WINDSOR UNIVERSITY
SCHOOL OF MEDICINE

Windsor Insight

ISSUE #2 SUMMER SEMESTER 2016

WINDSOR CELEBRATES GRADUATION CERMMONY IN CANADA FOR THE FIRST TIME

"GLIMPSES OF THE GRADUATION CEREMONY"

WHATS INSIDE

PRESIDENT'S MESSAGE TO GRADUATING PHYSICIANS

By Brijinder K Gupta

It is the first time we are meeting in Toronto for an occasion like this and we are very pleased, to have a vast number of our students attend. We had the Graduation Ceremony in the US for the past 3 years, therefore we thought it fit to accommodate you the Class of 2016 so that you could be closer to home and have the opportunity to celebrate with your friends and family.

Windsor University opened its doors in 1998 in Turks and Caicos Islands under the leadership of late Dr. Srinivas Gaddam and five other colleagues with just eight (8) students. It was their vision to provide medical training to individuals of all strata of society. Having to deal with several bureaucracies which slowed the progress of our institution, we decided to move our institution to St. Kitts in 2000. We started here with twelve (12) students in Fort lands followed by Bird Rock. But now we can boast of our campus set on three acres of land at Brighton's Estate, Cayon where we train approximately 600 students. Right at this moment we are constructing a state of the art Library, additional classrooms, faculty offices and a Simulation Laboratory to aid the Clinical Science Students.

We are very proud of our 340 alumni who are in various residency programs in the US and Canada and 170 in other countries. We are particularly proud of our 840 Alumni, who are all holding their own in their respective fields, some of who are in extremely important and strategic positions in the medical globe.

We are also proud of our alumni who are in fellowship in various fields of medicine, like Trauma & ER, Neurology, Palliative Care, Neonatology, Rheumatology etc.

Graduates, you have embarked on a lifelong learning career which will take you many places and allow you to interact with a vast variety of individuals. You are privileged to gain a multi-national network of friends and will eventually realize that some primary care doctors/specialists were once your classmates or members of your study group.

It will be your duty to earn the respect of your patients and colleagues alike. Approach your tasks with professionalism, ensuring at all times the confidentiality with which you must operate. Be cognizant of the fact that your training prepared you for the doctor/ patient relationship which takes into account a caring nature that begins with the practice of being a good listener. By now you would appreciate the benefits of hard work having endured many long, arduous hours either in a hospital emergency department or surgical theatre. I wish you reflect on this for a while with the hope that you realize that your profession requires much patience, endurance, love and respect. No matter the situation, always remember the confidence and trust placed on you by your patients and their families. You therefore will need to reassure them that you will do your best. You are well poised to change the present medical techniques and improve patient care. Every day you will face challenges, but be prepared to discern new opportunities and broaden your horizon. I welcome you to the medical profession and congratulate you for achieving this milestone, while wishing you well in future endeavors.

WINDSOR WELCOMES NEW FACULTY

Dr. Jeevan Divakaran

Education

MBBS - Coimbatore Medical College, Coimbatore, Tamil Nadu, India, 1995
Residency – Pathology, Pt B D Sharma PGIMS, Rohtak, 2000

Dr Jeevan started his career in Pathology in 2000 as an Assistant Professor with teaching and diagnostic responsibilities at the PSG Institute of Medical Sciences & Research, Coimbatore, India. He also held additional posts of Warden of the Gents Hostel, Secretary of the Indian Medical Association - Peelamedu PSG Branch, Co-ordinator of Student Quiz Club and Secretary of the Faculty Club. Subsequently he worked at various prestigious medical universities in India, attaining the rank of Professor. He also managed a few administrative positions including that of Head of Department (In 2011, he headed the Department of Pathology at Dr. Rajendra Prasad Government Medical College, Himachal Pradesh, India) and Vice Dean (In 2012, he joined Azeezia Institute of Medical Sciences And Research, Kerala, India as Professor & Head of Pathology Department and was subsequently promoted to Vice Dean)

He also held the post of Foreign Expert in Pathology at the Southern Medical University, Guangzhou, China in from 2006-7 and also worked at the Bokamoso Private Hospital, Gaborone, Botswana as the Chief Pathologist and Director of Laboratory Services from 2009-11
He came to the Caribbean in 2012 as Professor of Pathology at the Medical University of the Americas, Nevis where he was also involved in the RLRA research projects and Promotions Committee. He moved to Windsor University School of Medicine in 2014 where he was the Course Director of Pathology and Associate Dean for Faculty Affairs. He left Windsor briefly in 2015 to teach Pathology at the Trinity School of Medicine, St Vincent and has now rejoined the Windsor family.

He has also been actively involved in research (special interest in Gastrointestinal Pathology and Dermatopathology) with publications in indexed national as well as international journals. He is extremely passionate about teaching his subject and has also undergone training courses in medical education and teaching.

He strongly believes that 'in order to be a good teacher, one must be a good learner'. His hobbies include playing table tennis and badminton. He is an avid cricket fan.

Dr. Ila Chauhan

Education

MBBS - Coimbatore Medical College, Coimbatore, Tamil Nadu, India, 1995
Residency - DNB Radiation Oncology, G Kuppusamy Naidu Memorial Hospital, Coimbatore, Tamil Nadu, India, 2005
Senior Residency - Jawaharlal Institute of Post Graduate Medical Education and Research, Puducherry, India, 2007

Dr Ila served as a short service commisioned officer in the Army Medical Corps of India after completing M.B.B.S. , caring for service personnel and their families

After completing residency in Radiation Oncology, she worked in JIPMER, one of the premium teaching hospitals in India as senior resident. She was responsible for out and inpatient care of cancer patients. She also conducted basic oncology classes for medical students.

Subsequently she joined the Ex-servicemen Comprehensive Health Services of India which cares for veterans of Indian Armed forces and their families. She came to the Caribbean in 2012, joining Medical University of Americas, Nevis, as Assistant Professor in Pre-Clinical Sciences, and was involved in teaching the ICM and FCM courses for all basic science semesters. This included academic lectures and hands-on training during labs sessions.

She briefly returned to her home country in 2014, working as Resident Medical Officer at the Jain Group of institutions in Bengaluru.

She is a sincere and dedicated professional, well-loved and respected by her patients wherever she worked. She believes that clinical skills and empathy towards the patient are the building blocks of the road to recovery. She joined the Windsor family in May 2016.

Dr. Stella Ebere-Shepherd

Education

MD, Windsor University School of Medicine, St Kitts, 2015

Dr Shepherd started her medical education at Igbinedion University, Nigeria. She subsequently transferred to Windsor in 2012. After recent completion of her MD she joined the Anatomy Department as a Lecturer. She believes that Anatomy is an important foundational course in Medicine and unlike some other courses, it's very relatable, not abstract, and easily grasped - this is why it is one of her favorite courses to learn and teach.

A physician teacher with a genuine interest in the complete well being of her students what she lacks in experience she more than makes up for with her enthusiasm to teach and her thirst for knowledge and advancement. She has an avid interest in the research field of regenerative medicine having written a research paper on "The role of regenerative medicine in the treatment of diabetes mellitus and it's late complications". She loves to travel and experience new people and cultures. Music and writing are her other pastimes.

FAIMER WORKSHOP ON CURRICULUM DEVELOPMENT & EVALUATION, PRINCIPLES OF ASSESSMENTS AND EDUCATIONAL RESEARCH

By Soumitra Chakravarty, Bikramajit Singh Saroya

It was an honor and a privilege to have esteemed Professors and Medical Educators from FAIMER visit Windsor University School of Medicine to conduct a workshop covering various crucial aspects of Medical Education like Curriculum, Assessments, Educational Research and Evaluation Principles. We have learnt a lot of great things and received many ideas for the continuous development of our beloved University.

Guest Speakers:

Dr. John (Jack) R. Boulet, Ph.D.

Vice President, Research and Data Resources

Foundation for Advancement of International Medical Education and Research

3624 Market Street, Philadelphia, PA, 19104

Professor Janet Grant,

Honorary Professor, University College London Medical School

Professor Emerita of Education in Medicine, The Open University, UK

Special Adviser to the President, World Federation for Medical Education

Director: Centre for Medical Education in

Context [CenMEDIC] & FAIMER Centre for Distance Learning

DATES: April 25th to 27th, 2016 Curriculum Design and Integration - Prof. Janet Grant

Prof. Grant discussed the steps and options in Curriculum designing. She began with the school's mission and vision and informed us about the importance of the Mission Statement for development of the Educational Objectives of the program. She told us about the various types of curricula and that there is no evidence that one type is better than the others but there is evidence that some curricula are less effective than others.

The faculty learnt that curriculum designing was always contextual and that we have to keep in mind the major health issues of North America and Nigeria since these are the areas where our student population would go for higher education and medical practice.

We were informed by Dr Grant that for purposes of integration, in most institutes, basic sciences integrate with clinical sciences but often, the clinical sciences fail to reinforce the knowledge of basic sciences. Most institutions are trending towards adopting fully integrated curricula which is merely to look good on paper. There is extensive evidence that these programs face several problems when managed ineffectively. We realized that self-reflection and improvement is the best practice in improving curricula.

Attending members: Curriculum Committee

Curriculum Evaluation - Prof. Janet Grant

Prof. Grant discussed various components of curriculum evaluation. She showed us several models of evaluation and explained the factors that determine the effectiveness of evaluation. We learnt that defining the purpose of evaluation is the most important aspect of Curriculum evaluation. Quantitative Data should be gathered using a variety of methods like evaluation of courses, peer-evaluation, student evaluation of faculty, USMLE/ NBME scores etc. It is most important to determine the reasons behind the collected data being good, satisfactory or poor as this would guide the school to make changes for improvement. She also told qualitative data derived from student interviews, valid questionnaires in context of this institute were more important than just quantitative data. Data analysis is more important than measuring and data collection.

Attending members: Curriculum Committee

Test development and Scoring: Dr. Jack Boulet

Dr. Boulet presented on general concepts of testing, methods used in health profession, education, scoring and score reporting. He discussed the concept of "What to assess? and "How to assess it?". He informed us about the factors that determine the quality of assessments and shared with us methods to prepare blueprints and test specifications to ensure that one assess what is taught. Dr. Boulet discussed in detail the process of determining the test content. Since our curriculum is a competency based curriculum, we discussed the different assessment methods like MCQs, written and computer based clinical simulations, OSCE and observation of performance with real patients along with the Pros and Cons for each and the best methods to test and assess our 6 Core Competencies. We had an exercise where all the Course Directors learnt how to make competency grade sheets. We also discussed different points regarding scores; starting from definition of a score, characteristics of good score, scoring methods and score report. In the end of this session we did a Video Exercise in which we learnt how to make a checklist for OSCE clinical skills examinations.

Attending members - Assessments Committee and Course Directors

Standard setting - Dr. Jack Boulet

The session included a look into a various parameters involved in setting passing scores in different types of assessments e.g. MCQs and OSCEs. We did several exercises involving multiple choice scenarios and OSCE scenarios especially communication skills. Dr. Boulet emphasized that although the processes involved in setting a standard passing score for both MCQs and clinical skills are not 100% accurate, the faculty must be extremely carefully in setting standard scores in order to remove the usual arbitrariness. One important point he raised, was that passing scores should not necessarily be the same for all subjects. The difficulty of the test items should be an important factor to be examined before putting a blanket passing score across subjects.

Attending members: - All faculty members

Educational Research: Dr. Jack Boulet

Dr. Boulet believed that Windsor University SOM has tremendous potential for Educational Research. Since our University has been around for over 15 years we have extensive data for

HIGHLIGHTS FROM I

FAIMER WORKSHOP

conducting Educational Research projects. In this interactive session we discussed different research ideas applicable to our school. Few faculty members who are already working on such projects discussed their ongoing projects with Dr Boulet and he gave many ideas of improving and expanding them. The educational ideas discussed included active learning, emotional disturbance and its effect on academic performance, the role of counseling/mentoring students, the efficacy of watching a medical video with 1.5 times speed etc.

Attending members - Research Committee and other interested Faculty

LEARNING OBJECTIVES IN MEDICAL EDUCATION

By Sanjib Das

What are learning objectives?

A learning objective is a clear, concise, objective description of what your learners will be able to accomplish at the end of a given instructional unit. A Learning Objective is also known as a performance objective or competencies.

Among all the activities involved in the instructional design process, developing objectives is one of the most critical.

Synonym : Instructional objectives, learning outcomes.

Purpose

Learning objectives enlighten learners about what they will know, understand or be able to do at the end of a block of instruction (lecture, topic, lesson, workshop etc).

Objectives should be clear, honest, complete, and correct.

Well-written objectives should serve as the basis for test items and inform learners how their performance will be assessed.

Composing

Determine the goal of the learning activity (the terminal objective).

Determine what learners must demonstrate to achieve that goal (the enabling objectives).

Write objectives based on the above skills, task, or knowledge

Writing Learning Objectives

Begin with a statement such as "by the completion/end of this course/lesson/ presentation/CBT, you will be able to . . ."

Express the objective in terms of what the user will be able to do, not what you are presenting.

Inscribe objectives that include the following components:

Letter	Component	Task	Example
A	Audience	Describes the targeted students in the course	1st year students in Integrated Problems
B	Behavior	Provides an action verb with content	Analyze critically and report clinical cases
C	Condition	Defines the requirement(s) needed to perform the task	In weekly small group sessions with Faculty
D	Degree	Gives the criteria for assessing performance	With clear supporting evidence

A-Who are your students?

i. What class year?

ii. What are the learner's characteristics?

B-What will they do?

Behaviour = Action verb+ content

An action verb describes a performance. Verbs such as "know, understand, analyze, evaluate etc" or many others typically begin a learning objective. Cognitive domain action verbs were Identified by a taxonomist, Benjamin Bloom .

6 levels of Bloom's taxonomy

1. Knowledge: define, label, list, name, order, recognize, recall, label, memorize, reproduce, repeat
2. Comprehension: classify, describe, discuss, explain, identify, indicate, locate, recognize, report, review, select, translate
3. Application: apply, choose, demonstrate, employ, illustrate, interpret, operate, practice, schedule, sketch, solve, use
4. Analysis: analyze, appraise, calculate, categorize, compare, contrast, diagram, differentiate, discriminate, distinguish, examine, test, question
5. Synthesis: arrange, assemble, collect, compose, construct, create, design, formulate, manage, organize, plan,

prepare, propose, write
6. Evaluation: argue, assess, choose, defend, estimate, judge, predict, rate, score, select, support, value, evaluate

C-What do they need to perform the learning objectives?
Conditions=Requirements for learning
-Text book
-Equipments(Stethoscope, microscope etc.)
-Setting(small group, clinical setting)
-Computer access

D-How well will they need to perform the learning objectives?
Degree=the criteria for assessing performance
-list 5 internet resources
-provide 10% of research evidence

Summary

• By writing learning objectives, the instructor is selecting the content, developing the instructional strategy, assessing the student's performance and evaluating the instruction.

• A learning objective is a specific statement of observable student behaviors that can be evaluated and contributes to reaching the goal.

• Learning objectives combine action verbs and content to describe the desired behavior.

• An easy way to write a learning objective is to use the A+B+C+D formula.

Write a learning objective by using the template below

• When will the learning be achieved (by the end of named clerkship/ lecture / clinic/ lab)?
Stem:_____
• Who is the learner?
Audience:_____
• What will the learner be able to do?
Action verb:_____
Content:_____
• With what requirements?
Conditions:_____
• How well?
Degree:_____

THE ART OF SUTURING: A BRIEF OVERVIEW

By Kusai Alsalhanie

"The skill and art of suturing dates back thousands of years to the Smith Papyrus era ."[1] It is believed that ancient Egyptians were the first to use suturing in wound care. Over the years, the technique and materials have changed but the basic purpose for suturing has not. Suturing is defined as - "Surgical uniting of two surfaces by means of stitches."[2] Suturing in itself is a simple concept. However, it requires skilled hands, a focused mind and precise attention to details. Like any other medical procedure, suturing requires sufficient knowledge on the suturing materials, basic wound healing process, basic anatomy of the body and the proper technique for closure. There are many techniques used in closing a wound. The hallmark of proper suturing is captured in the old adage "approximation without strangulation."[1] Basically, suturing is to gently close the wound's edges until the tissue restores its natural tensile strength. The purpose of suturing in the medical world is not limited to closing a wound. Suturing is also important in the elimination of dead space, it provides a better aesthetic outcome, reduces wound infection, supports the wound and facilitates healing. It also aids the reduction of post-operative pain, and most importantly controls bleeding (hemostasis). Mastering the art of suturing requires basic knowledge such as understanding a good technique, handling the instruments properly and comfortably dealing with different instruments. When executing a suture, a surgeon should be firm, to avoid a loose stitch, but should not be too forceful with the sutures to avoid breaking the stitches. For example, a vascular surgeon should pay close attention so as not to break the suture material when connecting two vessels using a running technique, otherwise he/she will have to start from the beginning. Another issue is running the risk of clamping the vessels if the procedure's duration is elongated. However, a vascular surgeon should be firm with his sutures to avoid excessive bleeding once the clamp has been removed.

Suturing Material Selection and Instrument Handling

Nowadays, a variety of needles are used in surgeries. In the classical procedures, a non-needled thread is fitted with the spring eye or regular eye needle at the time of use.[3] Atraumatic sutures are widely used now to reduce tissue trauma.

Atraumatic suture is defined as a needle-suture combination where the thread is attached to the needle.[3]

The **surgical needle** has three essential parts: the tip (a delicate point that penetrates the tissue), the swage (where the thread is attached to the needle), and the portion in-between where the needle is grasped by the needle holder.

Needles can be classified into different types based on the needle shape, type, length and other characteristics. Needle's shape is variegated. Some examples include: Fish hook shaped needle, 3/8 circle, 5/8 circle, 1/2 circle, 1/4 circle, straight, semi-curved and spoon shaped needle. Needle types can be round bodied, reverse cutting, cutting needle, etc.

The **suture material** is a significant component of learning how to suture. The search for the ideal suture material is still ongoing. Suture material can be broadly classified as absorbable or non-absorbable. Furthermore, it can be classified as natural or synthetic, dyed or undyed, monofilament or multifilament, coated or uncoated. In general, multifilament sutures are more prone to infection and induce greater degree of tissue reaction. However, it is characterized by its easy handling, low memory and high knot security.[5] On the other hand, monofilament suture has less tissue drag and reaction, is less prone to infection, difficult to handle and low knot security. Monofilament suture consists of parallel fibers and possess good memory. It ties smoothly yet requires multiple knots to enhance security. Most common used monofilaments sutures are: Nylon, Monocryl, PDS and Prolene. Multifilament sutures can be either braided or twisted for example; Vicryl (braided), Silk (braided) and Chromic (twisted).[4]

When choosing a suture material, whether to use an absorbable or non-absorbable sutures might be the first question that comes to mind. Absorbable sutures are usually (normally) used internally when applying intradermal suturing technique. It degrades by two different mechanisms; proteolytic enzymes as in catgut sutures or via hydrolysis as in synthetic polymers like PDS, Vicryl and Monocryl. It is very important to understand that absorption time or half -life is different from dissolution time.

Half-life is the time at which the suture material loses 50% of its tensile strength. Dissolution time is the time needed for the suture material to be completely dissolved.

Non-absorbable sutures are permanent, primarily used for skin closure and need to be removed later with exceptions such as usage of Seracor sutures in cardiac and heart valve surgeries.[3] It is the surgeon's decision to select the suturing material. A number of factors determines this selection such as tissue type, healing process and time, the nature of the material, availability of the material and the surgeon's experience and preference.

The following principals are **guides for suture selection**:[6]

- There is no need for sutures once tissue reaches maximal strength. Therefore, non-absorbable or long term absorbable sutures can be used for tissues that heal slowly e.g. tendons, fascia. Likewise a short term absorbable sutures can be used to close tissue that heal rapidly e.g. colon and bladder.

- Foreign bodies in potentially contaminated tissues may convert contamination to infection rapidly. Therefore, avoid multifilament sutures that may convert a contaminated wound into an infected one.

- For cosmetic outcome, avoid material that will induce a higher degree of tissue reaction. Therefore, use the smallest size, commensurate with the natural tissue strength, monofilaments suture and avoid skin sutures by using running subcuticular sutures. Skin tape or adhesive (glue) enhances a cosmetic result.

- Foreign bodies in the presence of fluids containing high concentrations of crystalloids may act as a nidus for precipitation and stone formation. Therefore, use rapidly absorbable sutures in urinary and biliary tract.
- Remove sutures as soon as the patient's condition is stabilized.

The basic instruments used in cutaneous suture include a **needle driver, skin forceps and skin hook.**[1] The needle holder has a ratchet-type

locking mechanism to stabilize the needle. When the needle is grasped by the needle driver the needle driver should not be locked beyond the first snap. Locking the needle driver completely while grasping the needle will result in flattening of the needle and denting the driver's jaws.[1] Tissue forceps is used to stabilize the wound edge and to grasp the tip of the emerging needle. Tissue forceps are also used to obtain 90 degrees angle between the tip of the needle and the surface of the skin by elevating the wound edge slightly. It should be used gently or else it can cause damage to the wound edge and interfere with the healing process. Do not use toothless forceps as it traumatize the wound edge leading to delayed healing. Skin hook can be used to stabilize tissue although it requires skilled hands. Needle driver should be held using thumb and ring fingers in the two loops of the instrument. None of the fingers should be placed beyond the first knuckle to allow wider range of motion. The index finger can be extended and placed over the hinge of the instrument to aid in directing the needle more accurately. The middle finger is flexed and placed at the base of the loop to secure the driver in place **(Fig 1).**

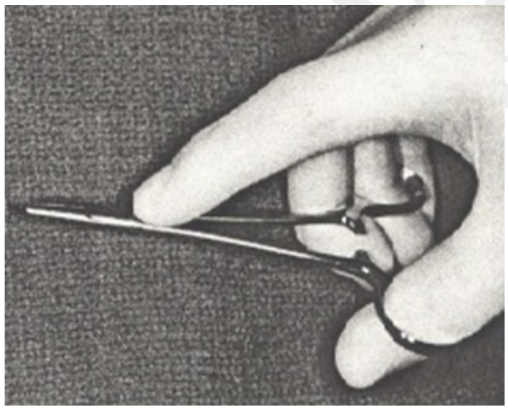

Figure 1. Technique for grasping the needle holder[1]

Another way is to palm the needle driver with no fingers in the loops. This technique is useful in certain suturing techniques. Some suggest that if palming the driver is chosen, one should keep the ring finger in the loop. Tissue forceps is held like a pencil. The needle must be placed in the needle driver at the tip of the driver's jaws. Placing the needle closer to the driver's hinge will minimize the utilization of the instrument and increase the chances of flattening the needle as it is held by a wider area of the jaws. The needle axis and the driver's axis should exactly be at right angle to enhance advancement of the needle through tissue. Needle driver should be placed one half to three fourth of the way from the tip on the body of the needle. Needle driver should not be placed closer to the swage to avoid bending the needle.[1]

Basic Suturing Steps

After proper placement of the needle and securing the needle driver, the needle should penetrate the skin perpendicularly to obtain an ideal approximation of the edges with a slight eversion **(Fig 2).**

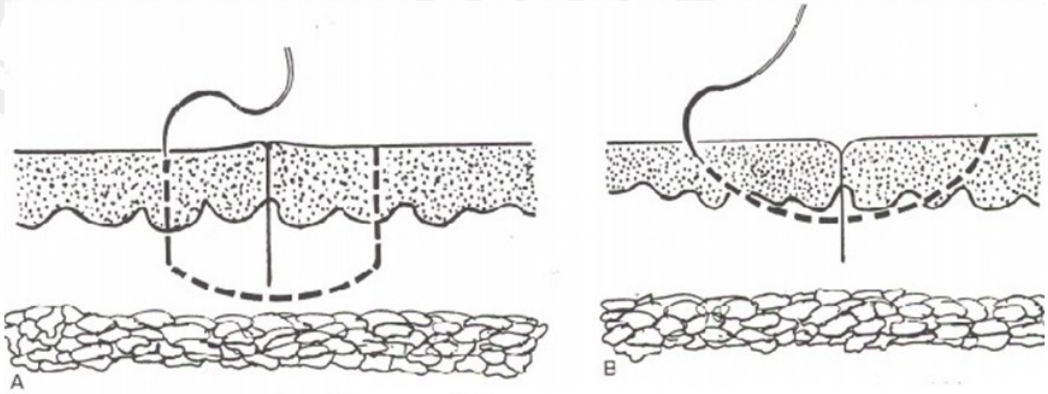

Figure 2. Needle penetration. A, correct technique with square or flask-shaped passage through tissue. B, lncorrect superficial, semicircular passage through tissue[1]

This eversion is necessary for a good cosmetic outcome. Healing tissue tends to retract. If no eversion is present the space caused by retraction will eventually fill with fibrous tissue resulting in a scar. The point of penetration should be decided carefully before applying pressure based on the suturing technique used.[1] Multiple penetrations are not desired as it traumatizes the wound's edge.[1] As pressure is applied, a small depression in the skin will form as a result of resistance of the skin. As pressure increases, the resistance will halt, and penetration will occurs. This ease of penetration might be frightening to inexperienced surgeons and it might lead to reflexive withdrawal of the needle. To prevent this from happening, supporting the hand controlling the needle driver by placing it on the patient is recommended. After obtaining the penetration at the desired depth, the needle-driving hand is rotated around the driver's long axis and the tip of the needle emerges. The emerged tip of

HIGHLIGHTS FROM AMS

A SUTURING WORKSHOP

the needle is grasped securely with the forceps and the needle is released from the driver's without moving it. If the amount of tissue grasped is too large, the needle should be securely grasped by the forceps to avoid retraction. If retraction of the needles into the tissue occurs, the needle is grasped by the driver closer to the swage and a rotation of the hand is carried out. Following, this the tip of the needle can be grasped by the forceps. The needle tip is gripped by the tip of the driver and another rotation movement will advance the curved needle in a horizontal plane. The curved needle exits the tissue at the desired depth and the attached suturing material follows. It is important to note the twisting movement at the wrist joint. Elbows should remain at 90 degrees and should not be moved during these steps. The needle is then repositioned at the needle driver to penetrate the second edge of the wound. By holding the opposite wound edge and applying pressure, the needle would penetrate the opposite edge at the same depth as the previous one to avoid vertical malalignment **(Fig 3)**.

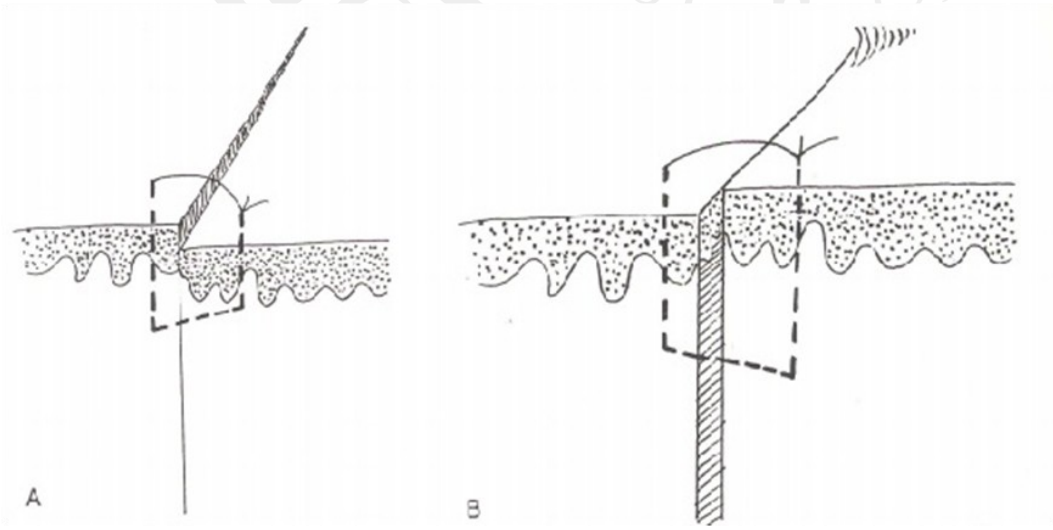

Figure 3. A, Vertical malalignment. B, Horizontal malalignment[1]

Resistance will be less as the needle is penetrating the opposite edge from the deep tissue to the epidermis. Again, rotation movement is required for the curved needle to proceed. The needle tip is grasped by the forceps. The tissue edge should be stabilized by the forceps while the initial penetration occurs. The needle should exit the skin at equal distance from the edge as the entry point on the first edge just as if the wound edge was a mirror reflecting the two points. A complete knot will result in symmetrical and leveled surface with a slight eversion. If a long incision is being closed, horizontal malalignment (dog ear) can occur **(Fig 3).** To avoid horizontal malalignment, select the middle point and place one stitch which will result in two separate wounds. Again, select the middle point for each part and place another stitch which will result in another two wounds. Repeat the procedure until the entire wound is closed. These very basic suturing steps apply to almost every suturing techniques. Modifications in suture orientation can produce a variety of desired outcome. Despite the apparent simplicity of these basic steps, it is vital for a positive outcome.[1]

In conclusion, several wound healing studies[7,8] have shown the importance of using meticulous technique for wound closure. Suturing is an art form and perfection of the techniques requires a lot of practice and time. Windsor University School of Medicine, as part of its mission to inspire lifelong learners to become exceptional and skilled health care advocates, conducts in-depth sessions on suturing techniques as part of the AICM course and AMSA held Workshops.

References:

1. **P. B. Odland and C.S. Murakami, in Cutaneous Surgery, ed. R. G. Wheeland, Elsevier Health Sciences, 1993.**
2. **Stedman's Medical Dictionary. 23rd ed. Williams & Wilkins, Baltimore, 1976.**
3. **Pocket Guide To Suture Materials Techniques & Knots, Serag-Wiessner KG, Naila, 4th ed., 2006.**
4. **International University for Science and Technology, Sutures and Suturing, Damascus <http:// iust.edu.sy/courses/Sutures% 20and%20Suturing.pdf.**
5. **Sutures and suturing techniques in skin closure. Kudur MH, Pai SB, Sripathi H, Prabhu S. Indian J Dermatol Venereol Leprol 2009;75:425-34.**
6. **Surgery Knot Tying, The Humane Society Veterinary Medical Association, http:// www.ruralareavet.org/PDF/Surgery-Knot_Tying.pdf.**
7. **Studies in the healing of cutaneous wounds. Ordman LJ: Arch Surg 93:883-910, 1966.**
8. **Basic principles of cutaneous surgery. Vistnes LM: Epstein E, Epstein E Jr (eds): Skin Surgery. WB Saunders, Philadelphia, 1987, pp 44-55**

BECKER USMLE REVIEW VISITS ST. KITTS

By Becker Professional Education

Recently, representatives from Becker Professional Education-Healthcare visited the Windsor campus and met with faculty and administration to discuss opportunities to continue supporting the students with USMLE review programs and study resources. Conversations were focused on continuous improvement and engagement of the Becker resources to help students maximize their studies. With Becker, you receive continuously updated curriculum combined with innovative technology – with an emphasis on understanding, retention, and clinical thinking.

Since August 2015, Windsor and Becker have collaborated to offer a Step 1 Live Online review program, providing MD 5 students a robust experience to prepare for the USMLE Step 1 examination. The review program includes over 275 hours of Live Online lectures, an additional 30 hours of Live Online Integrated Cases, access to Becker's interactive series of eBooks and question bank, as well as NBME Exam Assessments. Feedback from seniors, alumni and the administration has been very positive from previous terms that have participated in the Live Online review program. Beyond Step 1 preparation, Becker and Windsor are also evaluating options for Step 2 CK, to further support students throughout their clinical semesters.

The interactive series of eBooks, known as the eCoach, brings high-yield Step 1 topics to life by combining Becker's updated curriculum with the latest trends in technology. With Becker's eCoach, one has access to over 200 hours of multimedia instruction from Becker's expert faculty, giving you the flexibility and freedom to study whenever and wherever it's convenient to prepare for the USMLE® Step 1. Becker's eCoach is also packaged with Becker's Step 1 question bank, providing more than 2,000 content-rich practice questions, allowing you to identify strengths and weaknesses, and acclimate to the format of the exam and develop critical thinking skills. MD 1 students were recently provided access to the eCoach and question bank and will have 24-months to continuously utilize the resources and upon entering their MD 5 semester to begin the Live Online review program.

Current MD 4 students were also able to meet with the Becker representatives, Dr. Kartik Rangaraj (Dr. Raj), National Instructor – Pathology and Jerry Ho, Regional Manager, to learn more about the Becker collaboration and provide a forum for everyone to better understand the program and study resources provided. Dr. Raj and Mr. Ho were impressed to see the progress and construction for the new simulation lab and library, compared to their previous visit in the fall of 2015. They can't wait to see and tour the building and facilities once all the work is completed. Moving forward, Becker is pleased to continue supporting Windsor and providing unique solutions designed to maximize performance outcomes in preparation for

Study

SMART

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HOW TO GET 90S IN MEDICAL SCHOOL

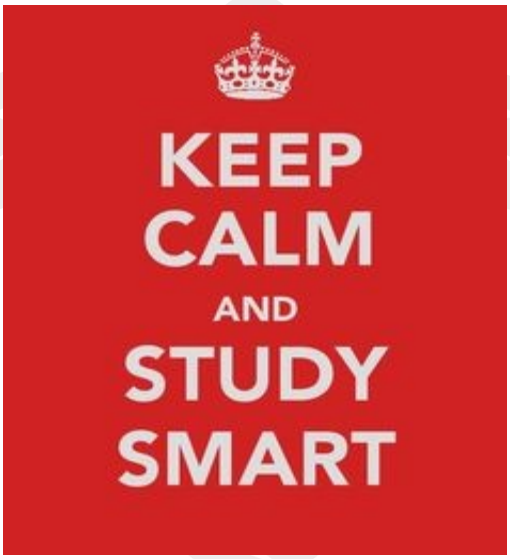
By Ripjit Singh

"It is not the strongest of the species that survive, nor the most intelligent, but the one more responsive to change" - Charles Darwin

Life as a medical student is filled with difficulties and challenges that must be overcome both efficiently and effectively in order to succeed as a physician. Majority of these challenges are unique to each individual student, but there are some that are common amongst all. One of the biggest challenge is finding a fine balance between the academic workload/school life and personal/social life. Success in school is measured by grades, and success in life, in my opinion, is measured by happiness and feeling content. I worked very hard in all of my courses but still found myself struggling to get 90s. My biggest challenge was trying to figure out what were the best sources for each subject; I was almost certain, like many other students, that this was the root of my problem. The solution to this problem was quite simple, I just had to identify students who got 90s in the courses that I was enrolled in and find out what sources they used. So I presented my idea to Dr Saroya and told him that I would like to make this information available to all other students who might be experiencing the same problem. Within no time, I found myself interviewing the top Windsor Students in MD2 to MD5. All of these students had done exceptionally well in their respective courses in their previous semesters. After a few interviews I began to notice a recurring pattern amongst the interviewee's. I realized that the sources they used was just the tip of the iceberg, their success was directly correlated with their habits and lifestyles both in and out of class. These habits and lifestyle changes can aid you to get 90s in your classes, as long as you use it as a guideline and know the styles of studying that suit you best.

Learning can be an overwhelmingly negative experience if you don't know how to study properly. Studying can be classified as a form of art, and the sooner this form of art is mastered, the quicker one can make learning efficient and enjoyable. There are two ways of studying: studying smart vs. studying hard. Most of the successful students I interviewed and researched online work

"very hard at studying smart".



Studying smart begins by first figuring out which tools work the best for you and which ones don't (books, lecture slides, videos, group discussions, etc.). The various tools you use to study may differ from course to course, so it's important to have continuous communication with your professors and seniors to see what has worked for students in the past. Keep in mind that you will be using combinations of different tools for each course to get optimum results. There may be a lot of trial and error at early stages and that is perfectly normal.

While you are figuring out what works for you and what doesn't, you should also be putting some thought into when and where you'll be studying. The importance of having a consistent time and location for studying can be easily understood by thinking about Pavlovian's experiment of Classical Conditioning. Instead of having a potent stimulus that triggers a response from the subject, you can think of the stimulus as being in a particular environment (desk/library) or a particular time of the day that will subconsciously influence a response (effective studying). If you continuously study at the same time and location, it will be easier for you to get into study mode quicker and for extended periods of time saving you precious time in the long run. Time is of the essence for medical students; so the quicker you learn how to study, the faster you'll be able to apply yourself both in and out of the classroom. Avoid studying on your bed or around areas where you know you'll be easily distracted (in front of the television or around talkative friends).

Being attentive during lectures is a great way of learning and by doing certain things before and after your classes their potential can be maximized. Before you go to your classes, you should read ahead and know exactly what you'll be learning that day. This can be done by either glancing through the professor's lecture slides, reading from a textbook or watching a short video online. This is a technique used by most of the students I interviewed and was also mentioned by various sources online. Previous exposure to the topic allows you to have a better understanding of the topic when the professor discusses it in class. Classrooms are an ideal environment for you to clarify any doubts or concerns, which you may have had when you went through the material on your own. Taking initiative in class by asking the professor questions or asking him/her to further elaborate on certain topics will make the class that much more interesting for you. The things you're interested in tend to be easier to learn and they stick with you for a longer period of time compared to the

things you might find insipid. The more effectively you utilize your time in class, the less of a burden studying that particular topic will be when you review it later on.

"Push yourself because no one else is going to do it for you"

Your professors are the ones who will be making your quizzes and blocks, so it's wise to take notes of all the things they say are important. One of the most crucial points I learned working on this project is to review everything you've learnt in all of your classes the same day. I cannot stress how important this seemingly simple point of same-day-review truly is. This was one of the most commonly suggested things from almost all the toppers. There are many benefits of reviewing the same day, with the most obvious benefit being repetitive exposure. Learning the same topic at three different times of the same day will definitely make it easier for you to memorize and understand the topic. It takes 1/4th the time going through the same information for the third time. The time you save can be used in a variety of beneficial ways, such as doing questions related to the topics you learnt, reviewing topics from previous classes, or reading ahead and getting ready for the next day.

Once you have understood a particular topic you should try to associate it or connect it with other related topics from various subjects in the overall scheme of things. After knowing where the topic belongs in the big picture, you should apply it by doing practice questions. Practice questions are a great way of testing all dynamics of your understanding and association of the particular topic or subject. The more questions you do, the better you will perform on your class quizzes, blocks, NBME shelves and inevitably the USMLE Step 1. When you do the questions don't just move on right after you know the answer. Look into learning why the correct answer is the answer, and why the wrong options are in fact wrong. This method of reviewing all the possible options of a particular question will compare and contrast them, giving you a thorough understanding of the concept at hand.

It's also important for you to write down the questions/concepts you're having difficulty with and have a group discussion with your friends once a week. Sitting down and discussing all the things you've learnt throughout the entire week is a great way of reinforcing concepts. Don't hesitate to ask your friends for help, your friends will not only know how to explain it to you, but will also be benefiting from the fact they'll be learning as they teach. Have your notes and sources with you so that you can clarify any doubts or further

elaborate on ideas being discussed.

Managing your time appropriately will allow you to complete your tasks efficiently and increase your leisure time. Having discipline allows you to be persistent/consistent, showing you greater results quicker. Managing your time starts off with simply making a realistic schedule. Be a realistic optimist and plan your daily schedule accordingly. Try to give yourself the maximum number of hours of studying but take into consideration all the other non-school related tasks you must complete as well. If you know that it's difficult for you to sit down and study 4-5 hours straight, especially after a long day at school, you could split it into two sessions with one in the morning and the other one in the evening. If you're still having trouble studying for more than an hour or two at a time then try the method of short bursts of studying that works very well for me and many people I know. I like to divide my studying sessions into individual hours. I study for 50 minutes and take a 10 minute break, and then continue doing it for as long as I can. This method has helped me avoid the typical burn-outs that many of us experience after just a few hours of studying. During my break I like to just get up and start walking around to get some fresh air outside or I'll get some water and snacks. By the time I get back to my desk and sit down, I feel fresh as if I have just started my study session.

One should avoid procrastinating and other forms of distraction as much as you can. It seems harmless when you go onto Instagram to see what you were tagged in, or checking out Snapchat to see what your friends have been up to, or opening up your Whatsapp to see who sent you those messages. But when you realize you've spent more time on your break than studying, or you were suppose to finish 'x' amount of topics before going to bed but weren't able to, it becomes a problem. This is where discipline comes into play. Set your priorities and remove all distractions in order to prevent procrastination from occurring in the first place.

Having a balanced lifestyle is of crucial importance if you want to fulfill your short term and long-term goals of getting 90s in medical school. This balanced lifestyle consists of juggling the hours of the day between studying, family/friends and yourself. All three of those aspects of your life are of great importance at this point. Successfully overcoming these

challenges will depend on how passionate you are in trying to overcome them, how hard you work and how determined you are.

"Whether you think you can or think you can't, either way you're right" - Henry Ford

CHESS AS A LEARNING TOOL FOR MEDICAL STUDENTS

By Pushparaj Shetty

History of chess

In its earliest Asiatic form chess was styled as the Chaturanga. It was adapted for four persons, having four small armies of eight each. King , three pieces answering to him Rook, Bishop, and Knight and four pawns. The players decided which piece to move by throw of an oblong dice. The conclusions arrived at by the most able and trustworthy authorities are that chess originated in India, was utterly unknown to the Greeks and Romans and was first introduced into Europe from Persia shortly after the sixth century.

About 1,350 years ago the game under the name Chatrang , adapted for two persons with sixteen piece on each side and the same square board of 64 squares , became regularly practiced, but the exact time when the use of dice was discontinued is unknown. It may not be possible to trace the game of chess with absolute certainty , back to its precise source amidst the dark periods of antiquity, but it is easy to show that the claim of the Hindus as inventors, is supported by evidence both inferential and positive than any other people.

Present day Chess

Present day chess has evolved into a highly sophisticated and respected game. The international organization for chess FIDE organizes tournaments at the international level which attract players from all over the world. It involves corporate sponsorship and sizable amount of money in prizes. Nations take pride in the players who win international tournaments and receive heavy media attention.

Garry Kasparov, Anatoly Karpov and Bobby Fischer are the greatest names in the history of modern chess. 2015 reigning champion Viswanathan Anand was defeated by a young prodigy Magnus Carlsen from Norway who became the new World Champion.

Playing Chess is a very easy affair today. One can play it on a cell phone, a laptop or a desktop. One can choose the opponent- the machine, a random person on the internet or a friend residing at any remote place.

Research

It's not about Kings, Queens, and Rooks, but rather, quadrants & coordinates, thinking strategically and foreseeing consequences. It's about lines & angles, weighing options and making decisions. Chess might just be the perfect teaching and learning tool.

There is a significant correlation between the ability to play chess well, and spatial, numerical, administrative and directional abilities. This finding shows that a large number of aptitudes and abilities are required to be a good chess player.[1]

It can further teach one how to concentrate, how to think logically and efficiently, how to make tough and abstract decisions and how to win and lose gracefully (Seymour and Norwood 1993). At more advanced levels it can teach flexible planning since playing well requires a coherent plan, yet not one that is rigidly followed regardless of the opponent's response. Chess can also build confidence and self-esteem without

overinflating egos, as some losses are inevitable, even for world champions.[2]
Studying chess systematically has also been shown to raise students' IQ scores, academic exam scores (Dullea 1982; Palm 1990; Ferguson 2000, p. 3), as well as strengthen mathematical, language, and reading skills (Margulies 1991; Liptrap 1998; Ferguson 2000, pp. 3-4).

Comparing chess with physician heuristics

The Usefulness of chess to medical students can be analyzed by comparing the game with a physician working in his/her clinic. The Chess Game has been divided by the experts into three distinct parts - The Openings , The Middle Game and The End Game.

The Openings

The opening game consists of a series of steps by either players which gives each of them the best strategic advantage. This has been proved and time tested in games played by the grandmasters. Most of these openings have names like The Kings Indian Defense, Queen's Gambit, Sicilian Defense, The Ruy Lopez etc. We can compare the openings to how a physician treats his patient. He has set protocols. The patient comes with a set of signs and symptoms , the physician carries out a set order in history and examination, he orders a predefined panel of tests and follows set protocols in the initiation of treatment to achieve the best outcome saving life , time and money.

Middle Game

The most challenging part of the chess is the middle game which varies from game to game and set theories cannot easily predict the outcomes of the middle game. It is in this part of the game one can really see difference between the skill, tactics and knowledge of an amateur and a grandmaster. A grandmaster is able to analyze up to 6 moves in advance based on his practice of the game over many years. Just like in middle game every patient responds to the initial treatment in a different way. Here like the grandmaster the ability of a good physician is tested. He needs to overcome the disease by anticipating the complications and predicting the outcome of his treatment methods based on the patient's initial response to treatment. The physician must be able to modify his treatment to suit the patient's physiology. Practice based learning is one of the 6 Core Competencies which a doctor is expected to achieve. .

End Game

This is a critical part of the game where a few pieces are remaining on the board and each move determines the final outcome of the game. This part of the game is a direct result of the middle game. The confidence and decision making skills of a player is tested to the limit during this part. A single foolish move can turn a winning game to losing one. The End game can be compared to a scenario in the Emergency Room or the Intensive Care Unit where the physician's decision will determine the life and death of the patient. Even though lot of protocols define the treatment procedures , the Physician's confidence and decision making skills at critical moments will decide the patient's future.
With the above analogy in mind we can confidently infer that chess can help medical students to improve essential decision making abilities required to be effective doctors.

Chess at WUSOM

Realizing the potential of chess as learning tool WUSOM has started a Windsor Chess Day in collaboration with St Kitts Chess Foundation. this foundation is closely associated with The Ripple Institute (NGO). The most recent chess day was held in March 2016. It was a great success and we saw active participation from the students from all semesters. A plan to set up a Windsor Chess Club has also been proposed. We expect to see lot more in the coming days. The Ripple Institute through the St Kitts and Nevis Chess foundation is planning to start anintercollegiate chess championship by including other medical colleges like ROSS, MUA And UMHS. There is a plan to hold open chess championships at the national level and integrate chess as part of the regular curriculum in schools of St Kitts and Nevis where students of WUSOM can participate in teaching chess to children as part of community outreach.

Windsor Chess tournament - Spring 2016

Click for game analysis on one of the game from Windsor Chess Tournament played on chess.com
Tochukwu Egbujiobi vs Shrenik Shah

References

CHESS IN EDUCATION RESEARCH SUMMARY by Dr. Robert Ferguson, Jr. Executive Director American Chess School
Does the playing of chess lead to improved scholastic achievement? By Murray Thompson Issues In Educational Research, Vol 13, 2003 [Contents Vol 13] [IIER Home]

GUESS THE DIAGNOSIS!

By Bikramajit Singh Saroya

Case 1

A 17 year old female presented to her primary care physician with complaints of recurrent headaches over the last 3 months. She reported that she gets this headache once or twice a week and during these attacks of headaches she experiences giddiness, redness of her eyes and sees flashes of lights. She initially thought that these were migraines as her mother had similar symptoms and she felt much better with the medications she borrowed from her mother. But, over the last few weeks she has started to experience weird symptoms with these attacks. She said "suddenly objects start appearing very large and close or very distant and small. For example, books seem closer, chairs seem slightly further away, my hands seem larger than they actually are and my dog's head seems very small. I feel as I am getting shorter and smaller and the size of persons are not longer than my index finger" These visual distortions were reported when looking at still or moving objects, human and non-human beings. She had a two year past history of occasional "social" cannabis and alcohol use during weekends and holidays. She also reported recreational use of LSD on a couple of occasions.

On examination there was no prior or present history of acute or chronic neurological, ophthalmological or other co-morbid medical illnesses or co-occurring psychiatric disorders.
A complete physical, neurological (including EEG and brain imaging) and laboratory examinations (CBC, Electrolytes, LFT, RFT showed no abnormal findings.

Case 2
A 53-year-old previously healthy male presented to his primary care physician with complaints of progressive fatigue, lower extremity pain around knees and ankles, dyspnea and unilateral exopthalmos for the past 4 months. Examination showed left unilateral painless exopthalmos with a xanthoma on the left upper eyelid.
Routine laboratory tests - white blood cell, hemoglobin, and platelet counts were 3500 cell/µl , 10.5 g/dL, and 643000/µl , respectively. Normal liver function tests and coagulation profile, a serum creatinine of 0.5 mg/dL, no proteinuria; C -reactive protein (CRP) was 83 mg/L (normal <5), erythrocyte sedimentation rate (ESR) 73 mm/h, and albumin 2.2 g/ dL; Cryoglobulins, complement fractions C3 and C4, antinuclear antibodies, and antineutrophil cytoplasmic antibodies (ANCAs) were negative or normal; The patient had no history of atopy. Common neoplastic markers (carcinoembryonic antigen [CEA], carbohydrate antigen 19.9 [CA 19.9], alpha-fetoprotein and prostate-specific antigen [PSA]) and fecal occult blood were negative. Thyroid-stimulating hormone and free thyroxine levels were 2.63 µIU/mL and 1.71 ng/mL, respectively

Chest radiography showed cardiomegaly and large pleural effusions. An urgent echocardiography showed a large pericardial effusion with features of cardiac tamponade. Further work-up showed bilateral cortical thickening and sclerosis of the long bones of the extremities was also noted. The CT and MRI of the abdomen showed mild bilateral hydronephrosis with the presence of perirenal infiltration, which gives the appearance of "hairy kidney" on the left side and minimal amount of free intra-peritoneal fluid, associated with enlarged adrenal glands at both sides; Multi-slice pre- and post-contrast CT imaging of the orbits revealed a hyperdense lesion diffusely involving the orbit. Magnetic resonance imaging disclosed diffuse infiltration of the orbits, a surgical intervention was performed and a retro-orbital tissue sample was collected from the right eye and left eye as decompression maneuver and biopsy sample. Histopathological examination revealed dense infiltration by groups of foamy histocytes with granulomatous inflammation and focal fibrosis. There was no evidence of malignancy or specific infection. Immunohistochemical staining showed that these macrophages were CD68-positive but CD1a-negative. Lipid vacuoles were scarce and were not suggestive of a lipid storage disease. Bone marrow biopsy was also performed, which showed hypocellular bone marrow with fatty infiltration. Patient responded very well to high dose corticosteroids and azathioprine with no recurrence after 6 months.

ANSWER:
Case 1 : Alice In Wonderland Syndrome
Case 2: Erdheim-Chester Syndrome

Congratulations Dr Chetana Pendkar

On behalf of the Windsor family I would like to congratulate Dr Chetana Pendkar for her recent Residency Match at Maimonides Medical Center, New York in Internal Medicine. We wish you the best of success in your future endeavors.

Dr Bikramajit Singh Saroya

Editor in Chief