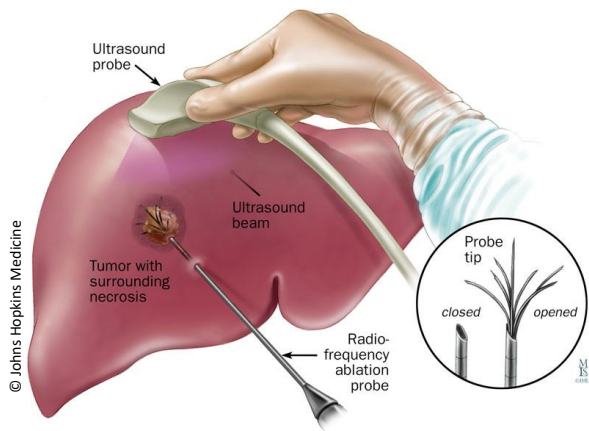
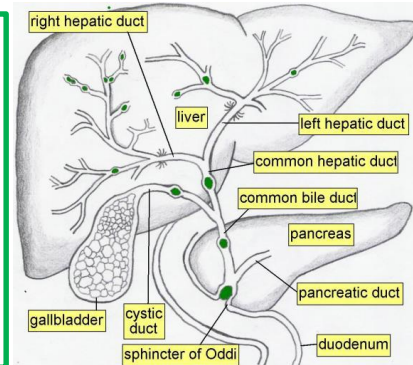
### HEPATIC INTERVENTIONS

- TACE (Trans Arterial Chemo Embolization) – for Liver tumors.
- TJLB (Trans Jugular Liver Biopsy)
- IVC/ Hepatic Vein – Plasty/ Stenting – for Budd Chiari management
- PVE (Portal Vein Embolization) - for planned liver resection
- TIPSS (Transjugular Intrahepatic Portosystemic Shunting) - for portal hypertension
- DIPS (Direct Intrahepatic Portal Shunt) – for portal hypertension

## SERVICES OFFERED – contd...

### BILIARY INTERVENTIONS

- Percutaneous Transhepatic Biliary Drainage (PTBD)
- Biliary Stenting
- Balloon Cholangioplasty - Benign stricture dilatation
- Intra-biliary Radiofrequency Ablation – for cholangiocarcinoma
- Percutaneous Cholecystostomy

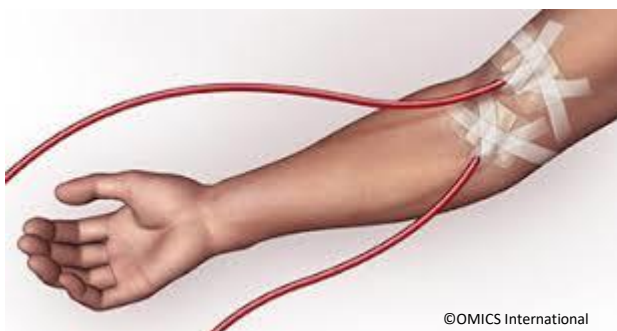


### ABLATIVE THERAPIES

- MWA (Micro Wave Ablation) – for liver, renal, lung tumors
- RFA (Radiofrequency Ablation) – for osteoid osteoma (OO), Liver, Renal, Lung tumors

### INTRAVASCULAR EMBOLIZATION

- BAE - Bronchial Artery Embolization - for Haemoptysis
- GI (Gastro Intestinal) bleeder embolization
- Trauma bleeder Embolization – Liver, spleen, renal, pelvic etc.
- Embolization - for bleeders
- Pre-Operative Tumor Embolization -for highly vascular and large lesions
- Varicocele Embolization
- AVM Embolization, Pseudo Aneurysm management



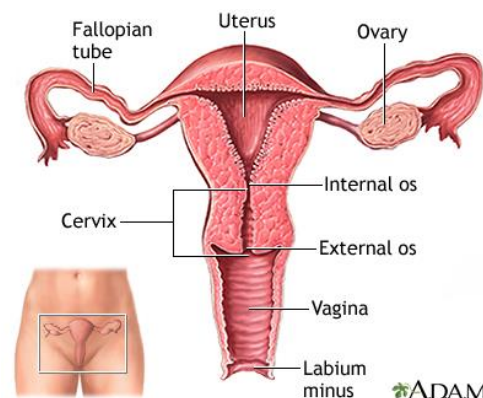
### HEMODIALYSIS - AV FISTULA MANAGEMENT

- Fistulogram
- Fistuloplasty
- Fistuloplasty

## SERVICES OFFERED – contd...

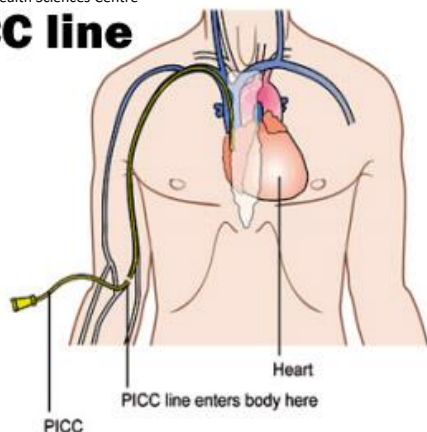
### OBSTETRICS & GYNAECOLOGY

- UAE - Uterine Artery Embolization - for PPH (Post-Partum Haemorrhage)
- UFE - Uterine Fibroid Embolization
- Uterine artery balloon placement for placenta previa/acreta



© London Health Sciences Centre

### PICC line

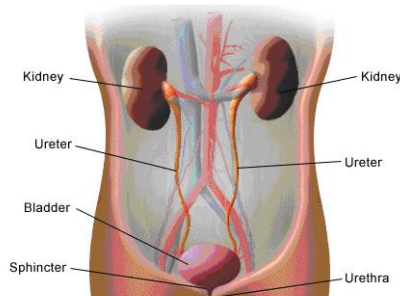
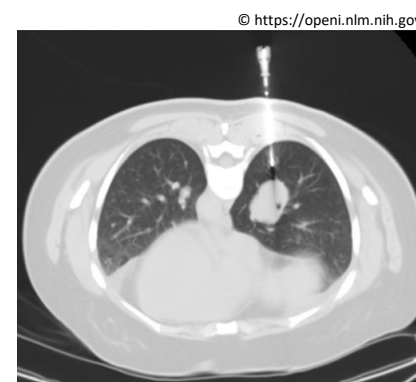


### LONG TERM CENTRAL LINE ACCESS

- PICC Line (Peripherally Inserted Central catheter)
- Tunnelled line (Hickman)
- Chemo Port Placement
- Perm-catheter Insertion

### OTHER PERCUTANEOUS INTERVENTIONS

- Haemostatic Plug Biopsy – for highly vascular lesion/critical location
- Drainage tube placement – for abscess / collections
- Percutaneous Feeding Gastrostomy
- Celiac / Lumbar / Sacral neurolysis –for pain management
- Guided biopsy / FNAC
- LVP(Large Volume Paracentesis) / Diagnostic Aspirations



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### URO-INTERVENTIONS

- Renal Artery Stenting/ Angioplasty – for stenosis –hypertension
- Guided PCN (Percutaneous Nephrostomy)

## THE PATIENTS

Patients are referred from various departments, such as Gastroenterology, Medical and Surgical Oncology, General Medicine and General Surgery, to name a few. Departments also cater to patients referred from other hospitals for specialized procedures.

Benefits to the patients:

1. Most procedures are performed under local anaesthesia.
2. Minimally-invasive, hence aesthetically preferred.
3. Shortened hospital stay.
4. Less expensive compared to other hospitals.

## INTERVENTION RADIOLOGY- PROUD MOMENTS

- 2 papers published in national journals
- 1 poster presented in national level IRIA conference.
- Faculty talk, 1 paper and 3 posters presented in CIRCON state level Interventional Radiology conference.

IR team is proud to announce the expansion of the services by adding Neuro-Interventions very soon



# LAUGHTER IS THE BEST MEDICINE...



Q. What did the big flower say to the little flower?  
A. Hi, bud!

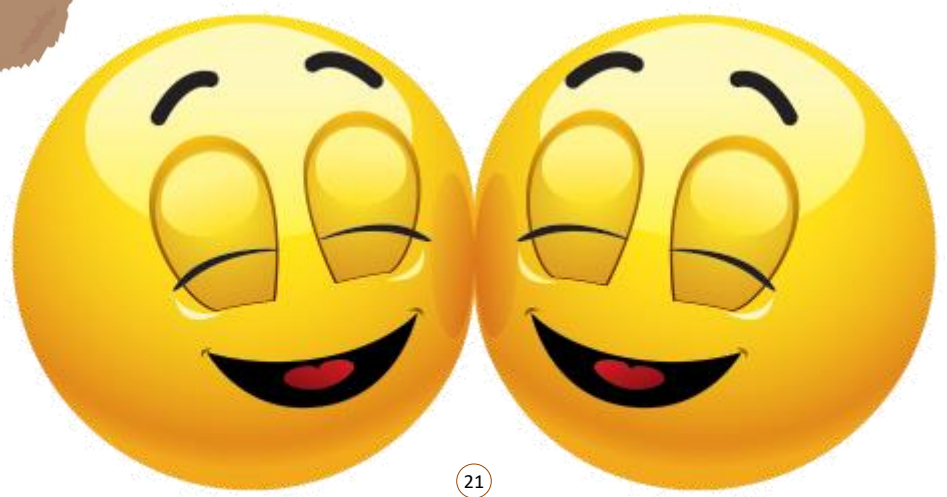


Q. I'm reading a book on the history of glue.  
A. I just can't seem to put it down.

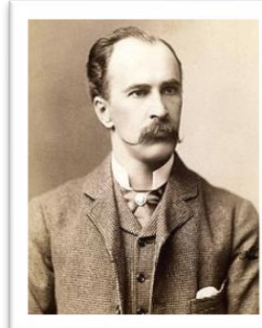
What's the difference between love and marriage?  
Love is blind. Marriage is an eye-opener.



Q: Why are teddy bears never hungry?  
A: Because they're always stuffed.



# THE QUOTABLE OSLER



SIR WILLIAM OSLER

## The yoke of conformity is inevitable:

Sooner or later - insensible, unconsciously-the iron yoke of conformity is upon our necks; and in our minds, as in our bodies, the force of habit becomes irresistible. From our teachers and associates, from our reading, from the social atmosphere about us, we catch the beliefs of the day, and they become ingrained - part of our nature. For most of us this happens in the haphazard process we call education, and it goes on just as long as we retain any mental receptivity.



REF: The Quotable OSLER: Edited by Mark E Silverman, T. Jock Murray, Charles. S Bryan



## MEDICINE DIS WEEK

*A Bird's Eye View.....*

### Antibiotic duration for bacteremia due to Enterobacteriaceae.

The duration of antibiotic therapy for gram-negative bacillary bacteremia depends on the primary source, extent of infection and the patient's clinical response; antibiotics are usually given for 7 to 14 days for uncomplicated cases (eg, no underlying endovascular, bone, joint, or central nervous system infection, no uncontrolled source of infection, no major immunocompromising condition). In a randomized trial of 604 patients with uncomplicated gram-negative bacteremia (mostly Enterobacteriaceae), antibiotic treatment for 7 versus 14 days resulted in comparable rates of a composite endpoint that included all-cause mortality, relapse, suppurative or distant complications, readmission, or extended hospitalization at 90 days; mortality rates at 14 and 28 days were also not statistically different between the two groups. We thus suggest a 7-day course of antibiotic therapy for uncomplicated Enterobacteriaceae bacteremia.

- Yahav D et al., Clin Infect Dis. 2018 Dec 11.

### Neuraxial analgesia and risk of operative vaginal delivery


Neuraxial analgesia with higher concentrations of local anesthetics (LA), as used historically, has been associated with an increased risk of operative vaginal delivery. However, neuraxial analgesia with the lower concentration LA/opioid solutions that have now become standard obstetric anesthesia practice does not increase the risk of operative vaginal delivery. A 2018 meta-analysis of randomized trials compared epidural with non-epidural analgesia or no analgesia for labor and found no difference in instrumental delivery rate in trials conducted after 2005

-Mackenzie H et al., Br J Surg. 2018 Nov;105(12):1650-1657.

[Article Navigation](#)

ACCEPTED MANUSCRIPT

## Seven versus fourteen Days of Antibiotic Therapy for uncomplicated Gram-negative Bacteremia: a Non-inferiority Randomized Controlled Trial

Dafna Yahav, MD , Erica Franceschini, MD, Fidi Koppel, BA, Adi Turjeman, MA, Tanya Babich, MA, Roni Bitterman, MD, Ami Neuberger, MD, Nesrin Ghanem-Zoubi, MD, Antonella Santoro, MD, Noa Eliakim-Raz, MD, ... [Show more](#)

*Clinical Infectious Diseases*, ciy1054, <https://doi.org/10.1093/cid/ciy1054>

**Published:** 11 December 2018 [Article history](#) ▼

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### Abstract

#### Background

Gram-negative bacteremia is a major cause of morbidity and mortality in hospitalized patients. Data to guide the duration of antibiotic therapy are limited.

#### Methods

Randomized, multicenter, open-label, non-inferiority trial. Inpatients with Gram-negative bacteremia, afebrile and hemodynamically stable for at least 48 hours, were randomized to receive 7 (intervention) or 14 days (control) of covering antibiotic therapy. Patients with uncontrolled focus of infection were excluded. The primary outcome at 90 days was a composite of all-cause mortality; relapse, suppurative or distant complications; and re-admission or extended hospitalization (>14 days). The non-inferiority margin was set at 10%.

#### Results

We included 604 patients (306 intervention, 298 control) between January 2013 and August 2017 in three centers in Israel and Italy. The source of the infection was urinary in 411/604 (68%); causative pathogens were mainly Enterobacteriaceae (543/604, 90%). A 7-day difference in the median duration of covering antibiotics was achieved. The primary outcome occurred in 140/306 (45.8%) patients in the 7 days group versus 144/298 (48.3%) in the 14 days group (risk difference [RD] -2.6%, 95% confidence interval [CI] -10.5% to 5.3%). No significant differences were observed in all other outcomes and adverse events, except for a shorter time to return to baseline functional status in the short therapy arm.

#### Conclusions

In patients hospitalized with Gram-negative bacteremia achieving clinical stability before day 7, an antibiotic course of 7 days was non-inferior to 14 days. Reducing antibiotic treatment for uncomplicated Gram-negative bacteremia to 7 days is an important antibiotic stewardship intervention.

(ClinicalTrials.gov number, NCT01737320)

**Keywords:** [Duration](#), [bacteremia](#), [Gram-negative](#), [antibiotics](#)

**Topic:** [antibiotics](#), [bacteremia](#), [enterobacteriaceae](#), [inpatients](#), [israel](#), [italy](#), [suppuration](#), [urinary tract](#), [infection](#), [arm](#), [morbidity](#), [mortality](#), [pathogenic organism](#), [antibiotic therapy](#), [gram-negative bacteremia](#), [risk](#), [attributable](#), [antimicrobial stewardship](#), [absolute risk reduction](#), [functional status](#), [adverse event](#), [non-inferiority trials](#), [primary outcome measure](#)

**Issue Section:** [Major Article](#)



[Intervention Review]

# Epidural versus non-epidural or no analgesia for pain management in labour

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## ABSTRACT

### Background

Epidural analgesia is a central nerve block technique achieved by injection of a local anaesthetic close to the nerves that transmit pain, and is widely used as a form of pain relief in labour. However, there are concerns about unintended adverse effects on the mother and infant. This is an update of an existing Cochrane Review (*Epidural versus non-epidural or no analgesia in labour*), last published in 2011.

### Objectives

To assess the effectiveness and safety of all types of epidural analgesia, including combined-spinal-epidural (CSE) on the mother and the baby, when compared with non-epidural or no pain relief during labour.

### Search methods

We searched Cochrane Pregnancy and Childbirth's Trials Register ([ClinicalTrials.gov](http://ClinicalTrials.gov)), the WHO International Clinical Trials Registry Platform (ICTRP) (30 April 2017), and reference lists of retrieved studies.

### Selection criteria

Randomised controlled trials comparing all types of epidural with any form of pain relief not involving regional blockade, or no pain relief in labour. We have not included cluster-randomised or quasi-randomised trials in this update.

### Data collection and analysis

Two review authors independently assessed trials for inclusion and risks of bias, extracted data and checked them for accuracy. We assessed selected outcomes using the GRADE approach.

### Main results

Fifty-two trials met the inclusion criteria and we have included data from 40 trials, involving over 11,000 women. Four trials included more than two arms. Thirty-four trials compared epidural with opioids, seven compared epidural with no analgesia, one trial compared epidural with acu-stimulation, one trial compared epidural with inhaled analgesia, and one trial compared epidural with continuous midwifery support and other analgesia. Risks of bias varied throughout the included studies; six out of 40 studies were at high or unclear

risk of bias for every bias domain, while most studies were at high or unclear risk of detection bias. Quality of the evidence assessed using GRADE ranged from moderate to low quality.

Pain intensity as measured using pain scores was lower in women with epidural analgesia when compared to women who received opioids (standardised mean difference -2.64, 95% confidence interval (CI) -4.56 to -0.73; 1133 women; studies = 5;  $I^2 = 98%$ ; low-quality evidence) and a higher proportion were satisfied with their pain relief, reporting it to be “excellent or very good” (average risk ratio (RR) 1.47, 95% CI 1.03 to 2.08; 1911 women; studies = 7;  $I^2 = 97%$ ; low-quality evidence). There was substantial statistical heterogeneity in both these outcomes. There was a substantial decrease in the need for additional pain relief in women receiving epidural analgesia compared with opioid analgesia (average RR 0.10, 95% CI 0.04 to 0.25; 5099 women; studies = 16;  $I^2 = 73%$ ;  $\text{Tau}^2 = 1.89$ ;  $\text{Chi}^2 = 52.07$  ( $P < 0.00001$ )). More women in the epidural group experienced assisted vaginal birth (RR 1.44, 95% CI 1.29 to 1.60; 9948 women; studies = 30; low-quality evidence). A post hoc subgroup analysis of trials conducted after 2005 showed that this effect is negated when trials before 2005 are excluded from this analysis (RR 1.19, 95% CI 0.97 to 1.46). There was no difference between caesarean section rates (RR 1.07, 95% CI 0.96 to 1.18; 10,350 women; studies = 33; moderate-quality evidence), and maternal long-term backache (RR 1.00, 95% CI 0.89 to 1.12; 814 women; studies = 2; moderate-quality evidence). There were also no clear differences between groups for the neonatal outcomes, admission to neonatal intensive care unit (RR 1.03, 95% CI 0.95 to 1.12; 4488 babies; studies = 8; moderate-quality evidence) and Apgar score less than seven at five minutes (RR 0.73, 95% CI 0.52 to 1.02; 8752 babies; studies = 22; low-quality evidence). We downgraded the evidence for study design limitations, inconsistency, imprecision in effect estimates, and possible publication bias.

Side effects were reported in both epidural and opioid groups. Women with epidural experienced more hypotension, motor blockade, fever, and urinary retention. They also had longer first and second stages of labour, and were more likely to have oxytocin augmentation than the women in the opioid group. Women receiving epidurals had less risk of respiratory depression requiring oxygen, and were less likely to experience nausea and vomiting than women receiving opioids. Babies born to women in the epidural group were less likely to have received naloxone. There was no clear difference between groups for postnatal depression, headache, itching, shivering, or drowsiness. Maternal morbidity and long-term neonatal outcomes were not reported.

Epidural analgesia resulted in less reported pain when compared with placebo or no treatment, and with acu-stimulation. Pain intensity was not reported in the trials that compared epidural with inhaled analgesia, or continuous support. Few trials reported on serious maternal side effects.

### Authors' conclusions

Low-quality evidence shows that epidural analgesia may be more effective in reducing pain during labour and increasing maternal satisfaction with pain relief than non-epidural methods. Although overall there appears to be an increase in assisted vaginal birth when women have epidural analgesia, a post hoc subgroup analysis showed this effect is not seen in recent studies (after 2005), suggesting that modern approaches to epidural analgesia in labour do not affect this outcome. Epidural analgesia had no impact on the risk of caesarean section or long-term backache, and did not appear to have an immediate effect on neonatal status as determined by Apgar scores or in admissions to neonatal intensive care. Further research may be helpful to evaluate rare but potentially severe adverse effects of epidural analgesia and non-epidural analgesia on women in labour and long-term neonatal outcomes.

## PLAIN LANGUAGE SUMMARY

### Epidurals for pain relief in labour

#### What is the issue?

We set out to assess the effectiveness of all kinds of epidural analgesia (including combined-spinal-epidural) on the mother and the baby, when compared with non-epidural or no pain relief during labour.

#### Why is this important?

Pain relief is important for women in labour. Pharmacological methods of pain relief include breathing in of nitrous oxide, injection of opioids and local analgesia with an epidural for a central nerve block. Epidurals are widely used for pain relief in labour and involve an injection of a local anaesthetic into the lower region of the back close to the nerves that transmit pain. Epidural solutions are given by bolus injection (a large, rapid injection), continuous infusion or using a patient-controlled pump. Lower concentrations of local anaesthetic when given together with an opiate allow women to maintain the ability to move around during labour and to actively

participate in the birth. Combined-spinal-epidural involves a single injection of local anaesthetic or opiate into the cerebral spinal fluid for fast onset of pain relief, as well as insertion of the epidural catheter for continuing pain relief. Side effects such as itchiness, drowsiness, shivering and fever have been reported. Rare but potentially severe adverse effects of epidural analgesia can occur, such as severe long-lasting headache after the injection, or nerve injury.

### **What evidence did we find?**

We searched for evidence in April 2017 and identified 40 trials, involving over 11,000 women, that contributed information to this review. The trials varied in the quality of their methods.

All but six studies compared epidural analgesia with injected opioid drugs. Epidurals may relieve labour pain more effectively than opioids, and more women may be more satisfied with epidural as pain relief. Overall, women using epidural analgesia may be more likely to require forceps or ventouse to assist with the birth when compared with opioid drugs. However we did not see this effect in studies conducted since 2005, where the use of lower concentrations of local anaesthetic and more modern epidural techniques such as patient-controlled epidural analgesia (PCEA) were more likely. Epidural in comparison to opioids probably makes little or no difference to caesarean section rates, women with long-term backache, effects on the baby at birth or the number of babies who were admitted to neonatal intensive care.

Women who used epidurals can have problems passing urine and can suffer fever. There are highly variable findings such as a longer labour, experiencing very low blood pressure, and being unable to move for a period of time after the birth (motor blockade), probably due to higher concentrations of local anaesthetic being used in the epidural or the use of epidural infusions rather than epidural doses of pain relief administered at intervals. However, women who received opioid drugs also showed some side effects such as a slowing of their breathing so that they needed to wear an oxygen mask, and more nausea and vomiting. More babies whose mothers received opioids were given a drug to counteract the effects of the opioids. There was no difference between women in the epidural or opioid groups for postnatal depression, headaches, itching, shivering, or drowsiness.

Women with epidurals reported less pain compared to women with placebo or no treatment, or acu-stimulation. Pain was not reported in the trials that compared epidural with inhaled analgesia, or continuous support.

### **What does this mean?**

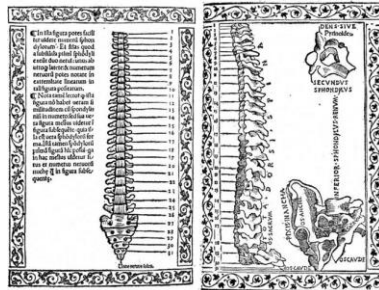
Epidurals may reduce pain during labour more effectively than any other form of pain relief, and may increase maternal satisfaction with pain relief. However, some women who have an epidural instead of opioid drugs may be more likely to have an assisted vaginal birth, but this finding probably reflects the higher concentrations of local anaesthetics used traditionally rather than the low concentrations of modern epidurals. Further research would be helpful, using more consistent measures of reducing the adverse outcomes with epidurals.

## BERENGARIO DA CARPI: A PIONEER IN NEUROTRAUMATOLOGY

Berengario was born (probably in 1460) in the medieval town of Carpi, in north-central Italy, and died at the age of 70 years. He graduated in philosophy and medicine from the University of Bologna in 1489.

The book of his that earned him special place in the history of medicine was the '*Tractatus de Fractura Calvae sive Cranei*', his treatise on skull fractures. In modern terms, this book deals with the physiopathology, diagnosis, treatment, and prognosis of head injuries.

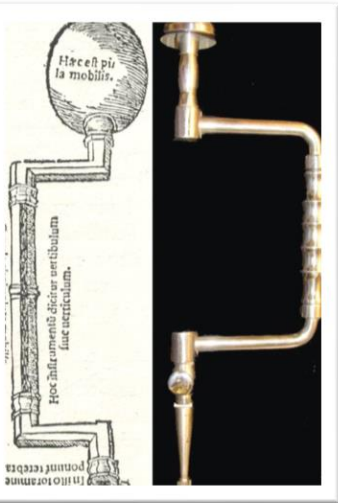
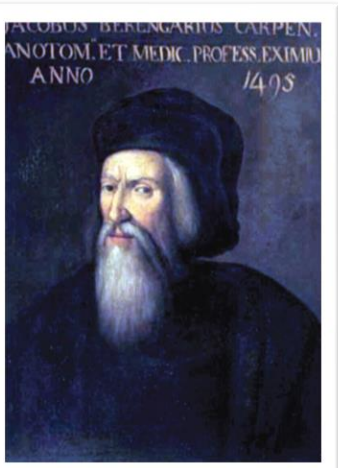
The book is essentially based on Berengario's personal experiences. It is presented as a true textbook complete with the most learned references and controversies. It cites many classic and medieval writers such as Hippocrates, Plato, Aristotle, Galen, Paul of Aegina, Cicero, Virgil, Seneca, Celsus, Avicenna, Abulcasis, Lanfranc etc.



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Laurento Mediceſe medicam mandauimus artem, Vt Leuro merito condecoraretur opus.  
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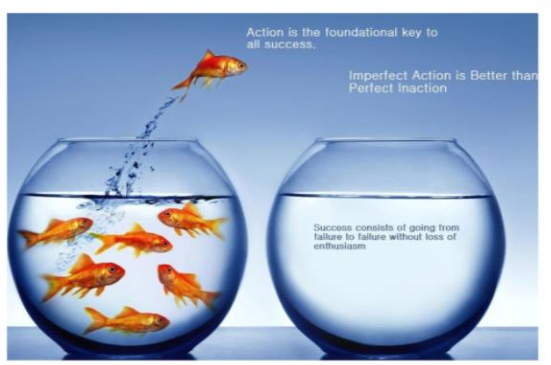


## PEARLS OF WISDOM

Whatever you are be a good one  
- Abraham Lincoln



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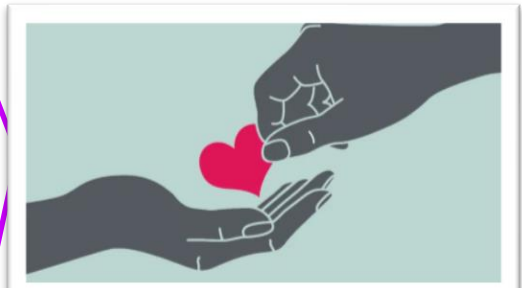
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Don't tell me not to fly, I've simply got to.

- Bob Merrill and Jule Styne, "Don't Rain on My Parade"

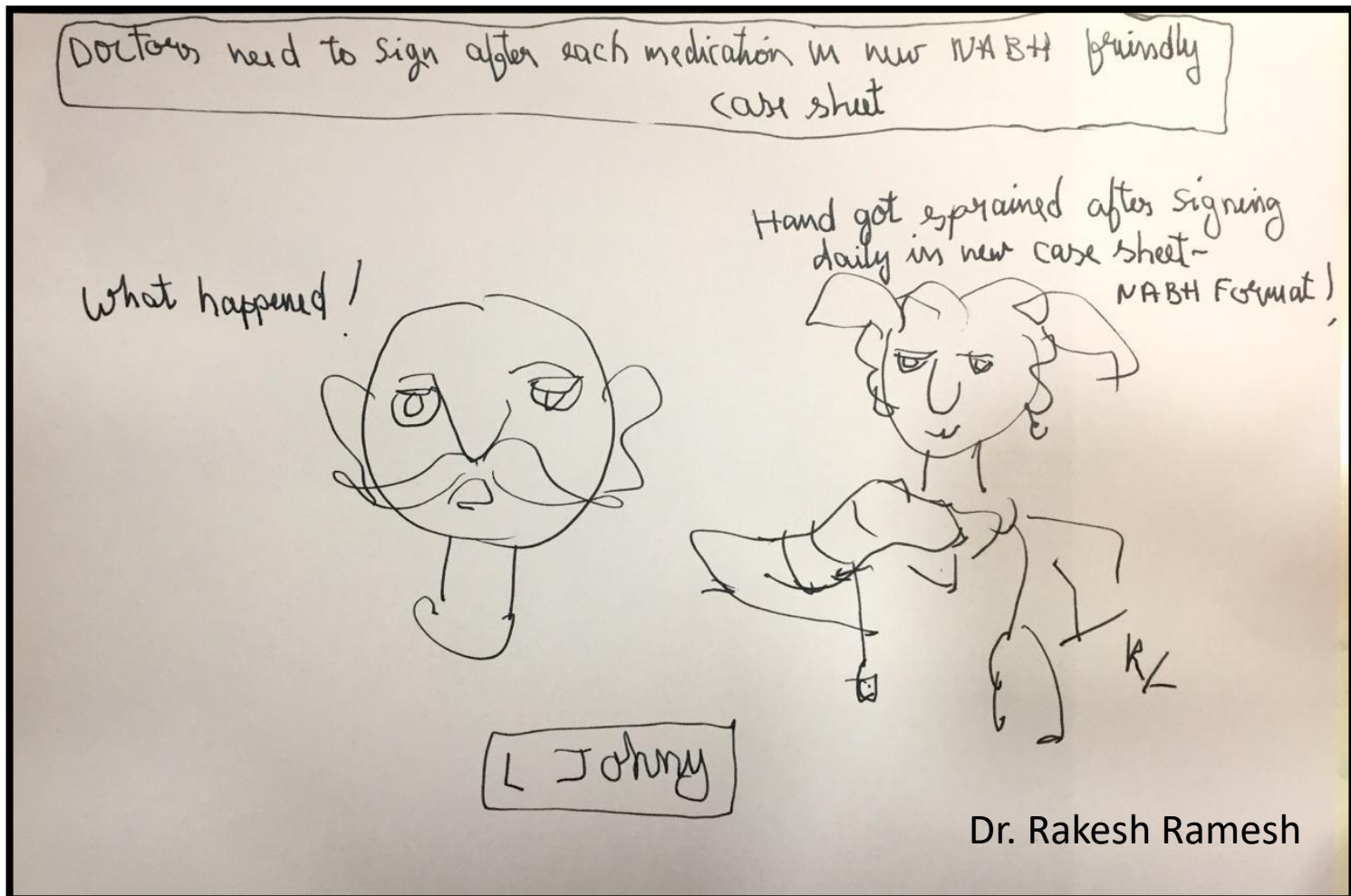
Kindly words do not enter so deeply into men as a reputation for kindness.

- Mencius



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# L Johnny



## Did You Know?

The Lonar lake in India is the Earth's only hyper-velocity impact crater in basaltic rock? The largest of its kind, it houses water that is saline and alkaline at the same time. For all its rarity and inscrutability, it is little known outside of Maharashtra save by the few scientists determined to get to the bottom of it!



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