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NEWSLETTER वृत्तपत्र

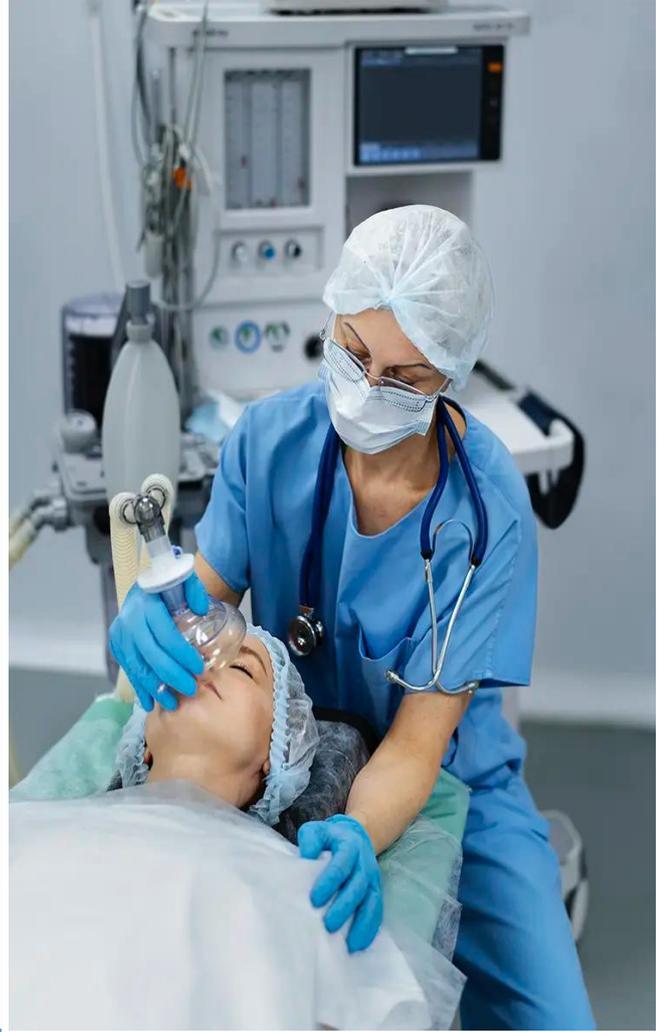


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SPECIAL EDITION ANAESTHESIA & PAIN MANAGEMENT



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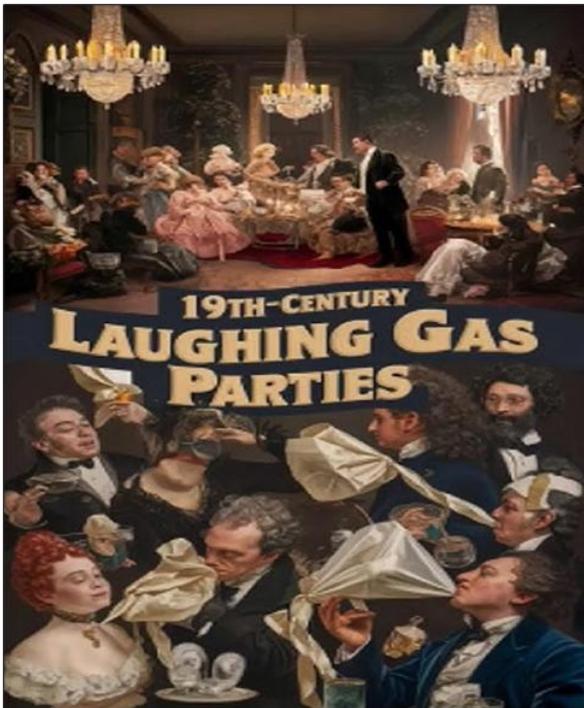


RATNA MEMORIAL HOSPITAL

**FASCINATING STORIES IN THE HISTORY OF
ANAESTHESIA: FROM WHISKEY TO ETHER:**

Pain has been humanity’s oldest enemy. For centuries, surgery was a terrifying ordeal—patients strapped down, screaming, while surgeons raced against agony. The battle to conquer surgical pain truly began only in the last few hundred years, and its history is as dramatic as it is inspiring. From party entertainments to royal births, jungle poisons to robotic monitors, the story of anesthesia is a tale of bold experiments, bitter rivalries, and remarkable ingenuity.

Laughing Gas Parties and a Dentist’s Dream



In the late 18th century, British chemist Humphry Davy discovered nitrous oxide and noted both its euphoric and pain-numbing effects. For decades, it was a recreational amusement, filling balloons at “laughing gas parties.” Even Samuel Colt, later of revolver fame, financed his gun factory with proceeds from such shows.

In 1844, Gardner Colton brought laughing gas to Hartford, where dentist Horace Wells saw its potential. After inhaling the gas himself, he had a tooth painlessly extracted and declared it “the greatest discovery ever made”.

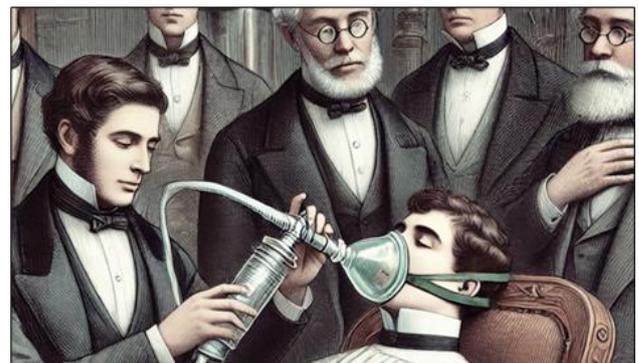


Dr. Bhaskar Shenolikar
MBBS, MD ANAESTHESIOLOGY

‘ButWells’ public demonstration in Boston went disastrously wrong when the gas wore off too soon. He was ridiculed as a fraud, fell into depression, became addicted to chloroform, and eventually took his own life.

Ether Day and the Battle for Credit

The mantle passed to William T.G. Morton, a dentist with a checkered past but great ambition. Guided by chemist Charles Jackson, Morton experimented with ether and, on 16 October 1846, triumphantly demonstrated painless surgery at Massachusetts General Hospital. The world hailed the birth of modern anesthesia— “Ether Day” is still celebrated globally.



But credit was bitterly contested. Jackson insisted it was his idea; Wells argued he had pioneered painless extraction; and Dr. Crawford Long of Georgia revealed he had used ether years earlier in private practice. Morton tried to patent his discovery, enraging colleagues.

Ultimately, all four pioneers met unhappy fates—Wells and Jackson in despair, Morton unrewarded financially, long largely forgotten.

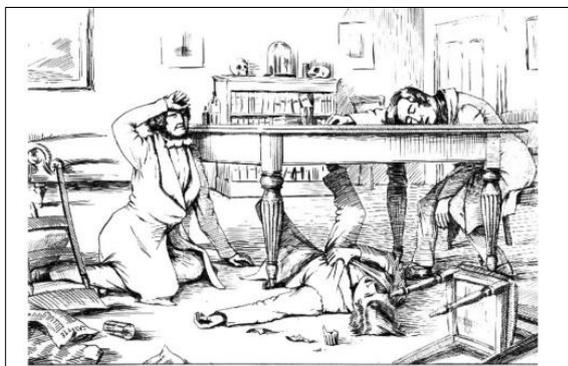
Yet their work transformed surgery forever.

Chloroform, Controversy, and the Queen

While ether spread, Scottish physician James Young Simpson sought a smoother agent. In 1847 he introduced chloroform—famously testing it on dinner guests who collapsed in delight. Despite early enthusiasm, chloroform was controversial, especially in childbirth, where some clergy argued pain was divinely ordained. Public opinion shifted in 1853 when Queen Victoria accepted chloroform for the delivery of Prince Leopold. Soon, “Chloroform à la Reine” became fashionable.



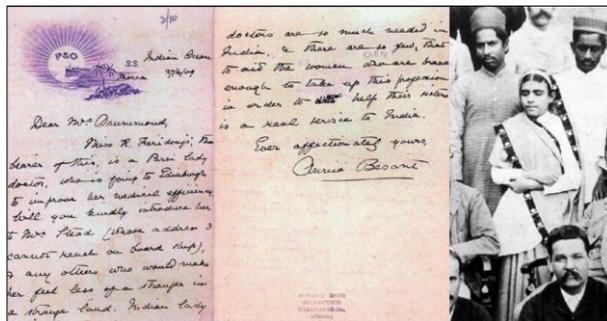
Sir James Young Simpson, circa 1860 (Cre National Galleries Scotland)



An illustration showing the effects of chloroform from the 1840s

In India, chloroform had its own saga. Dr. Edward

Lawrie in Hyderabad administered it to tens of thousands with remarkable safety, prompting two “Hyderabad Chloroform Commissions.” These studies, involving both animals and humans, helped establish anesthesia research in India. Remarkably, one of Lawrie’s colleagues was Dr. Roopabai Furdoonji—considered the world’s first woman anaesthetist.



Cocaine and the Birth of Local Anaesthesia

If ether and chloroform conquer general anesthesia, cocaine gave birth to local anesthesia. In 1884, young Austrian ophthalmologist Carl Koller discovered its numbing power for eye surgery—after daring to drip it into his own eye and stab it with a pin! His Simple but revolutionary finding transformed ophthalmology and inspired the development of safer synthetic agents like Novocain. Ironically, Koller never profited, later practicing quietly in New York.

Regional Blocks and Spinal Anaesthesia

By the late 19th century, anesthesia was expanding beyond unconsciousness. German surgeon August Bier pioneered spinal anesthesia in 1898, injecting cocaine into the spinal canal—first in patients, then into himself and his assistant! They endured headaches and nausea but proved the concept, laying the foundation for regional techniques.

Soon, nerve blocks, Bier blocks, and later innovations like nerve stimulators and ultrasound guidance gave anesthetists the ability to target pain precisely. These techniques, once crude, became cornerstones of modern pain management and surgery.

Modern Milestones

The 20th century saw breathtaking progress. In 1942, curare, a deadly arrow poison, was introduced as a muscle relaxant, revolutionizing surgical control. Endotracheal tubes, anesthesia machines, pulse oximetry, and intravenous agents like thiopental and propofol transformed anesthesia into a science of precision and safety.

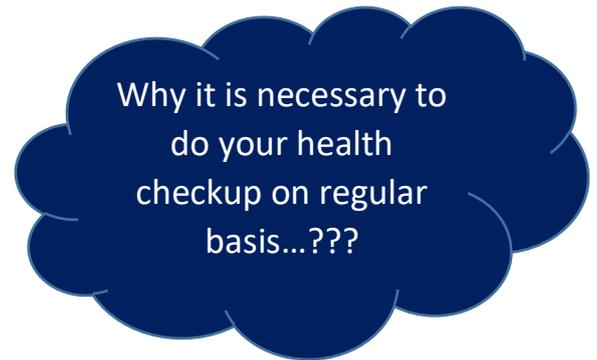
Anaesthesia Today and Tomorrow

Today, anesthesia is among the safest fields in medicine. Far beyond the operating theatre, anesthesiologists lead intensive care units, trauma resuscitations, pain clinics, and advanced procedures in cardiology and radiology. Modern practice embraces “balanced anesthesia,” combining multiple agents for optimal effect with minimal side effects.

Computer-assisted delivery, real-time monitoring, and even virtual reality are shaping its future.

Yet the essence remains unchanged: the determination to free humanity from the terror of pain. From laughing gas parties to AI-guided machines, the story of anesthesia is a remarkable testament to human courage, curiosity, and compassion.

Dr. Bhaskar Shenolikar



- 

Regular Health checkups can detect early sign of illness.
- 

Lower treatment expenses.
- 

Improve chances of curing disease and makes plan of treatment easier.
- 

Helps the doctors to understand your health condition better.
- 

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DIABETIC NEUROPATHY: AN IMPORTANT DETERMINANT OF QUALITY OF LIFE

Diabetic neuropathy is a common complication of diabetes, affecting almost 60 to 80% patients with diabetes. Persistent pain, tingling, numbness, and burning sensations are often reported in the hands, feet, and legs. The condition occurs when high blood sugar levels damage the nerves over time, impairing their ability to function properly. Diabetic neuropathy can significantly impact quality of life, cause chronic discomfort and reduce mobility, also affecting sleep. While managing blood sugar levels is essential, addressing the pain and discomfort caused by neuropathy is equally important. With advancements in medical technology, various newer strategies are available, which are a ray of hope for patients suffering from diabetic neuropathy pain, helping regain autonomy and improve overall well-being.

1. Percutaneous Pulsed Radiofrequency (PPRF) for Nerve Pain Relief



A non-invasive electrotherapy device is available, that uses electrical pulses to generate a radiofrequency current that stimulates nerves and muscles, promoting pain relief and improving nerve function. It works by delivering radiofrequency current through the skin, helping to activate the nervous system and enhance circulation in the affected areas. This treatment is highly effective in reducing the burning, tingling, and shooting pain sensations that are characteristic of diabetic neuropathy. PPRF therapy helps in regulating conduction in the damaged nerves, reduces inflammation,



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relieves muscle spasm, and improves blood flow to the affected area, providing significant pain relief. The procedure is painless, quick, and can be used as part of an ongoing treatment plan to manage nerve pain effectively.

2. Radiofrequency Ablation (RFA)

Radiofrequency ablation (RFA) is an advanced procedure that uses heat generated by radiofrequency waves to target and treat the nerves responsible for pain. RFA works by delivering a controlled electrical current to the affected nerve, which then heats the nerve tissue and disrupts its ability to transmit pain signals to the brain. In Diabetic neuropathy, we use a lower temperature (42⁰) to avoid weakness. This procedure is minimally invasive and provides long-lasting pain relief for patients suffering from chronic diabetic neuropathy. RFA is particularly useful for those who have not found relief through traditional pain management methods. It helps reduce pain, improve mobility, and enhances the quality of life for diabetic neuropathy patients.

3. Regenerative Therapy for Diabetic Neuropathy:

Regenerative therapy for diabetic neuropathy is an emerging treatment approach and is said to work through repairing nerve damage caused by chronic high blood sugar levels in individuals with diabetes. This therapy focuses on stimulating the body's natural healing processes to regenerate damaged nerves and reduce symptoms like pain, numbness, and tingling. Common regenerative techniques include platelet-rich plasma (PRP) injections, stem cell therapy, and nerve growth factor treatments. These methods work by promoting tissue repair, enhancing nerve regeneration, and improving circulation to the affected areas. While still under clinical investigation, regenerative therapies show promise as a potential treatment for managing diabetic neuropathy pain, offering a good option for improved quality of life in patients who have limited options with conventional treatments.

4. Spinal Cord Stimulator

For individuals with severe diabetic neuropathy pain that does not respond to conventional treatments, spinal cord stimulation (SCS) can offer a life-changing solution. A spinal cord stimulator is a small device implanted near the spinal cord that delivers mild electrical pulses to the nerves, altering the way pain signals are transmitted to the brain. This therapy can effectively mask the pain and provide relief from the burning; sharp sensations associated with diabetic neuropathy. The procedure is minimally invasive and typically involves a trial phase to assess the effectiveness of the stimulator. If successful, the device is permanently implanted, providing long-term pain relief and improved quality of life.

5. Botulinum Toxin Injections for Neuropathy Pain

Botulinum toxin injections, commonly associated with cosmetic treatments, are also gaining recognition for their ability to alleviate chronic pain, including neuropathy pain caused by diabetes. Botulinum toxin works by blocking the release of certain chemicals that transmit

pain signals to the brain, providing temporary relief from discomfort. When injected into areas affected by neuropathy, it can reduce muscle spasms, relieve nerve irritation, alleviate burning sensations, and improve overall wellbeing. This treatment is particularly helpful for patients who experience localized pain or muscle tension due to diabetic neuropathy. Botulinum toxin injections are safe and effective and can be combined with other therapies for enhanced pain management.

6. Combination Therapy

Treatment of diabetic neuropathy is in the nascent stages with no fixed protocols apart from the use of neuropathic pain medicines. A customized approach with a combination of the above treatments, tailored to response and acceptability is the ideal approach for management of this common problem.

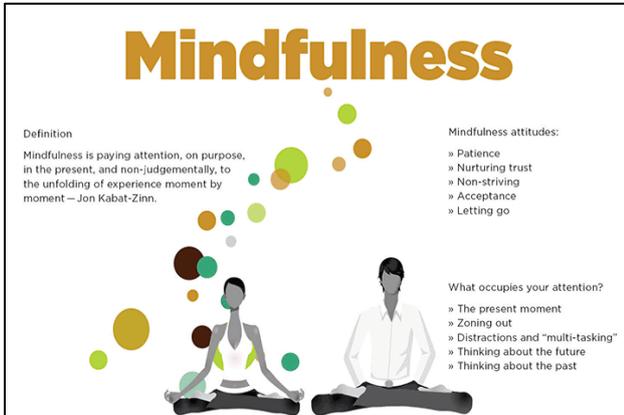
Conclusion

Managing diabetic neuropathy pain is essential for improving the quality of life of individuals with diabetes. A range of innovative and effective treatments, including PPRF therapy, Radiofrequency Ablation (RFA), Spinal Cord Stimulation, and Botox injections are now available. These treatments, when tailored to each patient's needs, provide long-lasting relief from the debilitating pain caused by diabetic neuropathy. With good collaboration between physicians and pain specialists, patents can be offered excellent relief for this debilitating condition.

**Dr. Nivedita Page
Dr. Kashinath Bangar**

MINDFULNESS IN THE OPERATING ROOM

"Mindfulness" an age-old concept introduced and cultivated by Gautam Buddha through his experiments of meditation in 300BC.



It was being practiced by Buddhist monks for more than 2000 years. In 1960s, a Vietnamese monk Thich Nhat Hann started preaching it for stress reduction and his student a physician by profession Dr John Kabat Zinn who introduced MINDFULNESS MEDITATIONS for improving physical and psychosomatic illnesses in his first ever program called MBSR that is mindfulness-based stress reduction.

Sara Lazar, a neuroscientist at the Massachusetts General Hospital and Harvard Medical School, studied the effect of meditation on brain structure. One study compared the brain scans of long-term meditators with a control group and noted an increased amount of gray matter in the auditory and sensory cortex of the long-term meditators. A follow-up study compared 2 groups of non-meditators, one of which enrolled in an 8-week MBSR program. The group enrolled in the course were noted to have differences in regions of the brain related to learning, cognition, memory and emotional regulation, especially the prefrontal cortex with a reduction in amygdala-related activity. These changes in brain structure in the group enrolled in the course were noted after just 8 weeks of meditation training.

Similar results were obtained in Boston medical center, Cleveland clinic and UCSF health when their hospital staff practiced mindfulness.



Dr. Supriya Kulkarni
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With all this scientific background, me as a mindfulness therapist and meditation practitioner for last 5 yrs would summarize this practice as “Being in the present moment fully without judgement” ... Elaborated little further - It is paying attention to your breathing, body sensations, thoughts and emotions nonjudgmentally and without being carried away.

EMBRACE THE PRESENT WITH MINDFULNESS.

Four techniques to make you feel calm and focused.



Now as an anesthesiologist when I apply the same principles to an operating room which is a highly demanding workplace...full of stress to conduct various spectrum of operative procedures with various parameters to deal with for success with giving utmost value to patient safety. In the chaos of the operating room, if all the individuals perform their duty

with diligence and act mindfully, the environment of the operating room might not be just peaceful but even possibly pleasant.

The surgeon, anesthesiologist, nursing staff, theatre assistants and the patient himself-all are engaged in the tasks related to the particular case - All focused and attentive towards the task regardless of the events before the surgery or new tasks to be done after it, just living in the task at hand. Everyone knows that they are not supposed to give any prejudiced insecure reactions. At the same time, patient is well explained preoperatively about paying attention to his breathing and accepting his body sensations without rejecting or fighting them and ultimately on being on surrender mode for his procedure.

This practice leads to a far better outcome not just because of the operative procedure but also the mental health and emotional wellbeing of everyone working around.

Does it happen just by deciding to do it?

No, it is done with some training and regular meditation practice of around 20 mins daily. Among such regular practitioners of meditation, various benefits are seen ranging from reduced burnout effects, stress reduction, better management of anxiety and depression, improved focus and attention, emotional regulation, reduced rumination, and improved self-awareness.

It benefits the physical health as well because mind body integration is appreciated since ancient times ...commonly observed physical wellbeing is improved sleep, better pain management, well managed chronic health conditions and so on....

Step by step following meditations are practiced adapting a mindful way of living These can be learned from a certified therapist or even there are various apps available in Marathi, Hindi and English to follow the guided meditations.

Steps adapting to a mindful way of living

- ✓ Focused and open attention
- ✓ Wheel of awareness of sensations
- ✓ Breath awareness
- ✓ Awareness of thoughts
- ✓ Awareness of emotions
- ✓ Emotion -action diffusion
- ✓ Compassion practice
- ✓ Gratitude practice.



What is Mindfulness?

It's considered the basis for buddhist meditations. Basically it is used as a description of the human ability to be fully aware of where you are and what is happening around you. In other words mindfulness is something you already possess.

The practice of mindfulness is honing this innate ability through meditation.

Mindfulness is not:

- Complicated or Difficult
- A Dangerous, Unproven Theory
- Time Consuming
- A Religion or Cult
- Sitting on the ground, saying "Ohm"
- About Accepting the Unacceptable

Proven Benefits of Mindfulness Meditation:

- Reduces indicators of chronic stress
- Proven to boost your immune system
- Can boost memory and reaction times
- Provides a coping mechanism for fighting off addictions
- Depression, anxiety and irritability are all shown to decrease with regular meditation

Source:

*A practical guide to finding peace in a frantic world
Prof. Mark Williams, Dr. Danny Penman.*

Dr. Supriya Kulkarni

USG GUIDED SPINAL ANAESTHESIA

Introduction

Spinal anesthesia is conventionally performed using a landmark-guided midline approach. Administration of spinal anesthesia to obese patients is sometimes difficult. These surface landmarks may be absent, indistinct or distorted in the presence of obesity, previous spinal surgeries, deformities or degenerative changes associated with ageing. We report a case in which pre-insertion ultrasound guidance for spinal anesthesia was useful in this morbidly obese patient with a BMI of 40.9.



Fig1

Case:

- A 62-year-old male patient (height 164 cm, weight 110 kg, body mass index (BMI) 40.9 kg/m²), **Obesity Class III** was admitted to the hospital for surgical repair of large inguinal hernia.
- Spine was difficult to palpate landmark not clearly visible.
- Airway was difficult so giving general anesthesia was also risky for patients.
- Cardiovascular & respiratory status: Stable
- Informed consent obtained — including discussion of **USG-guided technique**.

We used ultrasound to help facilitate the administration of regional anesthesia.



Dr. Chetan Patil
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The curvilinear probe that was used in this study may be an appropriate choice for other obese patients. Fig 2

Lower frequency allowing a deep penetration-which helps distinguish the deeply located dura in the transverse view

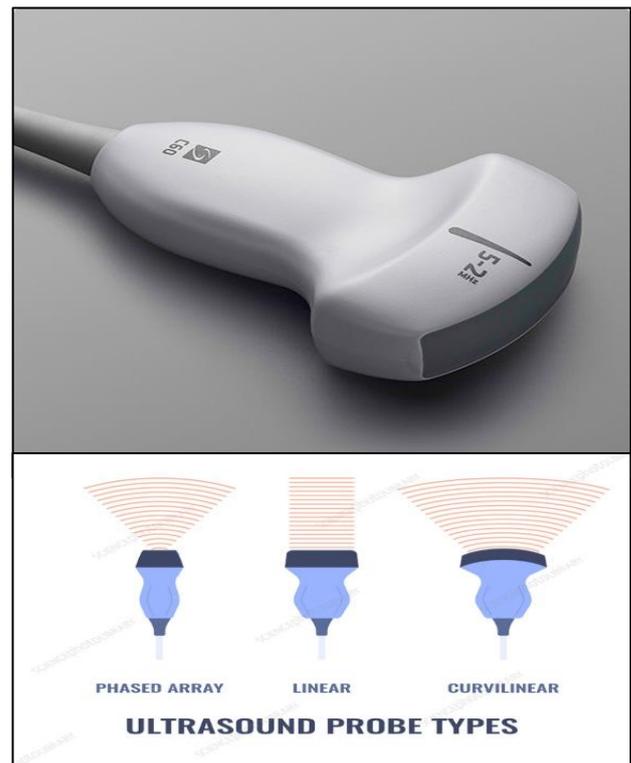


Fig 2 Curvilinear Probe 2-5 MHz

We were able to identify the transverse process, posterior dura, vertebral body, and the distance from the skin to the posterior dura. Measuring distance from skin to Intrathecal space helps to select needle size. Fig 3

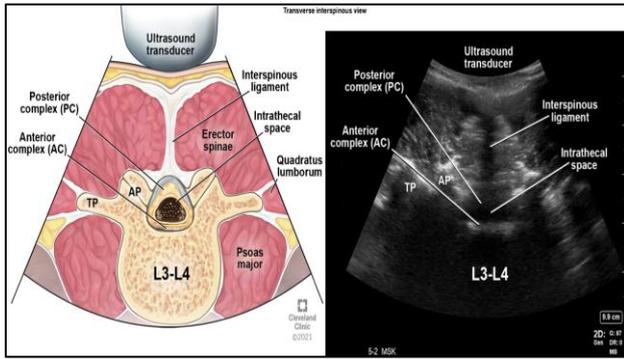


Fig 3



Fig 4

Skin marking:

Skin marking is done in sterile fashion(Fig 4 & Fig 5). Regional Anesthesia was successfully performed.



Fig 5

Based on this case study, we suggest that ultrasound can be very useful in regional anesthesia for severely obese patients.

Discussion

Advantages noted in this case:

- First-attempt success despite anticipated difficulty
- Reduced patient discomfort
- Accurate prediction of needle depth

Evidence supports USG guidance in patients with:

- Obesity
- Spinal deformity
- Poorly palpable landmarks

Limitations:

- Requires USG skill and experience
- Additional preparation time

Conclusion

Ultrasound guidance for spinal anesthesia can significantly improve success rates in patients with difficult anatomy, as demonstrated in this case. Pre-procedural scanning allowed precise identification of interspaces and depth estimation, reducing the number of attempts and enhancing patient comfort.

Dr. Chetan Patil

**SAFE ANAESTHESIA PRACTICE: HOW FAR
WE HAVE COME...**

"Anesthesia is the most humane of all of man's accomplishments, and what a merciful accomplishment it was. For this great discovery we are indebted to Dr. WTG Mortan"

- An Atheist manifesto

The evolution of surgical practice has been dependent on anesthesia. Improvement in perioperative patient safety and healthcare are now global concerns. "Primum non nocere" or "first of all, do no harm" is the first lesson every anesthesiologist learns in training.

From once a perilous art, journey of anesthesia safety is testament to human innovation, teamwork and technological improvement. In this century of AI, the ever-expanding domain of anesthesia continues to evolve.

Before the first demonstration of anesthesia by Dr WTG Mortan in 1846, surgery was a terrifying last resort to save life. Today it is difficult to understand how far we have come from ether in 1846 to introduction of local anesthesia-cocaine in 1877 to local infiltration, nerve block and then spinal and epidural anesthesia in 1900s, control of airway with use of tube began in 1910s and then came introduction of intravenous anesthesia drug to muscle relaxants in 1940s and inhalational agents in 1950s to present smoother and safer conduct of anesthesia. There has been a relentless pursuit of safety in anesthesia.

1) Pulse oximetry and capnography:

Introduced in 1980s, these two have been perhaps most significant safety innovation in Anesthesia.

Pulse oximetry is the standard of care to monitor oxygen saturation of blood.

Capnography provides real time, continuous monitoring of carbon dioxide (CO₂) levels in



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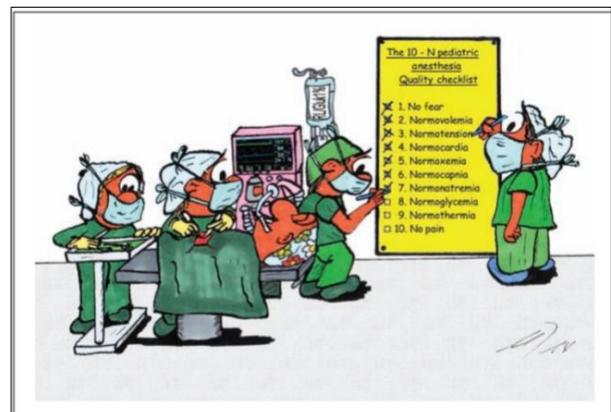
Dr. Supriya Kulkarni
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ANAESTHESIOLOGY

exhaled breath, displayed as a waveform (capnogram) and a numerical value, primarily for assessing a patient's ventilation, metabolism and circulation.

2) Standardized monitoring and checklist:

World Federation of Society of Anesthesiologists and ISA (Indian Society of Anesthesiologist) are working together to establish clear guidelines for mandatory monitoring during anesthesia.

3) Advances in airway management:



Conventional laryngoscopes modified handles of various now conventional laryngoscopes.

Video laryngoscopes and the state-of-the-art fiberoptic bronchoscopes have made difficult airway cases manageable.

4) Newer reversal agents:



Sugammadex to reverse skeletal muscle paralysis reversal, is a milestone invention in anesthesia.

General anesthesia reversal and extubation are much quicker and smoother with sugammadex. It is a valuable addition even in CICV (can't intubate, can't ventilate) situations.

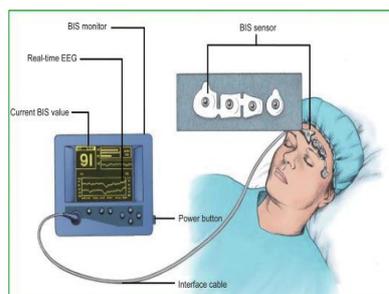
5) Ultrasound:

Frequent use of USG guidance in various zones of anesthesia practice has made many procedures possible with higher success rate and fewer complications. Insertion of arterial and venous lines, various nerve plexus blocks, neuraxial blocks, assessment of difficult airway in now done routinely with ultrasound guidance.

6) POCUS i.e. Point of Care Ultrasound has made

- **ADVANCED HEMODYNAMIC MONITORING:** Invasive arterial blood pressure monitoring, central venous pressure monitoring through CVP line, cardiac output monitoring through pulmonary artery catheter and non-invasive cardiac output monitoring has improved patient management drastically.

- **CLOSED LOOP SYSTEMS-** automated delivery of anesthesia agent and monitoring of their concentration optimizes precision.



Today when

Robotic-assisted surgery represents a major advancement in minimally invasive surgery, the role of the anesthesiologist is critical in ensuring patient safety and optimizing outcomes. Robotic surgery brings unique anesthetic challenges, and the specialty has evolved to meet these demands.

In surgical patients, it is a dream to achieve zero morbidity and mortality, but have we

@rav7ks

- Echogenicity = brightness**
- Hyperechoic** = more echogenic (brighter) than surrounding tissue
- Isoechoic** = equal echo brightness to surrounding tissues
- Hypoechoic** = less echogenic (darker) than surrounding tissue
- Anechoic** = devoid of echoes (jet black)

Curvilinear
5 to 2 MHz



Linear sequential-array
10 to 5 MHz



Phased Array
5 to 1 MHz



PROBE POSITIONING
moving the probe for a good image

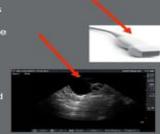


POCUS

TRANSDUCER/SCREEN MARKERS ORIENTATION

Marker on probe corresponds to marker on screen
Probe marker determines edge of image on screen

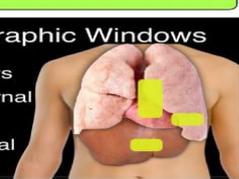
Top part of screen image represents body part closest to probe
Sides of screen image depend on how probe is oriented (superior/inferior vs. right/left orientations)



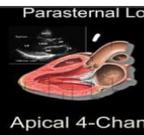
Cardiac views we demonstrated in simulation

Sonographic Windows

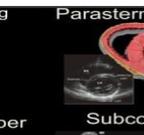
- 3 Windows
- Parasternal
- Apical
- Subcostal



Parasternal Long



Parasternal Short



Apical 4-Chamber



Subcostal



Knobology:

DAG:

DEPTH- can increase or decrease viewing depth.
Always limit depth to center image if interest on screen

AXIS- moving the probe to center the image in the Y axis

GAIN- contrast/resolution/Brightness of image

it possible to detect pneumothorax, Cardiac tamponade, abdominal bleeds with precision and treat them promptly.

7) Cutting edge monitoring techniques:

- **DEPTH OF ANESTHESIA MONITORING:** devices like BIS (Bis-spectral index) help to prevent awareness under anesthesia.

achieved the "zero death" dream? Not yet, but definitely the ever-expanding domain of anesthesia research has brought this branch to a very high level of safety and Security.

**Dr. Smita Chourasia
Dr. Supriya Kulkarni**

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वेदना नियंत्रण: फिजिओथेरेपीद्वारे आणि
आहाराच्या दृष्टिकोनातून

वेदना का होतात?

वेदना म्हणजे शरीराची सावधानतेची प्रतिक्रिया. जेव्हा शरीरात जखम, सूज, किंवा आजार होतो, तेव्हा नसा (nerves) मंदूपर्यंत सिग्नल पाठवतात आणि त्यामुळे वेदना जाणवते. ताण, चिंता, थकवा हेही वेदना अधिक जाणवायला कारणीभूत असतात. वेदना हे शरीराची नैसर्गिक प्रतिक्रिया आहे. ती तात्पुरती किंवा दीर्घकाळ टिकणारी असू शकते.

वेदना मनःस्थिती बिघडवते, झोप कमी करते आणि दैनंदिन कामांवर मर्यादा आणते.

अशा वेदनांवर तात्काळ औषध उपचार गरजेचे असतातच पण यासोबतच आवश्यकतेनुसार फिजिओथेरेपी आणि योग्य आहार पूरक ठरतात हे अनेक संशोधनांनी सिद्ध केले आहे.

फिजिओथेरेपी वेदना कशी कमी करते?

औषधे (एनाल्जेसिक) वेदना कमी करण्यासाठी उपयुक्त ठरतात. आणि ती फिजिओथेरेपीसोबत केल्यास वेदनेवर मोठ्या प्रमाणात कायमस्वरूपी समाधान मिळू शकते.

१. फिजिकल थेरेपी उपाय

गरम/थंड पॅक: सूज कमी करतात, स्नायू शिथिल करतात व रक्ताभिसरण सुधारतात.

नेहमी लक्षात ठेवा: अकस्मात दुखापत व वेदनेत थंड (आइसिंग) पॅक, तर जुन्या (क्रॉनिक) वेदनेत गरम पॅक उपयुक्त असतो.

➤ **अल्ट्रासाउंड थेरेपी:** फिजिओथेरेपीतील



अल्ट्रासाउंड उपचारात उच्च-वारंवारतेचे ध्वनीतरंग ऊतींमध्ये



Dr. Rohit Lawate (PT)
BPTH



Ms. Mayura Mahajani
REGISTERED DIETITIAN
MSC, (DFSM), CDE

पोहोचवले जातात. त्यामुळे:



- रक्ताभिसरण वाढते
- दाह कमी होतो
- ऊतींची दुरुस्ती व पेशींची कार्यक्षमता सुधारते
- यामुळे शरीराची

नैसर्गिक बरी होण्याची प्रक्रिया वेगवान होते.

➤ **TENS** (ट्रान्सक्युटेनिअस इलेक्ट्रिकल नर्व स्टिम्युलेशन):



सौम्य विद्युत प्रवाह देऊन मज्जातंतू शांत करतो व वेदना कमी करतो.

↑ प्रगत उपचार पद्धती (फास्ट वेदनाशमन व जखम भरण्यासाठी)

➤ **लेझर थेरपी (Class 4 Laser):**

- उच्च शक्तीमुळे ऊर्तीपर्यंत खोलवर परिणाम पोहोचवते.
- 980nm किंवा 1064nm सारख्या लहरींमुळे खोल ऊर्तीमध्ये ऊर्जा पोहोचते.
- रक्ताभिसरण सुधारतो.(थर्मिक परिणाम)
- पेशींची कार्यक्षमता वाढवतो.(अथर्मिक परिणाम)

➤ **डायबेटिक फूट अल्सर व बेड -सोर्समध्ये परिणाम:**

- * रक्तप्रवाह वाढवतो
 - * दाह कमी करतो
 - * ऊती दुरुस्त करणारे ग्रोथ फॅक्टर्स वाढवतो
 - * जखमेचा आकार कमी करून नवीन त्वचा निर्माण होण्यास मदत करतो
 - * संसर्ग टाळण्यास उपयुक्त ठरतो
- हा उपचार वेदनारहित, नॉन-इन्वेसिव्ह असून पारंपरिक उपचारांसोबत केल्यास उत्तम परिणाम देतो.

२. व्यायाम थेरपी

- स्ट्रेचिंग: लवचिकता वाढवते व कडकपणा कमी करते.
- स्नायू बळकट करणारे व्यायाम: सांध्यांना आधार देतात व वेदना परत येऊ नयेत यासाठी अत्यंत महत्वाचे आहेत.
- पोस्चर ट्रेनिंग: चुकीच्या बसण्यामुळे किंवा उभे राहण्यामुळे होणारी वेदना टाळते.

३. मॅन्युअल थेरपी



सौम्य जॉइंट मोबिलायझेशन, ट्रिगर पॉइंट रिलीज यामुळे त्वरित आराम मिळतो व हालचाल सुधारते.

४. शिक्षण व जीवनशैली मार्गदर्शन

फिजिओथेरपिस्ट तुम्हाला शिकवतात:

- * योग्य पोस्चर ठेवणे
 - * सुरक्षित काम करण्याच्या पद्धती
 - * दैनंदिन हालचालीचे तंत्र
 - * विश्रांती व श्वसन पद्धती
- यामुळे रुग्णांना दैनंदिन जीवनात स्वतः वेदना नियंत्रित करण्याची क्षमता मिळते.

➤ **फिजिओथेरपी का निवडावी?**

- * अत्यल्प दुष्परिणाम
- * मूळ कारणावर उपचार
- * ताकद, लवचिकता व जीवनमान सुधारते

आहार: वेदना कशी कमी होते?

लहानपणी कधी पोट दुखलं - ओवा आणि गरम पाणी, दाढ दुखायला लागली की डॉक्टर कडे जाईपर्यंत लवंग किंवा लवंगाचे तेल , घसा दुखतोय तर मिठाच्या पाण्याच्या गुळण्या किंवा गरम दुधाबरोबर किंवा पाण्याबरोबर हळद , या गोष्टींमुळे आराम पडल्याचा आपण अनेकदा अनुभवलेलं असेल . आहारातील काही अन्नघटक/ अन्नद्रव्य वेदना कमी करणारे म्हणून ओळखले जातात.

वेदना कमी करणारे आहारातील घटक

१. ओमेगा-३ फॅटी अॅसिड्स



ओमेगा-३ मध्ये असलेले अँप्टी-इन्फ्लेमेटरी (दाह कमी करणारे) गुणधर्म वेदना कमी करण्यास मदत करतात.

स्रोत: अळशी/जवस (flaxseeds), अक्रोड, मासे (विशेषतः सैल्मन, मॅकेरल), चिया बिया (Chia Seeds)

२. हळद (Turmeric)



हळदीमध्ये 'कक्युमिन' नावाचे संयुग असते, जे नैसर्गिक वेदनाशामक आहे. हळद नियमितपणे दुधात किंवा जेवणात

घेतल्यास सूज व वेदना दोन्ही कमी होतात.

३. आल्याचा वापर



आल्यामध्ये अँप्टी-ऑक्सिडंट व अँप्टी-इन्फ्लेमेटरी गुणधर्म असतात. संधिवात किंवा मासिक पाळीच्या वेदनांवर

आलं उपयोगी ठरते.

४. हिरव्या पालेभाज्या

पालक, मेथी, कोथिंबीर यांसारख्या भाज्यांमध्ये व्हिटॅमिन K, अँप्टी-ऑक्सिडंट्स आणि फायबर्स असतात, जे शरीरातील सूज कमी करतात.

५. फळे व बेरीज



संत्र, ब्लू-बेरीज, स्ट्रॉबेरीज, डाळिंब यामध्ये अँप्टी-ऑक्सिडंट्स मुबलक प्रमाणात असतात, जे पेशींचे

नुकसान कमी करतात व वेदना कमी करण्यास मदत करतात.

६. मसाल्याचे पदार्थ

हळद, आलं, लसूण, मिरी, दालचिनी यांसारखे मसाले नैसर्गिक वेदनाशामक म्हणून ओळखले जातात.

वेदना कमी करणारे आहारातील टाळावयाचे पदार्थ

- प्रक्रिया केलेले अन्न (processed foods)
- जास्त साखर आणि मिठाचे सेवन
- सॉफ्ट ड्रिंक्स आणि जंक फूड
- ट्रान्स फॅट्स (बेकरी उत्पादनांमध्ये आढळतात). हे पदार्थ शरीरात दाह (inflammation) वाढवतात व त्यामुळे वेदना अधिक तीव्र होतात.
- अति प्रमाणात कॉफी झोप बिघडवते
- मद्यपानामुळे बरे होण्याची प्रक्रिया मंदावते

पाण्याचे महत्त्व

शरीर हायड्रेट ठेवणे खूप महत्त्वाचे आहे. पाण्याच्या कमतरतेमुळे स्नायू आकुंचन पावतात व त्यामुळे वेदना वाढू शकतात. दररोज किमान ८-१० ग्लास पाणी पिणे आवश्यक आहे.

हॉस्पिटलमध्ये ऑपरेशन नंतर भूल उतरल्यानंतरचा आहार पाणी व द्रव पदार्थ सुख नारळ पाणी औषधाचा अंश बाहेर टाकण्यास मदत करतात.

आहाराचा फायदा

अनेक अभ्यासातून असे दिसले आहे की योग्य आहारामुळे दीर्घकालीन वेदना खूप प्रमाणात कमी होतात.

- **सूज कमी करणारे पदार्थ (Anti-inflammatory foods):**

हळद, आलं, लसूण, हिरव्या भाज्या, फळे, अक्रोड, जवस, मासे – हे पदार्थ शरीरातील सूज कमी करून वेदना कमी करतात.

- **जखम लवकर भरण्यास मदत करणारे पदार्थ**

प्रथिने युक्त आहार दूध , दही, डाळी, कडधान्य, अंडी, चिकन इत्यादी मुळे जखम लवकर भरण्यास मदत होते

• **हाडे व सांधे मजबूत करणारे पदार्थ:**

दूध, दही, तीळ, पालक, शेंगदाणे, सूर्यप्रकाश, अंडी – यात कॅल्शियम, विटॅमिन D व मॅग्नेशियम असतात जे हाडे व सांधे मजबूत ठेवतात.

• **वजन कमी करण्याचे महत्त्व:**

जास्त वजनामुळे गुडघ्यांवर व कंबरवर ताण येतो आणि वेदना वाढतात. फक्त ४-५ किलो वजन कमी झाले तरी गुडघेदुखीत बरीच सुधारणा होते असे संशोधन सांगते.

डाएट + फिजिओथेरेपी एकत्र केल्याने वजन कमी होते, सांध्यांवरील ताण कमी होतो व वेदना बऱ्याच प्रमाणात घटतात.

दीर्घकाळ नियमित आहार आणि व्यायाम केल्यास वेदना कमी होण्याबरोबरच दैनंदिन कामं करण्याची क्षमता सुधारते.

औषधांबरोबरच जर आपण योग्य आहार, वजन नियंत्रण आणि फिजिओथेरेपी यांचा वापर केला, तर काही वेदना नैसर्गिक पद्धतीने कमी होतात.

आहार शरीराला आतून बळकटी देतो, तर फिजिओथेरेपी हालचाली सुधारून स्नायू व हाडांना मजबूत करते.

वेदना कमी करणारे औषधोपचार यासोबत फिजिओथेरेपी आणि योग्य आहार हे दोन्ही उपाय एकत्र वापरले तर दीर्घकालीन वेदना व्यवस्थापनात सर्वोत्तम परिणाम मिळू शकतात.

Dr Rohit Lawate
Dietitian Mayura Mahajani

CROSSWORD

N	A	S	P	I	N	A	L	G	K
Z	H	E	T	U	O	Q	W	M	C
T	Q	O	M	E	G	A	3	I	A
R	J	B	W	F	L	B	R	N	T
O	C	X	E	Z	L	E	O	D	E
U	O	F	Z	T	M	E	R	F	N
J	C	H	Y	R	H	V	A	U	S
T	A	I	U	K	D	E	Y	L	D
O	I	T	M	F	W	L	R	N	A
N	N	F	Y	R	U	V	T	E	D
R	E	Z	M	A	U	T	L	S	U
E	C	E	G	L	M	P	Q	S	T
C	H	L	O	R	O	F	O	R	M

1. First agent used for painless surgery in 1846.
2. Introduced in 1847 & used by queen Victoria.
3. Used for the first local anaesthesia in eye surgery.
4. Type of anaesthesia injected into the spinal canal.
5. Practice of staying calm and focused in the operating room.
6. Spice known for its anti-inflammatory properties
7. Healthy fats from fish and flaxseeds that reduce inflammation.

1. ETHER, 2. CHLOROFORM, 3. COCAINE, 4. SPINAL, 5. MINDFULNESS, 6. TURMERIC, 7. OMEGA3

EMPLOYEE OF THE QUARTER

JOSHI HOSPITAL



Dr. Aditi Kulkarni



Ms. Gouri Ponkshe



Ms. Jyoti Gaikwad



Mr. Subhash Modak



Mr. Santosh Pandere

RATNA MEMORIAL HOSPITAL



Dr. Krutika Deogirikar



Ms. Amrapali Pawar



Mr. Mandar Barve



Ms. Yogini Kanadikar



Mr. Santosh Chavan



Ms. Shivani Urgunde

DOCTORS DAY CELEBRATION



TESTIMONIALS

Ratna Memorial Hospital

"RMH is one of the best hospitals. It was a very good experience. The journey from pre to post was excellent. Starting from Doctors, Nurses, and Ground Staff are very cooperative and responded on time."

Mr. Rajdeep Pator.



We want to extend our sincerest thanks for attentive service we received. We are incredibly grateful for the exceptional care provided during dad's hospitalization. The level of dedication and professionalism displayed by the staff was truly remarkable. The positive experience has left us with deep appreciation to all staff for continuous patient care.

Mr Ravindra Gokuldas Taneja



All the hospital staff served us wholeheartedly, considering you as their own mother, father, sister, brother.

Mr Shrikrushna Dattray Kane



"वारकरी वर्षानुवर्षे पंढरपूरची वारी करतात त्यांना देव भेटतो किंवा नाही मला माहित नाही. पण आपल्या रूपात मला देव भेटला हे निश्चित. धन्यवाद !"

श्री. अशोक कदम व सौ. नंदा कदम



Joshi Hospital

"My overall experience was very peaceful and comfortable. The hospital is well-organized, systematic, and caring. The courtesy and professionalism shown by the staff are truly commendable. Your people are your greatest strength — their compassionate and caring nature makes the patient experience exceptional. Keep up the excellent work!"

Mr. Rajiv Phanse.



"The service was very good. The sister took great care of our patient and was extremely helpful throughout. She even assisted me in finding my lost belongings. Whenever we needed any support, the 'mavshi' was always available and very cooperative. We truly appreciate the care, dedication, and attention provided by the entire team."

Ms. Sandhya Achalkar.



मला लिहायला अतिशय आनंद होत आहे की इथला स्टाफ, डॉक्टर्स, नर्सस, मामा-मावशी, स्वच्छता कर्मचारी हे सगळे अतिशय मनापासून काम करतात. पेशंटने बोलवलं की तत्परतेने येतात. अनेक वेळा युरीन पॉट द्यावा लागला, तरी अजिबात टाळाटाळ किंवा चेहऱ्यावर नाराजी नसते. आणि सर्वात महत्वाचे म्हणजे सगळेजण मृदू वागतात, मृदू बोलतात. पेशंट आणि नातेवाईक यांच्याप्रती संवेदना जाणवून वागतात. हा empathy factor मला सर्वात महत्वाचा वाटतो. सर्वांना मनापासून धन्यवाद व शुभेच्छा.!

सौ. नीलिमा गोवित्रीकर.



A WARM WELCOME TO OUR MMFHA FAMILY

JOSHI HOSPITAL

- Ms. Harshada Godbole (Receptionist)
- Ms. Vaishali Bhosale (Billing Executive)
- Dr. Suyog Bhutada (Casualty Incharge)
- Dr. Shyam Kolhe (Clinical Assistant)
- Ms. Seema Moharil (Front Office Executive)
- Ms. Kirti Wadke (Insurance Executive)
- Mr. Pushpak Mali (Lab Technician)
- Ms. Nikita Vasave (Patient Relation Officer)
- Dr. Parul Rahangdale (Physiotherapist)
- Ms. Vaishnavi Waghe (Staff Nurse)
- Ms. Trupti Sande (Staff Nurse)
- Ms. Mayuri Bavadane (Staff Nurse)
- Dr. Kaustubh Talele (Ward Incharge)
- Dr. Vaibhav Madje (Ward Incharge)
- Dr. Aniket Agarkar (Ward Incharge)

RATNA MEMORIAL HOSPITAL

- Dr. Saste Aishwarya (Ward Incharge)
- Dr. Hanmante Bramhanand (Ward Incharge)
- Dr. Thakare Pragati (Clinical Assistant)
- Ms. Dhavale Bhagshri (Front Office Executive)
- Dr. Pathan Sawleha (Clinical Assistant)
- Dr. Shirshikar Sandeep (Intensivist)
- Mr. Bhise Swapnil (Billing & Insurance Executive)
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