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Vapour

The official
**E-Newsletter of the
Indian Society of Anaesthesiologists**



NEW PERSPECTIVES IN ANAESTHESIOLOGY

*Philatelic Based Review by
Dr. Chandrasekhar Krishnamurti*

FINANCIAL LITERACY FOR ANAESTHESIOLOGISTS

Ten key insights by Dr. Milon V. Mitragotri

COMMIT TO BE FIT

*A letter to young ISA colleagues by
Dr. Aarti Zawar*

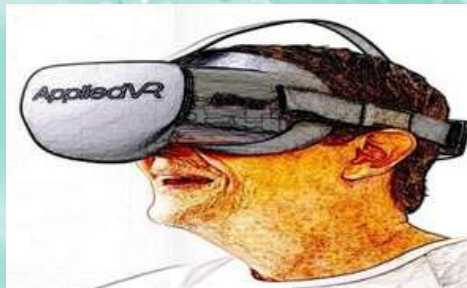
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PREOPERATIVE GASTRIC ULTRASONOGRAPHY

Expert views by Dr. Anahi Perlas

VIRTUAL REALITY IN PERIOPERATIVE PERIOD

*Minimise patient anxiety and improve
outcomes by Dr. Bhavna Gupta*



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EDITOR'S NOTE



Dear esteemed members,

Warm greetings from the Indian Society of
Anaesthesiologists (ISA) National Headquarters!

I am happy to present to you the May issue of VAPOUR. It includes diverse and useful content which is a mix of academic and non-academic articles written by anaesthesiologists from different regions of our country and belonging to all age groups. An interview with an international expert on gastric ultrasound is the highlight of this issue. Articles on upcoming perioperative technology including virtual reality and artificial intelligence depict the rapid progress that is taking place in our field. The articles in the section 'My Pages' will certainly inspire all anaesthesiologists to take up hobbies and art that can lighten up minds and lift up spirits. The pages in 'Yuva Parnika' are an attempt to boost and take care of our younger colleagues.

I congratulate my hard-working editorial team members for their innovative ideas and dedicated work that has culminated in this issue.

I request all of you to generously give your input to the newsletter and also encourage other colleagues around you to do the same.

Please stay tuned in to all ISA activities till we meet in the next issue of VAPOUR.

Long live ISA!

Dr Sukhminder Jit Singh Bajwa

Honorary Secretary ISA National

Editor-in-Chief

'VAPOUR'

(The official newsletter of the ISA National)

ISA NOTICE BOARD

Conference Calendar of ISA 2023

Conference	Location	Hosted by	Dates
ISACON Telangana 2023	Khammam, Telangana	ISA Khammam city branch	14th -16th July 2023
ISACON Tamilnadu 2023	Thanjavur, Tamilnadu	ISA Tamilnadu state	21st to 23rd July 2023
South Zone ISACON 2023	Mysuru, Karnataka	ISA Karnataka state	9th to 13th August 2023
32nd East Zone conference & 50th State Annual Conference 2023	Berhampur, Ganjam Odisha	ISA Odisha state	8th to 10th September 2023
RAJISACON 2023	Udaipur, Rajasthan	ISA Rajasthan state	29th September to 1st October 2023
ISACON Maharashtra 2023	Pune, Maharashtra	ISA Maharashtra state & SAP Pune	5th to 8th October 2023
ISACON Kerala 2023	Thiruvananthapuram, Kerala	ISA Trivandrun city branch	13th to 15th October 2023
ISACON Gujarat	Abu Road, Rajasthan	ISA Mehsana city branch	13th to 15th October 2023
ISA Central Zone & ISA - Uttarakhand state annual conference 2023	Srinagar Garhwal	ISA Uttarakhand (UKSA)	28th, 29th October 2023
ISACON 2023 (Annual conference of ISA)	Gurugram, Haryana	ISA Haryana state	22nd to 26th November 2023

Note: The dates mentioned in the above table are tentative & as per the information received.
The list of upcoming conferences will be updated in subsequent issues.

ISA National PG online classes

These are being regularly conducted every Monday between 6.30 to 8 pm. Experienced PG teachers are taking PG-oriented classes including exam-oriented topics.

Indian Journal of Anaesthesia

The ISA-IJA REAP academic webinar series (fortnightly, every Thursday) is being conducted. Impressive sessions including talks by past Editors-in-Chief have taken place.

ISA academic webinar series

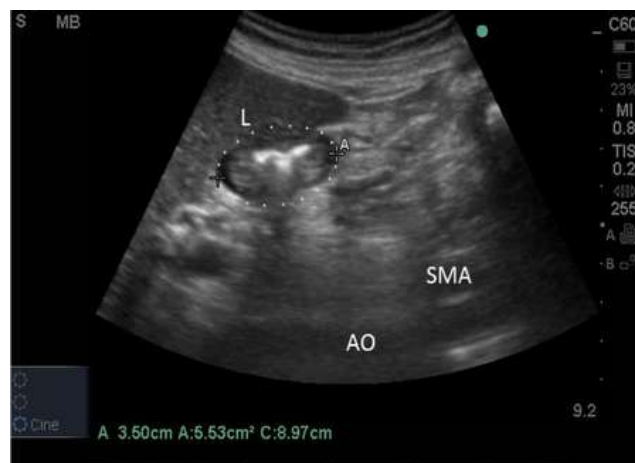
The ISA-Clinical Practice-oriented webinar series (CLIP) (fortnightly, every Thursday) and Clinical Reasoning and Problem-Solving webinar series (CRISP) are being conducted regularly and they have received good feedback.

PREOPERATIVE GASTRIC ULTRASONOGRAPHY



I developed an early interest in this area of patient safety after I had two cases of unexpected severe aspiration in two patients early on in my career, one of whom died. In the year 2007, I was reviewing images for an unrelated study looking at the superior mesenteric artery blood flow that was being done at my centre and I incidentally realised that it was possible to actually identify the stomach and its contents. The following year we put together a protocol for a feasibility study on healthy volunteers ingesting different types of content and that is how our work got started. I have been very fortunate to work with fantastic collaborators from many disciplines and to get funding support from the Canadian Society of Anesthesiologists, the American Society of

In my opinion, gastric ultrasound is most useful in cases where there is clinical uncertainty about gastric content, i.e., when the pre-test probability of a full stomach is close to 50%. These patients usually fall into three categories: a) questionable or unclear compliance with fasting guidelines; b) elective surgical patients with co-morbidities that may delay gastric emptying (such as diabetes, severe gastrooesophageal reflux disease (GERD), kidney or liver dysfunction, neurological conditions) or c) Urgent or emergency surgery in which there may be delayed gastric emptying despite prolonged fasting.



3) Have you had any interesting cases to share wherein gastric ultrasound made a difference to the anaesthesiologist and the patient?

I have had many. In a prospective study of 38 elective surgical patients who did not follow gastric guidelines, published in the Canadian Journal of Anesthesia in 2015, we found that gastric ultrasound led to changes in management in 72% of cases. More recently, we had an older gentleman with an unstable C-spine for urgent decompression and fusion who was nauseous preoperatively despite fasting for more than 12 hours. Gastric ultrasound found more than 400 ml of clear fluid in the stomach, which suggested an ileus. We emptied the stomach successfully through an nasogastric tube inserted pre-induction and were able to perform an asleep fibreoptic intubation safely. This case report was published in the Brazilian Journal of Anaesthesiology recently.

4) In your first pilot study published in 2009, certified sonographers did the gastric ultrasound. Do you think all anaesthesiologists should attain proficiency in the quantitative assessment of gastric residual volume by adequate training? How many gastric ultrasound examinations can make an anaesthesiologist competent in gastric ultrasound? How do you think is the learning curve for measurement of gastric residual volume by ultrasonography??

Thank you for this good question. Gastric ultrasound is being incorporated into standard anaesthesiology training in North America and it is included in the final exam curriculum, so this training is already taking place in many countries. Gastric ultrasound has also been incorporated into the American Society of Anesthesiologists Certificate of Completion in POCUS which supports its



relevance to all practicing anaesthesiologists. According to a study we performed with my colleague Dr. Cristian Arzola, you need approximately 35 exams to become 90% accurate in the interpretation of findings.

5) Despite adequate experience in gastric ultrasound, large inter-assessor variations in ultrasonography - guided gastric residual volume measurements have been found. What could be the reasons for this?

Like any other ultrasound study, it is sonographer-dependent. To increase the inter-rater reliability, it is important that a very standardised approach to scanning and volume assessment is followed. It is also paramount to ensure that those studies looking at reliability use blinded assessors that are properly trained. We performed a study on reliability published in Anesthesiology by my colleague Dr. Richelle Kruisselbrink that showed excellent reliability with intra-class correlation coefficients of > 0.8 which is considered excellent reliability. This study compared 3 independent blinded observers and a range of volumes from 0 to 400 mL. This was for both intra- and inter-observer reliability. Similar findings have been published by Dr. Arzola in the obstetric population.

6) There is conflicting evidence regarding ultrasound guided gastric residual volume measurements as reliable measures of gastric residual volume even if performed by trained anaesthesiologists. What do you think is the reason for this?

I think the evidence for adults is quite homogeneous, and not very conflicting. There are several models that accurately predict gastric volume in adults based on a cross-sectional area of the gastric antrum in a transverse view in the epigastric area at the level of the aorta. Our model, for example, was built on subjects ingesting anywhere from 0 to 400 mL, and was done with a blinded assessor and correlated with the gold standard of gastric suctioning under gastroscopy. (Anesthesia and Analgesia 2013 and replicated in morbidly obese subjects in a BJA article). Where we still do not have an accurate model for volume assessment is in the paediatric population, due to the varying patient sizes and ages, and the fact that the existing models have been built with baseline volumes alone, which limits its applicability (Spencer, Pediatric Anesthesia, 2015). In this regard, the European Society of Anaesthesiologists recommends using a semi-quantitative grading system (Grades 0-1-2) to evaluate gastric content in children. In the presence of clear fluid, grades 0 and 1 are very common in the fasting population and carry negligible risk while a grade 2 antrum is not common in the fasting population and correlates with higher than baseline volumes.

7) What do you think are the limitations of gastric ultrasound?

The exam may be inconclusive in about 3% of subjects in whom it may be difficult to locate the antrum. It is also difficult to interpret in patients with previous gastric surgery such as gastric bands or gastric by-pass, and partial gastrectomy. Finally, you want to examine the patient in either the right lateral decubitus or the semi-sitting position with the torso elevated 45%. The straight supine position only may underestimate content.

8) The original Perlas's formula cannot be applied for gastric volumes > 500ml and in pregnant/obese adults. Are there any refinements in this for application in this patient population wherein the chances of aspiration are high and gastric ultrasound may be very useful preoperatively?

There has been much progress since then. I refer you to the work by Cristian Arzola in Canada and Lyonel Bouvet in France respectively in pregnant women, which suggests a similar accuracy of gastric ultrasound assessment compared to non-pregnant subjects. We have also validated our mathematical model to estimate gastric volume in obese subjects with BMI > 40 kg/m². Regarding the volumes, our model is accurate for gastric volumes between 0 and 500 ml. Obviously, gastric volumes greater than 500 mL are consistently a high-risk situation, so just establishing that degree of volume can help us make strong decisions regarding airway management and anaesthesia.

9) The gastric fundus is said to be the most challenging location to image. Do you suggest any technological solutions for this? I do not think it is routinely necessary to image the fundus. By placing the patient in the right lateral decubitus or the semi-sitting position, the antrum becomes the most dependant area of the stomach and the content of the antrum "tells the picture" of the entire organ in those two positions. This is not the case for the complete supine position that may grossly underestimate content.

10) How important is the role of quantitative techniques of gastric volume assessment in anaesthetic decision

making? Where does qualitative assessment stand?

Quantitative (volume) assessment is only relevant when the content of the stomach is clear fluid. If the antrum appears completely empty in either the right lateral decubitus or semi-sitting position or it has solid content (Heterogeneous or hyperechoic), the implications are obvious (empty stomach and full stomach respectively) and no volume assessment is needed. However, in the presence of clear fluid, we ask ourselves the question: “Is the amount of clear fluid compatible with baseline gastric secretions in a fasting patient?” To that end, a grade 2 antrum, an antral cross-sectional area $> 10 \text{ cm}^2$ in the right lateral decubitus or a gastric volume $> 1.5 \text{ mL/kg}$ are all suggestive of a full stomach with a volume of clear fluid in excess of baseline secretions.

11) You had predicted in 2009 and again in 2014, that bedside ultrasound could potentially become a clinically useful non-invasive tool to accurately determine gastric content and volumes. 12 years from then, is there any progress in this research and in the clinical application of gastric ultrasound? Has gastric ultrasound now received/ is likely to receive widespread application in clinical practice? What is the current status of gastric ultrasound? Is it being increasingly adopted throughout the world?

I believe it is. It is being taught in multiple conferences and workshops around the globe. In addition, as discussed previously, it is being incorporated into residency curricula in North America. When the American Society of Anesthesiologists launched the first Certificate of Completion in Point-of-care Ultrasound in 2021, they decided to include three organ systems: the heart, the lungs and

the stomach. Finally in 2022, the European Society of Anaesthesiologists was the first society to recommend the use of gastric ultrasound in children who have not followed fasting guidelines or coming for urgent/emergency surgery (guidelines published in EJA in 2022). So, overall it is being increasingly adopted around the world.

12) The recently published fasting guidelines by the Indian Society of Anaesthesiologists suggest that gastric ultrasonography is weakly recommended as a bedside tool for the qualitative and quantitative assessment of gastric contents in the preoperative period. What is your take on this?

It is usually accepted that it takes a minimum of 15 years for any new medical intervention to make its way from evidence to clinical practice, so I think this is still early days for many anaesthesiology societies. To be honest with you, I am very impressed by the speed with which gastric ultrasound is being incorporated around the world. I expected it would take much longer and I am very pleased to see it happening so fast. However, while I think this is a very useful bedside tool, I do not think it should be universally recommended for all patients but only those in whom prandial status or gastric content is uncertain, in other words, those in whom the “pre-test” probability of a full stomach is close to 50%, similarly to what the European Society of Anaesthesiologists recommends for children.

13) What is the next step in gastric ultrasonography? Any new planes of assessment or placement of probes or positioning of the patient?

I think the sonographic views are quite well established. It is significant that different research groups in North America and Europe, working separately, have all come to the same conclusion that a transverse (sagittal) view of the antrum in the epigastric area is the most consistent and helpful view to evaluate. Regarding patient position, either the right lateral decubitus or a semi-sitting position with the torso elevated at 45% are the two most sensitive positions to evaluate gastric content. I think what comes next is to achieve some consensus as to how to interpret findings, especially in the setting of clear fluids, we need to reach a consensus as to what are the most useful thresholds or cut-off values to differentiate an “empty” from a “full stomach”. The next step is to have a more wide-spread inclusion of gastric sonography into fasting guidelines to clarify gastric content in questionable cases, similarly to what the paediatric European guidelines recommend.

14) Can you give us some additional tips and tricks in gastric ultrasonography?

Perhaps the most useful tip is to learn gastric ultrasound by scanning yourself when you are fasting and comparing your findings after ingesting clear fluids and solids. This is a non-invasive test and the best way to learn is to scan frequently, and scan one another, scan your colleagues, your friends and your patients, not to make important decisions at first, but to learn and become proficient with the technique. Start with a qualitative assessment and become good at it before venturing into volume assessment.

Thank you so much for this kind interview and I wish you the best as you start to learn and consider incorporating this tool into your practice.

Thank you Madam.

ABOUT THE EXPERT



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MY JOURNEY OF GASTRIC ULTRASOUND



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As someone living in the age of technology, I have believed in making use of it to the utmost ability. In keeping with my belief, I was very fortunate to inculcate this into my profession in 2016 when I was given the opportunity to do a thesis on gastric ultrasound during my post graduate studies. The fact that there were no studies done in India at that point of time, was the icing on the cake. Since it was one of its kind it, I was very enthusiastic to know the results and to learn new skills.

I was fortunate to have consistent support from my department and with that I learnt gastric ultrasonography and scanned all patients, both in the pre and post operative period. This was our pilot study. In fact, in the beginning, we even took help from a radiologist, but we found out that it was a fairly new topic for them as well. So we collectively as a team figured out the scanning techniques. Once we were confident, we started our study which included all the preoperative patients excluding paediatrics, obstetrics and those patients in whom turning to the lateral position was contraindicated. We evaluated the gastric contents and volume in all pre operative patients undergoing elective surgery. We specifically assessed the effect of fasting in patients with diabetes mellitus, chronic kidney disease and obesity. There was a big learning curve. Learning to scan and take the most accurate reading was difficult with the breathing movements of the patients. Identifying the antrum correctly and not confusing it with the gall bladder or a segment of the intestine was of prime importance. But with repeated scans it became clearer. I used to be amazed by the results when despite fasting, patients' antrum had solids or despite not following the fasting guidelines, the antrum was empty. We often saw solid contents in diabetic patients despite fasting and the correlation that was seen was amazing and quite accurate. There were times when we did change anaesthesia plans after preoperative gastric ultrasonography and I still change my anaesthesia plan if I get to scan the patient pre operatively. Even after I submitted my thesis, the scans continued, especially in doubtful cases and almost everyone in the department was doing the scan when they were in doubt.

Recently, I was asked to write a chapter on paediatric ultrasound by my mentor. So, that was the time when I scanned neonates and older paediatric patients and learnt more on gastric ultrasound and its role in paediatric patients.

I feel very fortunate and extremely grateful towards my anaesthesia department and my mentors that I was given this thesis topic and I feel that I have grown in this subject and laterally as well.

All the efforts, perseverance and consistency were paid off when I received the BARFI award for the work done. I was lucky enough to have exposure to ultrasound scanning early on in my medical journey as my father who is a radiologist taught me the basics. This added to my own interest and efforts and has made the journey of gastric ultrasound beautiful for me. Gastric ultrasound has been the best and the most exciting part of my professional life. I intend to keep my enthusiasm alive and pass it on to my younger colleagues and peers.

UNSCRAMBLE THE SCRAMBLED

By Dr Parul Jindal, Professor, Department of Anaesthesiology,
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1. RREUDTACNS
2. GITTNLI
3. ICHEYREPOC
4. UVRASCLA
5. HCBOOYMNE

For answers please turn page 29 upside down



CURRENT APPLICATIONS OF POINT-OF-CARE GASTRIC ULTRASOUND

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Gastric ultrasound (GUS) workup is a well-known procedure for risk stratification of aspiration events in the peri-operative period.[1] The primary utility is to assess gastric residual volume (GRV), knowing which may allow us to take appropriate preventive strategies against aspiration of gastric contents under anaesthesia.[2] Although rare, aspiration pneumonitis is a dreadful peri-operative complication leading to 9% of all anaesthesia-related deaths, of which 50% are airway-related deaths.[3] In recent years, the role of GUS has been extrapolated for initiating enteral feeds in critically ill patients, especially in an intolerant gut situation.[4] Nasogastric tube aspiration, electrical impedance tomography, and paracetamol absorption were used previously to estimate GRV. These methods were cumbersome, invasive, and inconvenient in bedside and peri-operative settings. Moreover, the aspiration of gastric contents for GRV estimation depends on various factors like the position of the tip of



the nasogastric tube, tube collapsibility, tube size, type of tube and the volume of syringe used.

On the other hand, point-of-care GUS (POC GUS) is a cost-effective, safe, reliable and reproducible bedside tool for measuring GRV. [5] Patients with an unclear fasting status, such as non-compliance to the fasting orders, longer gastric transit time, e.g., diabetes, chronic kidney disease, neuromuscular disorder, advanced liver disease and unreliable history from patients are assumed to have a full stomach in the absence of data. [6] POC GUS may be considered while making decisions for these patients, avoiding the unnecessary postponement or rescheduling of surgery. GRV can be estimated qualitatively and quantitatively using B-mode ultrasound. [7] Objective measurements of the anteroposterior and craniocaudal cross-sectional area of the gastric antrum in both supine and right-lateral positions are used to calculate GRV by a curvilinear ultrasound probe. In the presence of clear fluid on GUS, if the measured gastric volume is consistent with baseline gastric volume (< 1.5 ml/kg), it poses a negligible risk of aspiration. [5, 8] Qualitative assessment of the type of ingested material may also be commented on based on different echogenic appearances in GUS. [9] Further, gastroenterologists are using GUS to calculate gastric transit time and motility.

GUS may also be used for checking the position of the nasogastric tube, colonic peristalsis and colonic diameter in patients in the intensive care unit.

Society of Critical Care Medicine (SCCM)/American Society for Parenteral and Enteral Nutrition (ASPEN) guidelines 2016 based on REGANE and NUTRIREA-1 trials recommended not to monitor GRV routinely. It may not be generalised for the high-risk, surgical and critically ill populations. [10, 11, 12] The recent ESPEN guideline has advised delaying enteral feeding if the GRV is 500 ml/ 6 hours in critically ill patients.[13] Few case studies and trials in critically ill paediatric patients are also available, showing its utility in guiding enteral feed, but the results are equivocal. The gravid uterus has been shown to impede the visualisation of the antrum, and the antral cross-sectional area has also been shown to be affected in the right lateral position. [14] Further exploration of the use of GUS as a bedside tool may be needed in paediatric and obstetric patients. Also, the futuristic aspect of 3D and 4D ultrasound needs to be studied in peri-operative management and the management of patients in the intensive care unit.

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MEDICO-LEGAL ISSUES IN ANAESTHESIA PRACTICE-A RARE INCIDENT



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ISA No. S-123

Carbon dioxide embolism during laparoscopy procedure-Surgeon and anaesthetist were held liable to pay compensation of Rs.33 lakh after the death of a patient.

Case – Radhabai Poddar v/s Dr. Zarina Karim – (Names of patient & anaesthetist have been changed to maintain confidentiality)

Facts of the case – The patient was diagnosed as having fibroid uterus and was advised laparoscopic removal of the same. All investigations were done and the case was accepted by the doctors for surgery. Patient was admitted and operated on the next day. Intra-operatively, the patient went into shock, developed pulmonary oedema, was shifted to critical care unit and then referred to a bigger hospital in a neighbouring city. The patient was declared dead on the next day and subjected to post-mortem examination.

Allegations

Negligence during surgery.

Surgeon's reply

Surgery was done as per the standard protocol. Carbon dioxide (CO₂) embolism is a known complication and the surgeon cannot be held liable.

Anaesthetist's reply

The anaesthetist denied all allegations on the grounds that pulmonary oedema and embolism are the known complications during laparoscopic procedures.

State Consumer Commission

Opponents failed to discharge their duty diligently and it was due to carelessness. Commission relied on supreme court judgments of – Dr. Laxman Joshi V/s Godbole, Savita Garag V/s Director National Heart Institute, V. Krishnarao V/s Nikhil Super specialty hospital. Opponents could not explain the chain of events in the operation theatre and there was no collaborative proof. Hence, the presumption of negligence can be made. Opponents have not placed on

record any evidence accept their own affidavits. Anaesthetist is duty bound to give a plausible explanation for the occurrence of CO₂ embolism and timely treatment for the same. The responsibility of the treating doctors does not cease by merely stating that the known complications have taken place. The anaesthetist in the reply narrated the facts but, to support these facts, no documents were produced. No anaesthetic notes were produced on record and therefore presumption can also be drawn, that the notes were suppressed for the reasons best known to them. The court also said that CO₂ embolism is a subject matter of the anaesthetist to take care of. Therefore, it is always expected from the anaesthetist to give a complete account of the events and established the course of action taken by him/her to prevent the occurrence and minimise the effects thereof through effective treatment and management of the patient. The literature also canvassed the presence of another anaesthesia provider in the operation theatre at all times to encounter CO₂ embolism. Here, no other anaesthetist was present. So, it is a fit case where presumption can be made for absence of care on the part of doctors applying the rule of “Res Ipsa Loquitur”.

Award of compensation

Considering the patient's age and occupation, the consumer commission calculated Rs.33.70 lakh as an amount of compensation and ordered both, the gynaecologist and the anaesthetist to pay it to the husband of the deceased with 10% interest since 2015 within 60 days and also Rs.25000/- for expenditure incurred on litigation. It is just, adequate and fair compensation.

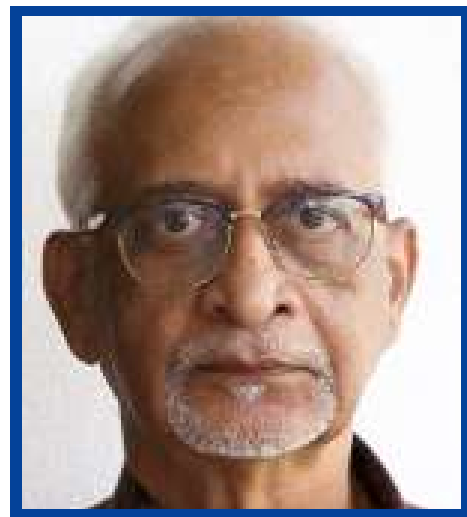
Concluding remarks

Although doctors are not explicitly listed as a service in the Consumer Protection Act, health care related complaints can be filed under the consumer courts and the precedent has been established that it is a service. As anaesthesiologists, we must have some knowledge of law in order to protect ourselves from the avoidable litigation. We must be very vigilant intraoperatively while monitoring the vitals of the patient and we must document in chronological order, how the complications were treated as per the guidelines. Documents speak on behalf of the anaesthesiologist in the court of law. We must get indemnified by insurance companies to safeguard ourselves by the huge compensation awarded by the courts.

Note: The responsibility of the facts mentioned in the above article lies solely with the author of the article.

NEW PERSPECTIVES IN ANAESTHESIOLOGY: A PHILATELIC BASED REVIEW

Dr. Chandrasekhar Krishnamurti,
Professor in Anaesthesiology, NRIIMS, Visakhapatnam
ISA No. S0468



INTRODUCTION

The scope of anaesthesia practice has seen a considerable expansion over the past two decades and it has invariably become dependent upon monitoring and anaesthesia delivery technology. The scope of anaesthesia practice has expanded globally, providing anaesthesiologists with unique new technological tools to ensure the precise and safe care of surgical patients.

IMPROVED PATIENT CARE

In the 1960s and 1970s, death related to anaesthesia was one in every 10,000 to 20,000 patients. Now with technological advances, it is in the range of one in every 200,000 patients. Deaths and adverse outcomes continue to decrease significantly due to comprehensive and continuous monitoring and improved vigilance, education and training. [1]

IMAGING & POINT OF CARE

Improved image quality with handheld devices with intuitive interfaces and AI integration has led to the use of point-of-care ultrasonography (POCUS) to acquire and interpret all images in real time [Figure 1]. This has enabled better and early diagnosis of patients' health condition. It has also led to rapid and goal-oriented therapy

for better outcomes. Bedside lung ultrasound in emergency protocol, fluid administration rate determined by lung sonography, Focused Assessment with Sonography for Trauma (FAST) have all facilitated precise and evidence-based patient treatment. [2,3]

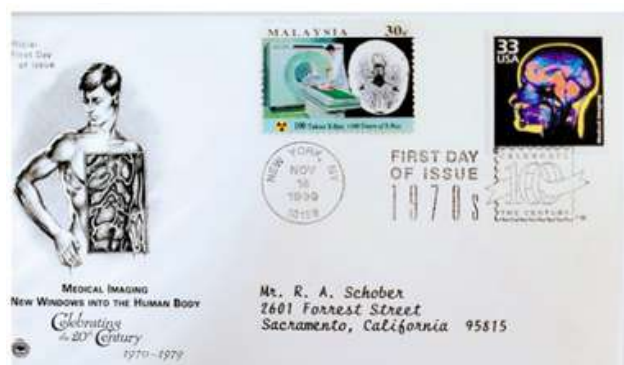


Figure 1: Imaging and Point of Care
Diagnosis and Treatment

TELEMEDICINE

Telemedicine has resulted in a sea of changes in outpatient medicine as well as perioperative management [Figure 2]. Preoperative evaluations are now done via teleconferencing and comprehensive patient health data is available at the click of a mouse. [4]

AUTOMATION & ARTIFICIAL INTELLIGENCE

Automation applied to the administration of closed-loop anaesthesia delivery,



Figure 2: Telemedicine - Remote global medicare

artificial intelligence (AI) and machine learning (ML) have all transformed the future of health care. All phases of perioperative care from accurate risk prediction to operating room organisation have been impacted by AI to improve cost efficiency, quality care and better outcomes [Figures 3, 4].



Figures 3 & 4: Automation and Artificial Intelligence Application in Medicare

Drug designing and development was hampered by complex and huge data from genomics, proteomics, microarray data and clinical trials. Deep learning (DL) algorithms based on deep, convolutional, recurrent neural and deep auto-encoder (DAEN) networks have facilitated newer drug

discovery. AI applied to monitoring drug release, pre-clinical and clinical development, primary and secondary drug screening, biomarker development, pharmaceutical manufacturing, bioactivity identification and physiochemical properties, prediction of toxicity and identification of mode of action will result in newer, more efficacious and less toxic drugs in the near future.[5-9]

"ZOOM" LEARNING

Zoom video conferencing made person-to-person online communication involving anaesthesiologists possible during the coronavirus disease-19 pandemic [Figures 5, 6]. Now almost all anaesthesiology related continuing medical education (CME) is being effectively conducted through these newer portals.[10]



Figures 5 & 6: "Zoom" learning – the revolution in knowledge updates

ANAESTHESIA IN ADVERSE ENVIRONMENTS

Target-controlled infusion (TCI) pumps and depth of anaesthesia monitors have made total intravenous anaesthesia (TIVA) easy, safe and precise. The rapid pharmacokinetic and pharmacodynamic characteristics of newer short acting intravenous designer drugs like ciprofol, remimazolam, remifentanyl, dexmedetomidine and cisatracurium has resulted in good quality of recovery and discharge. Most of these drugs are painless on intravenous injection, provide better haemodynamic stability, good quality of recovery and early discharge from hospital. [11,12] These newer techniques will make anaesthesia administration in adverse environments like at underwater depths, high altitude and aerospace precise and safe [Figure 7].



Figure 7: Underwater, High altitude and Aerospace challenges

GENETICS

Preliminary gene studies suggest that susceptibility to adverse perioperative events is genetically determined. Biomarkers in perioperative medicine and critical care include prognosis, diagnosis, and monitoring of adverse outcomes, as well as informing and refining therapeutic decisions [Figure 8].

Patterns of human genome variation, gene regulation, basic population genetic methodology, gene and protein expression

analysis and evaluating dynamic genomic markers can evaluate and catalogue organ-specific responses to surgical stress. This can assist with organ protective strategies by better understanding of genetic control of anaesthetic mechanisms and responses. Mutations in the ryanodine receptor gene, RYR1, are found in 50–70% of cases susceptible to malignant hyperthermia and statin induced myopathy. Genetic profiling of drug metabolising enzymes, carrier proteins, and receptors, using molecular technologies will enable personalised choice of drugs and dosage regimens tailored to suit a patient's pharmacogenetic profile. In the future, an individual's pharmacological needs will be based on age, sex, and genomics. [13–15]



Figure 8: Pharmacogenetics and Precision Medicine

CONCLUSIONS

Anaesthesiology is at crossroads with newer models of care with increasing usage of technology. Expansion in telemedicine has enabled care for more patients in diverse settings and to better monitor patients remotely while ensuring immediate intervention as needed. Resident training needs constant upgradation to ensure continued competency and core training with respect to the evolving technology to support patient and health system needs.

References: On page 42

ISA ACADEMIC ACTIVITIES

ISA RAJAMUNDRY CITY BRANCH ISA NATIONAL SPONSORED WORKSHOP

USG guided workshop was conducted on 16th April 2023 at GSL Medical College by ten faculties from AIIMS Mangalagiri, RMC Kakinada, AMC Vizag and GSL Rajamundry. It was attended by Dr M. V.Bhimeswar, ISA national President, Dr. Alla Prasanthi, ISA AP state President, many other office bearers and 64 delegates.



ISA KOLHAPUR CITY BRANCH CME & CADAVERIC WORKSHOP

ISA Kolhapur city branch (SAK) organised a CME programme along with a cadaveric workshop in association with D.Y.P. Medical College from 1st-2nd April 2023. At the monthly meeting held on 26th April, Dr. Amol Kodollikar presented a case discussion of 2 unusual cases. Members of SAK were also felicitated for individual achievements. The news of the appointment of the new governing council was published in 3 newspapers in Kolhapur. Dr. Vijay Chavan's painting was selected for an international exhibition in Italy.



YUVA CON DELHI 2023

(6TH - 7TH MAY 2023)



ISA NATIONAL SPONSORED CMEs & WORKSHOPS

AGRA (30 APRIL 2023)



CME cum
cadaveric
workshop on
USG guided
nerve blocks
at Theni,
Tamil Nadu



EMPOWERING EVERY CITIZEN AS A LIFE SAVER

ISA Uttarakhand State Chapter observes COLS Awareness Month

The Indian Society of Anaesthesiologists (ISA) Uttarakhand State chapter observed Compression Only Life Support (COLS) awareness month from 2nd April to 2nd May 2023, with the goal of providing state-wide cardiopulmonary resuscitation training. With endorsement and direction from ISA and Indian Resuscitation Council Federation (IRCF) and in collaboration with various medical colleges and Indian Medical Association (IMA) city branches, numerous groups of people received hands-on-COLS training at this time in various cities (Dehradun, Almora, Rishikesh, Srinagar, Mangalore, Haridwar) of Uttarakhand. During this period, which encompassed 14 sessions, nearly 1400 participants mostly, laypeople, paramedics and school students were actively instructed and trained by around 25 anaesthesiologists, far exceeding the target of at least 1000. The sessions were held for an average duration of 2 hours each. The participants were also issued e-certificates after successful completion of the sessions. These training sessions did not have any financial interests. The State branch commits to continuing to train people throughout the ensuing weeks and months.



COLS TRAINING

ISA MALAPPURAM CITY BRANCH

ISA Malappuram City Branch, Kerala State gave COLS training. It was given by Dr Muraleedharan and Dr Sridevi to 50 doctors of IMA Women's wing, Kotakkal.

ELS training and classes was taken by Dr P Sasidharan for 50 Red Cross members of Ponnani. The training was also coordinated by Dr Salim and Dr Shijin.



ISA KOLHAPUR CITY BRANCH

To generate public awareness regarding cardiopulmonary resuscitation, two COLS hands-on training events were conducted by ISA Kolhapur on the 16th and 29th of April at the Indian dental association and for the staff of Magdum Urology and Multispecialty Hospital respectively. Dr. Vijay Chavan, Dr. Kiran Bhingarde, Dr. Shivaji Jadhav, and Dr Sachin Kumbhar conducted these sessions.



TINY GUARDIAN OF LIFE
AT HIMS, DEHRADUN



INTERNATIONAL

Dance

DAY

On the occasion of International Dance Day 2023, ISA cultural club presented a video on Indian Classical Dance forms, performed by anaesthesiologists from the different parts of the country.

Dr. Shailaja Ganti took the lead and compiled it all together. She explained the origin and the history of these classical dances and also highlighted the beneficial effects of dance.

Dr. Kiran Vyawahare (ISA Maharashtra), Dr. Leena Ingale (ISA Maharashtra), Dr. Amrita (ISA Chennai), Dr. Geetika Batra (ISA Haryana), Dr. Shweta Ambati (ISA Hyderabad) and Dr. Bhuvaneshwari were among the participants who performed various classical dances.



Yuva Parnika (Youth Zone)



BEYOND MEDICATIONS: Exploring the potential of virtual reality in the perioperative period



Virtual reality (VR) is a rapidly developing technology that is increasingly being used in medicine, including anaesthesia. VR technology has the potential to transform medical education, and its use in anaesthesia is a promising development since it can minimise patient anxiety and improve outcomes. VR can be utilised to create pleasant and peaceful settings that can help patients relax and overcome their anxiety and pain during surgery. Patients who utilised VR during preoperative evaluations experienced less anxiety and required less medicine during anaesthesia induction, according to a study. [1] This is significant because it can lower the likelihood of complications during surgery and enhance patient outcomes. Anaesthesiologists as trainees can use VR to practise, and provide anaesthesia in a virtual surgical setting, gaining vital experience and skills before working with actual patients. The SimAnesthesia VR simulator developed by the University of British Columbia in Canada is one example of immersive VR training for anaesthesiology. [2] The simulator simulates the experience of delivering anaesthesia in a range of surgical circumstances using a VR headset and hand controls. The user can interact with virtual patients, check vital signs, and use real medical equipment to

administer anaesthesia. Another example is the American Society of Anesthesiologists (ASA) Anaesthesia SimSTAT simulator. [3] This simulator uses virtual reality technology to recreate realistic surgical circumstances, strengthening decision making and critical thinking abilities. The simulator is remotely accessible, allowing anaesthesiologists to practise while improving their skills from any location.

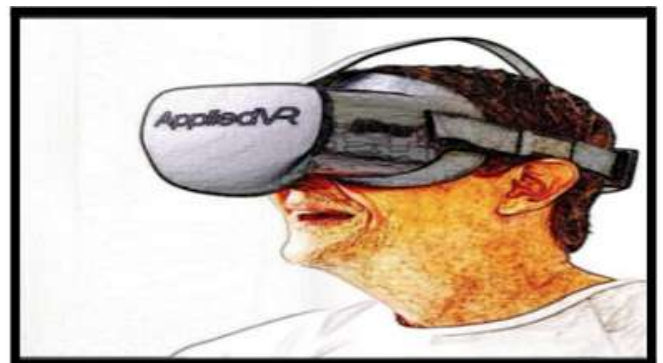


Figure 1: Cartoon of virtual reality created with Play Store app-cartoon pictures.

Benefits

One of the primary benefits of immersive VR training for anaesthesiology is the ability to create a safe and regulated learning environment. Anaesthesiologists can practise administering anaesthesia in a realistic environment using VR without risking the safety of actual patients. This can help to limit the possibility of mistakes

and increase patient safety. Another benefit is being able to deliver consistent and standardised training.

Anaesthesiologists can use VR to practise in the same simulated environment, allowing for more standardised training and skill improvement. This can help to ensure that anaesthesiologists receive constant high-level training. VR technology has advanced fast in recent years, and it has enormous potential to improve medical education; in addition, VR technology can be utilised to educate a variety of anaesthesia-related techniques, such as airway management, regional anaesthesia, decision making and crisis management.

Status in India

VR technology is still in its early phases in India, and its application in the healthcare sector in particular anaesthesiology, is in its early stages as well. However, some initiatives are underway in India to introduce VR training in the healthcare sector. The Indian Institute of Technology (IIT) Delhi, for example, has created a VR-based surgical simulator. [4] The simulator's goal is to provide a realistic environment in which medical students and practising physicians can practise and improve their surgical abilities. Modules for numerous surgical procedures, such as laparoscopic surgery and endoscopy, are included in the simulator. One possible application for VR instruction is in the rural and distant areas of India, where access to quality training and resources may be limited. VR training can be a low-cost and convenient alternative for healthcare professionals in many fields to improve their skills and knowledge. Overall, while the use of VR technology in the healthcare industry in India is still in its early stages, it has the potential to play a significant role in improving healthcare

training and delivery in the country. As technology improves and becomes more accessible, we should expect to see more widespread usage of VR teaching in anaesthesiology and other areas of healthcare in India.

Drawbacks

However, there are some drawbacks to VR training. The expense of the equipment and software necessary to use VR is one of the most important restrictions. High-quality VR equipment can be costly, making it difficult for some training programmes to use the technology. Furthermore, not all anaesthesiologists may have access to VR training, limiting its reach and impact. Another restriction of VR is that it may not be appropriate for all patients. While using VR, some patients may experience motion sickness or disorientation, which can have serious consequences during surgery. Furthermore, patients with visual or hearing impairments may not benefit fully from VR experiences. Despite these limitations, the use of VR in anaesthesia is a promising development that has the potential to improve patient outcomes. VR can be utilised to generate relaxing and soothing settings that aid in patient relaxation and anxiety reduction. Furthermore, VR can be used to distract patients during surgery, reducing stress and improving pain management.

To summarise, the use of VR in anaesthesia is an intriguing discovery with the potential to improve patient outcomes. While it has limitations, VR can help reduce patient anxiety and stress during surgery and improve pain management.

Anaesthesiologists should think about introducing VR into their clinical practice, and further research should be done to determine its efficacy and limitations. Finally, immersive VR training has the potential to revolutionise anaesthesia instruction by providing a safe and realistic learning environment. Immersive VR training in anaesthesiology and other fields of healthcare training is likely to become more popular as technology improves and becomes more accessible.

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ISA No. B1501



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ANSWERS to Unscramble the Scrambled
1) Transducer 2) Tilting 3) Hyperchoic 4) Vascular 5) Honeycomb

FINANCIAL LITERACY

for anaesthesiologists

by an anaesthesiologist:

Need of the day



A study done in 2011, which was published in the Indian Journal of Anaesthesia, to identify the job satisfaction and stress levels among the anaesthesiologists of South India, noted that anaesthesiologists are under stress for want of recognition as well as remuneration. The increasing cost of living, inflation, equated monthly instalments (EMIs), children's education etc have created this scenario. A survey carried out among Hubballi anaesthesiologists concluded that 40 % of them would not be able to sustain their lives even for the next one year if their surgeons decided to quit surgery or retire.

Wealthcon (Available at www.wealthconindia.com) is an Indian platform for doctors with a goal of spreading financial literacy. I am a part of this initiative and would like to share ten key insights which I learnt here:-

1. To begin with, we need to make a list of financial goals. Short term goals like paying debts, EMIs etc. Long term goals include retirement, children's education, marriage etc.
2. One's financial decisions should never be outsourced to agents. Research the financial instrument before investing.
3. A thumb rule of 50/30/20 that says 50% of expenses should be on living essentials, 30% on lifestyle/travel/shopping and 20% on savings/investments.
4. Spend money on "products of needs" and not of prestige.
5. Have two sources of income: Active income from the routine anaesthesia or salary and passive income from being an investor 'where the money is working for him/her.'
6. Invest in instruments which will create money eg: - fixed deposits, mutual fund policies, shares, land, plot, buildings, gold coins etc.
7. Real estate and Equity or share market are for wealth creation whereas Gold, Debt market and fixed deposits are for wealth protection. Equity market has an immense potential of appreciating the amount that one invests and also of beating the inflation.
8. Investment in the Equity market can be done by the
Generic way – One can buy shares, bonds, debentures into the demat account.
The Packaged way - Exchange traded funds, direct mutual funds.

WC-MPTDS is a screening tool created by Wealthcon to identify good and rewarding shares (www.screener.in). Select the best 10-20 shares of different sectors and invest for a period of seven years with or without a price target in mind. Investment can be started even with a minimum of Rs 500. Also, keep doing systematic investment plan (SIP) per month and at downfall in the market , add more.

Market cap	>10,000cr
Price	UP TRENDING
Tax paid	INCREASING over last 10yrs
Dividend paid	INCREASING over last 10yrs
Sales	INCREASING over last 10yrs

Exchange traded funds like Niftybees, Goldbees, Juniorbees can be the next best way to go. Understanding of the market dynamics is not needed for this route.

Mutual funds are another popular means of investment. Avoid child plans, retirement plans etc. These plans have inbuilt agent fees and expense fee which is almost 20 percent of the profit gained from your investment.

For a mutual fund:

- Choose direct and growth mutual funds.
- Invest in equity funds like Equity linked Savings Scheme(ELSS), Large cap, Mid cap, Small cap or liquid funds.
- SIP mode (Automatic, Regular, and Consistent)
- Avoid fancy and hot named funds, NFO(New fund offer)
- Follow CAARESA criteria suggested by Wealthcon <https://www.valueresearchonline.com>

C-Category of fund	
A-Age of fund ->5 years	
A-Asset under management ->1000 cr	
R-Return should be maximum	
E-Expense ratio should be minimum	
S-Sortino ratio	Higher the better
A- Alpha	Higher the better

9. Insurance is an expense, and one should not waste time studying expenses. One term insurance (coverage 20 times annual income) and one medical insurance from a reputed company which covers the family is enough. Ensure that the married women's protection act (MWPA) is utilised when applicable.

10. Death and Taxes are certain - Benjamin Franklin. Cash generation to prevent taxes should be avoided. Cash kept in bank or demat will generate more income. Debt is like near death, and get rid of it at the earliest. Avoid taking bad loans like consumer loans, car loan, and personal loans etc. Good loans like home loan, education loans, business loan can save taxes and also create assets.

In summary, creating a passive income not only gives financial freedom but also has the power of compounding. Knowing yourself and your financial decisions w.r.t spending, insurance, loans, will hold you in good stead. This is only the first step to financial literacy and to know more join Wealthcon on telegram and imbibe its culture.

Note:

MPTDS® and CAARESA® criteria are registered criteria of WEALTHCON INDIA®. Unauthorized use of it in an electronic or printed format or any other platform is not allowed.

The author has no conflict of interest with the above subject matter.



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COMMIT TO BE FIT

A letter to young ISA colleagues



Dear postgraduate students and my young ISA colleagues,

Anaesthesia is a skillful and intensive specialty. We should have fast reflexes and logical thinking for timely identification and management of unanticipated complications. While we may spend much of our time in watchful expectancy, when the need arises, we must swing into action, take rapid decisions and perform lightning-fast manoeuvres to extricate the surgeon from a tricky situation. We have the advantage of automated anaesthesia workstations and higher electronic monitoring gadgets. It is today's need to take out time for family, friends, and recreation. This will always improve performance and act as the best de-stressor. Most importantly, one should strike a perfect work-life balance.

But a full course load, extracurricular activities, and socialising with friends can be challenging. In today's fast life, everyone claims to be very busy with hardly any time left for oneself. With heavy working schedules or other commitments, sometimes we feel that even 24 hours are not enough in the day. On the other hand, a sedentary lifestyle and the resultant obesity are becoming a worldwide problem and make a person prone to many diseases.

Nevertheless, yoga is the best solution. It saves space, time, and money. It can help one lose weight and also get cured of chronic diseases such as insomnia, asthma, sinusitis, diabetes, hypertension, migraine, etc. It has been the main element of Indian culture since ancient times, dating back to the Indus Valley civilisation (3300-1300 BC) .

Yoga is much more than poses. One can do a gentle or even vigorous series of asanas during busy or leisure time. One does not need to be naturally flexible or have a certain body shape to become a serious student of yoga. Luckily, these notions are misconceptions. Yoga is altogether practiced for those who simply show up.

It does not only mean practising 'asanas' for a long time and sitting in one place, which is the most

widely confused concept nowadays. A 15–30-minute yoga session per day is adequate. One can take out time in segments in between cases. It can be practised multiple times in the form of yoga capsules, during break time, or while working. Simply closing the eyes, sitting quietly, observing over breath, thoughts, or by concentrating on a point is also a part of yoga.

You can perform neck, shoulder, back and legs stretching and strengthening exercises during long operation room hours. Special equipment is not needed. You can make use of available material like saline bottles/ water bottles as dumbbells; bandages as yoga belts; wall support or table and chair for this purpose. Even spot jogging is the best way to stay active.

Various twisting asanas will help you to get rid of those aches and pain due to long standing or sitting posture. There are ways to prepare so that you can work towards them safely while honoring and listening to the body.



On the physical level, most advanced yoga poses require strength, flexibility, and balance. By addressing these areas with regular practice, one can prepare the body for more difficult and challenging ‘asanas’. Yoga will develop a sense of well-being in people of all age groups and from all backgrounds. It generates positive emotions and compassion. It teaches practitioners to be gentle with themselves and others. Regular practice of these postures enhances the ability to concentrate, deal with impulsive behavior, and to think more clearly. It helps in reducing mental tension. Pratyahara, Dharana and Dhyana play vital roles in reducing mental stress. ‘Asanas’ like Makarasana, Shavasana, Shalabhasana, Bhujangasana, and other poses from the Astanga series are beneficial for releasing stress and tension.

Being fit makes us active, allows us to tackle more tasks throughout the day, and boosts the energy levels and confidence in ourselves. We become conscious about healthy eating habits and keep a regular eye on levels of vitamins like B, D, and iron levels, etc. Fitness freaks try to avoid late-night parties. Even sleep habits are improved to get the best performance. Thus, an overall healthy lifestyle needs to be adapted. You do not need to compare your fitness level with anyone, but definitely keep changing goals and keep challenging yourself.



Hospital or institute-based stress management and wellness programmes encourage healthy living in postgraduates and doctors. These programmes teach yoga and meditation which directly improve mental focus and concentration. Building a recreational room with some fitness equipment might encourage the starting of the fitness journey.

With lots of love and hoping that you will **COMMIT** to be **FIT**.

Sincerely yours,

Dr. Aarti Zawar

Marathoner, Cyclist , Advanced Yoga Practitioner, Consultant Anaesthesiologist,

Vivekanand Hospital, Latur, Maharashtra

ISA No. A3782/A

Simple discipline practised every day along with the right mindset will eventually give us the results that we desire

- Jim Rohn

One day you will thank yourselves for never giving up

- Anonymous

CROSSWORD

Put your knowledge on Ultrasound to the test

By Dr Parul Jindal, Professor, Department of Anaesthesiology,
HIMS, SRHU, Dehradun

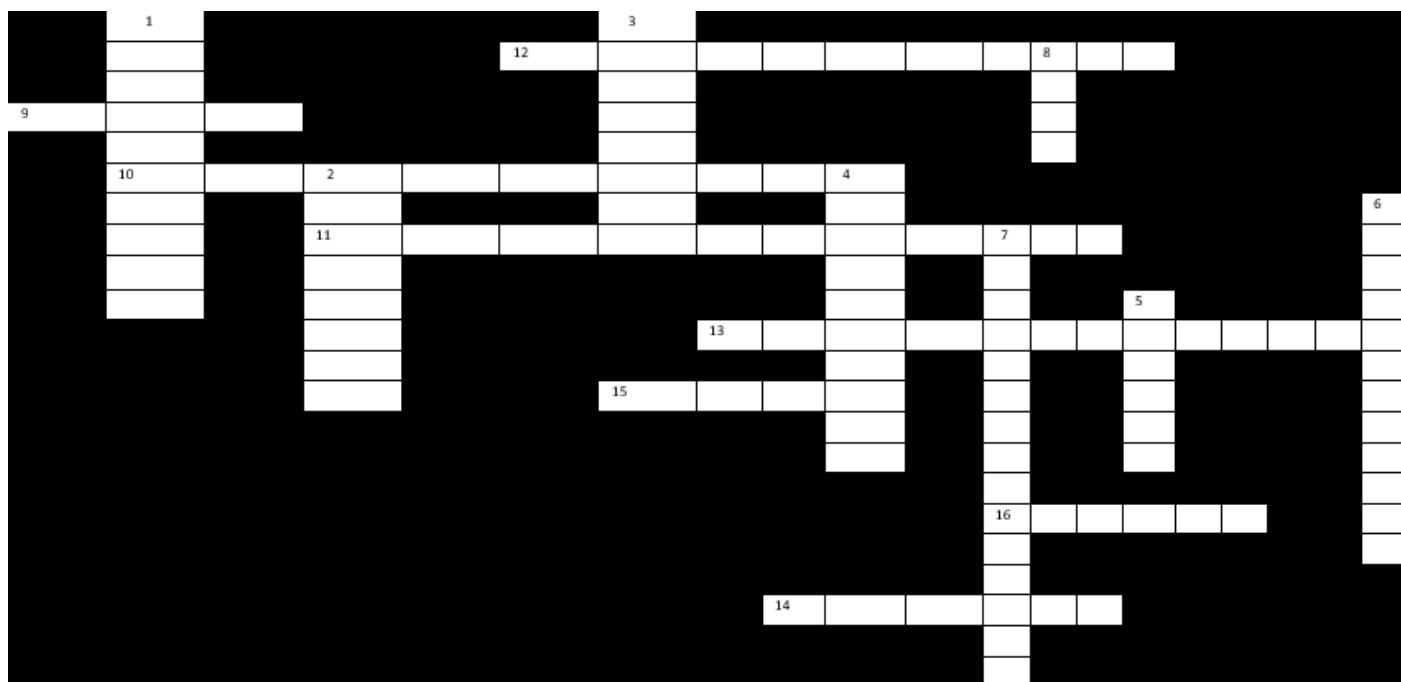


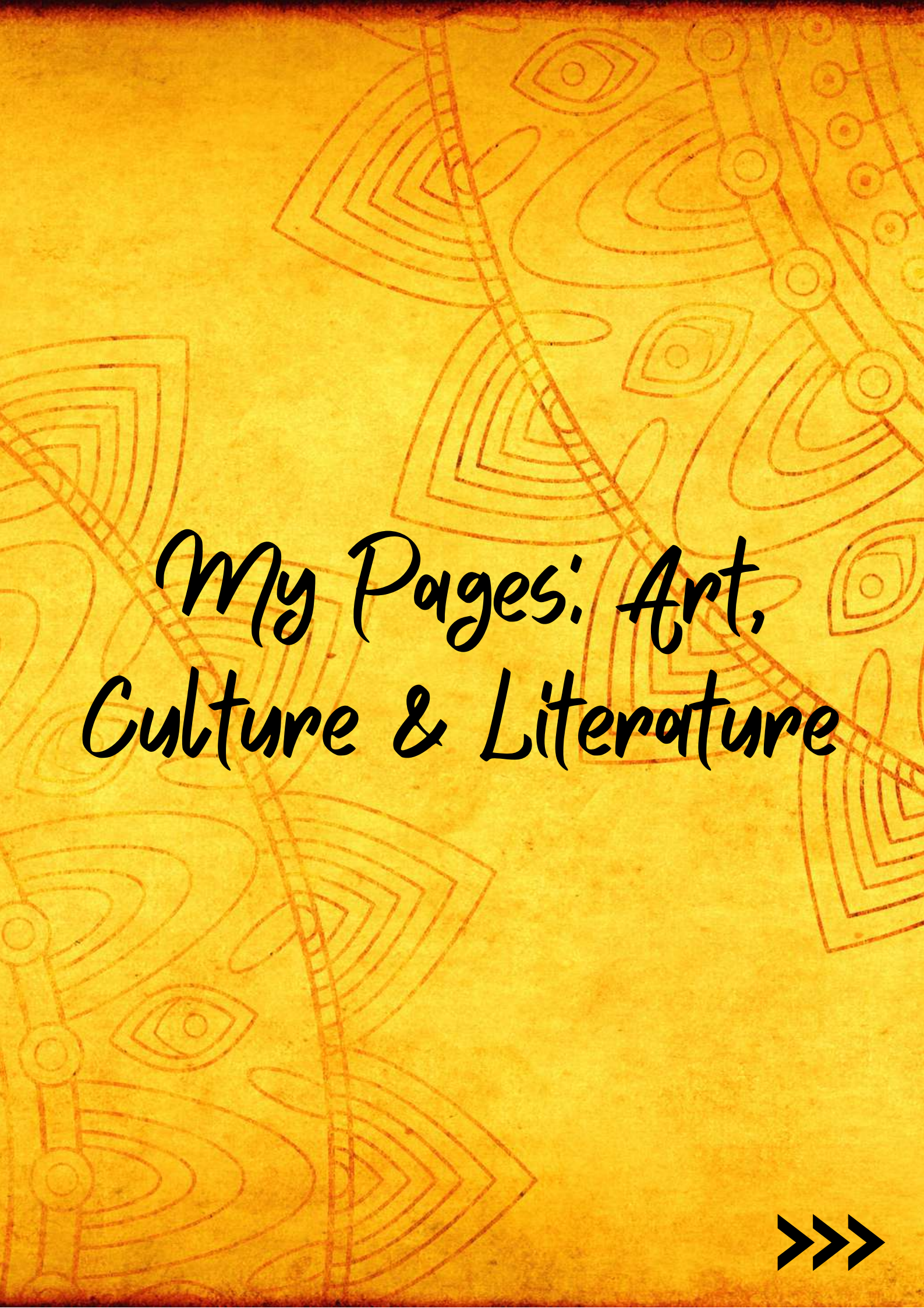
DOWN

1. Property of sound waves acts like the principle of ultrasound: Reflection and(10)
2. A full bladder required for an abdominal ultrasound is to have a goodwindow (8)
3. A piezoelectric crystal is used to convert..... waves into ultrasound waves (8)
4. Potential side effects of interscalene blocks (10)
5. With ultrasonography, all the following structures for upper extremity blocks are hypoechoic: Inferior trunk, Phrenic nerve and C7 root EXCEPTcord (6)
6. The erector spinae comprises of group of muscles including longissimus, spinalis and (12)
7. One of the nerves blocked during TAP Block is (15)
8. On sonoanatomy, a bilateral sacral cornua reveals aeye sign (4)

ACROSS

9. Medical imaging modality other than ultrasound that does not use any form of radiation (3)
10. Ultrasound can be taken of this area for an infant but not for an adult (7)
11. Red dot on the probe helps to detect probe.....(11)
12. Far field is thezone (10)
13. The fundamental operating principle of medical ultrasound transducers is (13)
14. Piezoelectric crystal may be made of (6)
15. In which of the following materials is the speed of ultrasound greatest ? (4)
16. Sonographic presentation of emptyis flat , collapsed or round bull's eye (6)





My Pages: Art, Culture & Literature



BRUSHSTROKES FROM ANAESTHESIOLOGISTS

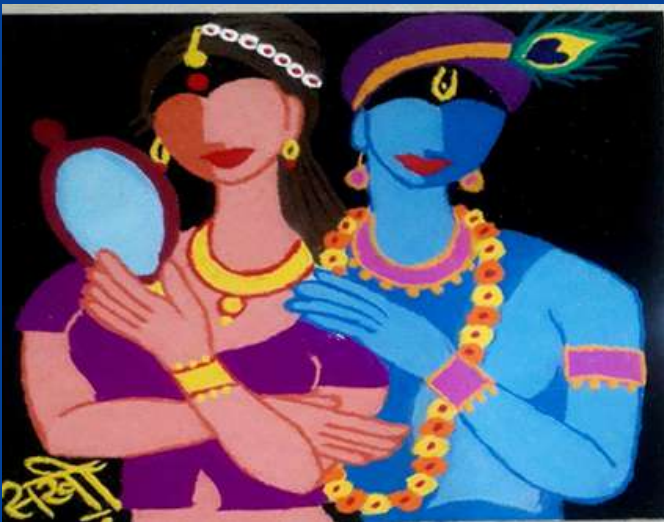
Water Color Paintings by Dr.Maya Bhalerao, Pune



Konkan House



Golden Grace



Rangoli art 'Radha hi Bawari Harichi'
by Dr. Sheetal Dalal, Nagpur



Pot Painting by Prof. Vasantha Kumar
K R, AIMS, BG Nagara, Karnataka

ACRYLIC PAINTING ON CANVAS



By Dr. Mamatha N.R., Anaesthesiologist, Hassan, Karnataka

AN ODE TO A FEMALE ANAESTHETIST



By Dr. Aastha Srivastava
Consultant Anaesthesia, Dehradun
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She is fierce, She is a charisma,
For the unversed, She is an enigma....

She dons many roles during her life,
Besides being an anaesthetist, she is also a daughter, a mom, and a wife...

Give her a task, she will excel and soar,
Like a lioness, She will always roar....

The sacrifices she makes, her tears have stories to tell,
She strives day in and day out, well or unwell...

As an anaesthetist, She is Superpower in a frame,
Managing an emergency is her perfectionist game..!

Cannulation, intubation, spinal, She does it all,
Give her an arduous task and She rolls the ball...

Teamwork is the Mantra of her life,
A woman always in action, magnanimous is her vibe...

She is Shakti, The energy Divine,
Pray to her and you will always shine...

She gives birth, She nurtures a life within,
Versatility is her middle name, knows every kith and kin...

Let us celebrate a woman anaesthetist in every way,
Be it today or tomorrow and every single day!



A TRYST WITH DR. KIRAN VYAWAHARE

Consultant Anaesthesiologist and Pain Physician, ISA Nagpur
City Branch, Recipient of President's Appreciation Award 2022–
ISA National and Maharashtra State Chapter

Drama artist, Play-writer, Play Director



Hello Dr. Kiran! You have been writing and directing plays for quite some time now. Please tell us something about your hobby as a drama artist, play writer and play director.

1) Since when are you doing this and is there a family background?

From my childhood, I was passionate about dance, acted in many plays in school, and just loved the stage. I was a performer. Probably, my teachers saw the leadership qualities in me so made me the school captain and I used to lead the school parade on Republic Day. I loved to sketch especially eyes and faces and make rangoli during Diwali. Maybe art is in my blood. I inherited it from my father who, although a very good doctor, was an artist at heart. He was a great singer, sketched and painted beautifully. My father never told me that in Govt. Medical College he had directed many plays. Unfortunately, it was only after his death that I came to know about this. As I grew up, my father reprimanded me to concentrate on my studies as he wanted me to become a doctor. And so the artist in me took a backseat.

2) Did you undergo any training? Out of the various roles you have played, which character did you like the most?

No, I did not undergo any formal training but I have closely observed the work of some renowned directors at IMA. I have played

many roles but one character which I love the most is that of the gynaecologist, Dr. Katwani (no pun intended) in the medicolegal aspects of anaesthesia. I have shown how the gynaecologist, refuses to take responsibility for the death on the operation table.

3) How did you develop this hobby?

Scriptwriting and direction happened to me by chance in 2007. There was a WISACON hosted by Nagpur and Dr Anil Jain the then President of ISA Nagpur, wanted me to write a play on medicolegal aspects of anaesthesia. The moderator was Dr. Anjali Bhure madam. I researched a lot on the legal aspects, took the help of a lawyer and like this, a scriptwriter and director was born.

For the drama 'Toofan', on the medicolegal aspects of anaesthesia, we made a video to show a mishap in the OT and had shown the court proceedings. It was an instant hit, we were invited to Indore and then later on to the National Conference in 2009.

4) Drama is an art and Medicine is Science, how do you manage the transition between the two?

Art is like meditation for me, whether it is music, dance, or drama. I am very passionate about it. I love medicine and I'm

happy doing my work but art rejuvenates me. It's always refreshing to take such breaks.

5) How do you manage the time in pursuing this hobby?

When you are passionate about something, you try to find out time for it. Yes, at times it becomes very difficult but now I have decided that I would do only one drama or extracurricular activity every year.

6) How many plays have you written? What are the challenges that you have faced as a drama director?

Since 2007, I have written around seven to eight dramas the latest being History of Anaesthesia. There was a lot of hard work in its making; right from digging down the history of anaesthesia to choosing characters, it needed meticulous planning and rehearsals. All characters were busy anaesthesiologists so getting everyone together for practice was the most difficult task. Then the makeup, video shooting, editing and finally compiling everything.

The highlight was that the video was released from the National ISA platform by the then President Dr.Murlidhar Joshi. I felt honoured and was felicitated by Hon. Secretary Dr.Naveen Malhotra sir during the Platinum Jubilee Celebrations.



7) Recently you wrote and directed a play for ZTCC on organ donation; please share something about your play.

Yes sure. I have started getting requests for many plays from other medical specialties. Recently, I wrote the script and directed a movie on organ donation, Kidney Transplant, Ek Asha. The ZTCC President had approached me. They wanted to create awareness regarding cadaveric Organ donation.

8) How much time is required in making a play?

Every time we need at least three to four months for everything to be put in place and produce a new play. Mostly, I do only social theme-based plays to educate the public.

9) You do quite a few things to create public awareness.

Yes, and I am happy to share that I have started my own YouTube channel and have 627 subscribers and 40 K views. I like to create awareness regarding anaesthesia and Pain medicine

Thank you!

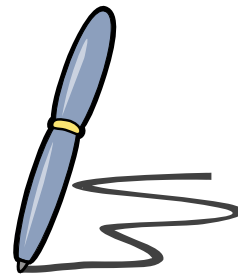
Editorial Team, Vapour



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‘Vapour’, the official newsletter of the Indian Society of Anaesthesiologists invites contribution of articles originally written by ISA members (Life and associate). The articles can be in the form of interesting case reports for discussion, articles on topics of current clinical relevance, photo-essays, articles on medicolegal /health/ financial/extracurricular issues of interest to the anaesthesiologists. Letter to the Editor/ Original literary works such as poems, funny cartoons or paintings on topics of anaesthesia are also welcome. Information about extraordinary achievements /experiences of ISA members, book publication can be sent.

The articles should be brief and written in font Times New Roman 12-14 size and presented in Microsoft office word document (rtf/doc files). Plagiarism and violation of copyrights should be strictly avoided. The articles should be e-mailed to isanhqvapour@yahoo.com with a covering letter addressed to the Honorary Secretary ISA National.

Dr Sukhminder Jit Singh Bajwa

Honorary Secretary ISA National & Editor-in-Chief

VAPOUR

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