Clerkship and Shelf Exam Preparation – Class of 2027

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Recording Link for this presentation:
https://tulane.box.com/s/7fgcctknzlsfomj2yim57nuifwhr666g

General Guideline vs Individual approach

- Everyone is different and at different stage of preparedness
- Feel free to individualize this approach that suits your need
- All are welcome to have one to one meeting if you need help in customizing this approach
- All are welcome to have one to one meeting if you run into some challenge during Clerkship
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Overview

- Core Values and Essential Skills
- Learning in clinical setting Vs. Preparing for NBME Shelf exam
- Time Management and planning for the clerkship
- Strategies for effective learning during clerkship
- Strategies for shelf exam preparation
- Strategies to learn procedural skills
- Wellness and Stress Mgt

Core Values: Compassion and Respect

- Self-compassion - As medical students and future healthcare providers, you're entering a demanding environment. The pressure to excel and the weight of responsibility can be immense. It's vital to remind yourselves that perfection isn't the goal—growth and learning are. By practicing self-compassion, you allow yourselves the grace to learn from mistakes and continue improving. Recognize your efforts and boundaries, take moments for self-reflection, and don't hesitate to seek support when you need it.
- Compassion towards Peers - In the collaborative world of healthcare, you achieve more when you support and uplift each other. Everyone is on their individual journey and by being mindful and supportive to each other, we create a culture of mutual respect and continuous learning.
- Compassion towards patients - Each patient is a person with fears, hopes, and stories that deserve your empathy and respect. Practice active listening, show genuine interest in their narratives, and ensure that their dignity is maintained throughout their care. Compassion in medicine isn't just about the clinical outcomes but about recognizing the humanity in each encounter.

Core Values: Compassion and Respect

- Compassion allows you connect with patients on a human level, understanding their emotions and concerns. which can lead to improved patient satisfaction and compliance.
- Respect fosters open and honest communication, leading to better diagnoses and treatment outcomes.
- Cultivating self compassion and respect can help manage stress and avoid burnout, allowing to provide better care.
- Compassion and respect are a core part of the identity of a good physician and are critical for lifelong learning and improvement.
- These values are crucial for teamwork, cultural competency, and patient advocacy.

Support Available

- Champions for each Clerkship
- PAL Tutors Individual tutoring
- PAL Tutors clerkship reviews
- Leaning specialist office
- Accommodations
- Delayed / Failed Step 1 – one on one mentoring from upper classmate.

Patient Presentation Workshop

📍 **DeBakey and Zoom**

🗓️ **May 8th,Thursday (Today)**

🕔 **5:00–7:00 PM**

- Slide Set: https://tulane.box.com/s/6zc5kzjgsafbralpziqmraq7sbag7cg3
- Recording Link: https://tulane.zoom.us/rec/share/lSRhILmLeeS_kB_EOKy1K6yeEYYtrjsVIWxlN95oAg-hNIqjOJHvyLmsvTYWqwvT.q4iiGvz4yUc5BPAE

- **Join Jordan Lo** this evening for a practical, high-yield workshop on how to present patients effectively to your attendings — a critical skill for every T3. This session draws from real clinical experience and expert frameworks to help you build confidence and structure in your presentations.

Topic covered:

- What attendings care about (and what they don't)
- How to structure your one-liner, HPI, objective findings (labs, vitals, studies), and assessment
- Real-world examples and pro tips

Essential Skills

- Time Management and Organization - Clinical rotations are demanding, requiring efficient time management to balance patient care, studying, attending lectures, and completing paperwork. Good organizational skills are crucial to avoid being overwhelmed.
- Self-directed learning - The volume of information in clinical years is vast. There is not structure learning process like preclinical years, you need to create your own plan and strategies for effective learning.
- Professionalism and Ethics - Huge aspect of your life going forward, Maintaining professional conduct, adhering to ethical guidelines, and demonstrating respect for patients and colleagues are essential.

Essential Skills

- Stress Management and Self-care - The clinical years are highly stressful. All students must develop effective coping mechanisms to manage stress and maintain their well-being. This includes prioritizing sleep, exercise, and healthy social relationships.
- Cultural Competency and Patient Advocacy - Learning to understand and advocate for patients' needs and empower them to participate in their own care is crucial for delivering holistic care.

- Teamwork and Collaboration - Clinical medicine is a team effort. Students must learn to work effectively with physicians, nurses, other healthcare professionals, and patients and their families. Effective communication and conflict resolution are essential aspects of teamwork.

Think like a Physician instead of a Student (this will bring you to solution-oriented thinking instead of problem-oriented thinking!)

Self- Directed Learning

Goal setting and Planning:

- Identify learning objective - Begin each rotation with clear learning goals. What specific skills, knowledge, or procedures do you want to master? Prioritize based on the rotation's focus and your individual needs.

- Create a schedule - Allocate specific time slots for studying, reviewing cases. Integrate this into your overall clinical schedule to avoid feeling overwhelmed.

- Identify the resources - Identify the resources you'll use – Knowing where to find information is key.

Self- Directed Learning

Active Learning Strategies:

- Case review - Thoroughly review patient cases from your rotations. Analyze the patient presentation, diagnostic workup, treatment plans, and outcomes. Identify areas for improvement in your own clinical reasoning. Consider creating concise summaries or notes for each case. Your illness script is a work in progress!

- Practice questions - Utilize practice questions and practice exams to test your knowledge and identify weak areas that need further attention.

- Focused reading / reviewing - Fill in the gaps in your illness script, it is easier to learn when you have a specific question, then just passively reading a book or listening to a lecture

Self- Directed Learning

Organization:

- Prioritize tasks - Focus on high-yield activities and avoid getting bogged down in less important details. Learning to prioritize is critical in the busy clinical environment.

- Effective note- taking / Illness script - Develop an efficient system for taking notes during rounds, lectures, and patient encounters. You can have your own way of creating an illness script which works for you!

- Space repetition is important - Regularly review to consolidate your learning - Spaced repetition is key to long-term retention.

Self- Directed Learning

Seeking feedback and Mentorship:

- Ask for feedback - Actively solicit feedback on your performance, clinical reasoning, and communication skills.
- Seek out Mentors - Seek out mentors who can provide guidance, support, and feedback on your learning process.
- Reach out to Champions - 4th year students are willing to guide and support in your journey.

Clinical Learning vs Shelf Exam Preparation

Clinical Learning

- Gaining competency to provide high quality patient care as a competent physician
- Evaluation methods: subjective, open ended
  - Supervisor evaluations
  - Measures of high-quality care
- Educational strategies: Case Files / Illness Scripts

Shelf Exam Preparation

- Evaluation methods: objective, delimited
  - Multiple choice question exam
- Educational strategies: like USMLE Step 1

Clinical Learning: Illness Scripts

What is an illness script?

"Organized mental summary of a provider's knowledge of a disease."

How are illness scripts used?

- Clinical learning = illness scripts

- The goal of clinical learning is to develop illness scripts
  - Not just for patients presenting with acute illness;
  - Remember that preventative well check visits are screening for early signs of illness
  - Illness scripts become more refined and nuanced as you advance in your clinical career

Using Illness Scripts to -

- Organize clinical reasoning - Illness scripts provide a structured approach to gathering and interpreting patient information, improving clinical decision-making. It guides the student through a systematic process, helping to avoid missing key details or overlooking important diagnostic possibilities.

- Improve pattern recognition - Repeated exposure to illness scripts helps students recognize common patterns in the presentation of different diseases. This accelerates the diagnostic process and enables quicker identification of illnesses.

- Develop Differential Diagnosis Skill - Constructing and refining illness scripts actively involves creating and evaluating a differential diagnosis – a crucial skill for physicians. You can learn to systematically consider multiple possible diagnoses based on the patient's presentation.

Using Illness Scripts to -

- Integrate knowledge - Illness scripts force students to integrate knowledge from various disciplines (e.g., anatomy, physiology, pathology, pharmacology) into a cohesive understanding of diseases. They are not simply about memorizing facts but about applying that knowledge to real-world clinical scenarios.

- Enhance Patient Communication - Developing a clear illness script helps students communicate effectively with patients, explaining their condition and its management plan in a comprehensible manner.

Components of an Illness Script

- Presenting complaints - chief complaints and symptoms
- History of Illness - including onset, timing, severity etc.
- Physical Exam - observations and findings
- Investigations - add more investigations depending on the patient's presentation and risk factors
- Differential Diagnosis - expand the differential diagnosis based on new information
- Management - include medications, monitoring any lifestyle modifications

Clinical Learning: Illness Scripts Example

Type 2 Diabetes Mellitus

Presenting Complaint:

Increased thirst (polydipsia)
Increased urination (polyuria)
Increased hunger (polyphagia)
fatigue - weight loss or gain
blurred vision

History:

Family history of diabetes
obesity
sedentary lifestyle
dietary habits

Physical Exam:

Obesity,
acanthosis nigricans (darkening of skin folds),
hypertension,
signs of neuropathy (e.g., decreased reflexes).

Investigations:

Fasting blood glucose,
HbA1c
lipid profile

Differential Diagnosis:

Other causes of hyperglycemia
pancreatic disease

Management:

Lifestyle modifications (diet, exercise)
oral hypoglycemic agents (potentially)
insulin (potentially)

Clinical Learning: Illness Scripts Example

Pediatric Acute Lymphoblastic Leukemia

Pathophysiology
- Genetic mutation leading to clonal proliferation of abnormal lymphocytes

Epidemiology
- Usually 2 to 5 years old

Signs/Symptoms
- Pancytopenia
- Fevers
- Bone pain

Diagnostics
- Bone marrow aspirate and biopsy
- CBC with differential
- Immunophenotyping
- Genetics

Treatment
- Steroids, Vincristine, PEG-ASP, Ara-C, Daunorubicin, CAR-T, hematopoietic stem cell transplant, Blinatumomab, Inotuzumab, etc

Illness script at 3 levels

Hemoptysis

(coughing up blood)

Early T3

What is it?
When a person coughs up blood from their lungs or airways.
Who gets it?
People with lung infections, cancer, or lung diseases, especially if they smoke.
Why does it happen?
Blood vessels in the lungs get damaged and start to bleed. When the person coughs, the blood comes out.
Signs and Symptoms:
Coughing up blood (small amount or large amount)
Coughing, chest pain, or trouble breathing
Feeling tired or looking pale if bleeding is heavy
What to look for in examination:
Listening to the lungs for crackles or wheezing
Checking for signs of anemia (pale skin)
Checking vital signs, like heart rate and blood pressure
Possible causes:
Lung infections (like TB or pneumonia)
Lung cancer
Long-term lung diseases like bronchiectasis
Blood vessel problems in the lungs
Tests that might be done:
Chest X-ray to look at the lungs
Blood tests
A camera scan called a CT scan
Sometimes, a small tube (bronchoscopy) to see inside the lungs
Treatment:
Keep the patient stable (oxygen, IV fluids)
Stop the bleeding if possible (special procedures or medicines)
Treat the cause (antibiotics, surgery, or other special treatments)
Watch closely for more bleeding

late T3

Definition:
Coughing up blood originating from the lower respiratory tract.
Epidemiology:
Common causes include infections, bronchiectasis, malignancy, and vascular abnormalities.
More common in adults, especially heavy smokers, patients with chronic lung disease, or a history of tuberculosis.
Risk Factors:
Smoking history
Chronic lung infections (e.g., TB, pneumonia)
History of lung cancer or prior cancer
Chronic bronchitis or bronchiectasis
Blood vessel abnormalities (e.g., AV malformations)
Recent trauma or invasive procedures
Pathophysiology:
Bleeding originates from the bronchial or pulmonary arteries, capillaries, or bronchial veins.
Damage to the endothelium or vessel rupture leads to bleeding into the airways.
The blood mixes with airway secretions and is expelled during coughing.
Clinical Presentation:
Hemoptysis (varying amounts from small streaks to massive bleeding)
Possible associated symptoms: cough, chest pain, dyspnea, fever (if infection present), weight loss (if malignancy).
Signs may include anemia, tachycardia, hypotension in cases of significant blood loss.
Physical Exam:
Lung auscultation: crackles, wheezes, or decreased breath sounds depending on underlying cause.
Signs of anemia: pallor.
Vital signs: tachycardia, hypotension in severe cases.
Differential Diagnosis:
Infectious: tuberculosis, pneumonia
Neoplastic: lung cancer
Vascular: bronchial artery rupture, arteriovenous malformations
Inflammatory: bronchitis, bronchiectasis
Trauma or foreign body
Coagulopathies or anticoagulant use
Diagnostic Approach:
History and physical examination
Chest X-ray: look for masses, infiltrates, cavity, or infiltrates
Sputum analysis: CXR, sputum cytology, TB testing
Bronchoscopy: localization and control of bleeding
CT scan: better characterization of vascular abnormalities or masses
Laboratory tests: CBC, coagulation profile, blood type and crossmatch
Management:
Stabilize airway, breathing, and circulation
Control bleeding: bronchoscopic interventions, topical vasoconstrictors, or embolization if needed
Treat underlying cause: antibiotics for infection, oncological management for cancer, antimicrobial therapy for TB, or vascular interventions
Monitor for recurrent bleeding
Supportive care: oxygen, IV fluids, blood transfusion if needed

Resident

Definition:
Expectoration of blood originating from the lower respiratory tract, ranging from small streaks to massive hemorrhage.
Epidemiology:
Clinical presentations are common in patients with underlying pulmonary pathology such as infections, malignancies, or vascular disorders.
Higher prevalence in smokers, patients with a history of tuberculosis, or chronic lung disease.
Risk Factors:
Smoking history
Prior pulmonary infections (e.g., TB, pneumonia)
Known malignancy or suspicion thereof
Chronic lung conditions like bronchiectasis or COPD
Vascular abnormalities (e.g., bronchial artery hypertrophy, arteriovenous malformations)
Coagulopathies or anticoagulant therapy
Pathophysiology:
Hemorrhage typically results from rupture or erosion of hypertrophied bronchial or pulmonary vessels due to infection, inflammation, neoplastic invasion, or vascular malformations.
The bleeding leads to blood entering the airway lumen, which is then expelled as hemoptysis.
Clinical Features:
Hemoptysis severity varies from scanty blood streaks to massive (>300 mL in 24 hours) bleeding
Associated symptoms: cough, dyspnea, chest pain, fever
Signs of hypovolemia or anemia in significant hemorrhage: tachycardia, hypotension, pallor
Possible constitutional symptoms if underlying disease is malignancy or infection
Physical Examination:
Lungs: crackles, wheezing, or decreased breath sounds depending on underlying pathology
General: pallor, tachycardia, signs of hypovolemia
Exam may reveal evidence of underlying disease (e.g., lymphadenopathy, clubbing)
Differential Diagnosis:
Infectious causes: TB, pneumonia
Malignant: primary lung cancer, metastatic lesions
Vascular: bronchial artery bleeding, AVMs
Inflammatory: bronchiectasis, vasculitis
Coagulopathy-induced bleeding
Foreign body or trauma-related bleeding
Investigations:
Laboratory: CBC, coagulation profile, blood crossmatch
Imaging: Chest X-ray, CT angiography (to localize bleeding and identify vascular anomalies)
Bronchoscopy: localization, diagnosis, and potential therapeutic intervention
Sputum analysis: cytology, microbiology, TB testing
Management:
Hemodynamic stabilization: IV fluids, blood transfusions as needed
Airway management: ensure airway patency, consider intubation if airway compromise
Controlling bleeding: bronchoscopic interventions (vasoconstrictive agents, balloon tamponade); embolization in interventional radiology if bleeding persists
Treat underlying cause: antibiotics, chemotherapy, surgery, or other targeted therapy
Close monitoring for recurrent bleeding, complication management

Time Management During Clerkships

Core Principle:

- You can't create more time
- or go with less sleep

- instead, you must piece the right activities into the right time contexts to maximize your learning

Time During Clerkships

Unpredictable, inconsistent time available for self directed learning:

Intermittent, choppy time
- Unpredictable, short bursts
- Patient care

End of day time
- Unpredictable, continuous
- Fatigue
- Patient care

Days off
- Predictable, continuous
- No patient care

Lectures/Didactics
- Predictable, structured learning
- No patient care

Intermittent, Choppy Time

Principles of clinical learning

- Emotional experiences can aid in learning and memory retention
- Reading without a question to answer is a waste of time

Your main way of learning now is learning from patient care, so that you can use the powerful emotional experience of interacting with patients as anchors for clinical learning/knowledge

Intermittent, Choppy Time

- Clinical learning strategies: short additions to illness scripts
  - Learn from patient encounter
  - Look up from patient encounter

* Taking notes on 1-2 things you just learned from a patient encounter

* Looking up something you didn't know from a patient encounter you just had and write this down(diagnosis, treatment etc.)

* Looking up what labs, physical exam maneuvers, history aspects, treatments, complications, pathophysiology for upcoming patients that you're about to see and write this down

* Always have a way to encode, actively use the information whether it's writing notes, concept maps, writing out a plan for the patient you're going to see tomorrow

* Passive learning is an oxymoron

Intermittent, Choppy Time

- Shelf Exam Preparation
  - Practice questions
  - Anki cards, other flash cards
  - Short videos

Time between patients, time waiting for rounds to start – that's when you can take and review practice questions tutor mode, untimed – some time one question at a time.

Use your rapid reviews of notes from previous questions / Anki cards etc.

Remember that while you are on duty you are evaluated. Be careful about outside perception of your study activities: phone vs paper/I-Pad/tablet studying. (Phone usage can be perceived as you are doing something non-school related /not being interesting, not being engaged.)

While you are using note and pen/I-Pad/tablet that gives an impression that you are taking notes, you are learning you are being serious for school.

When you get a question wrong, if an attending or resident is around and available, then ask them about a question you have gotten wrong, that way they know you are studying and perhaps they can explain the answer choice and process and you will turn that free moment into didactic moment!

End of Day Time

Clinical learning: completing illness scripts

- Creating library of illness scripts
- Sleep = memory consolidation

Your time at the end of the day is more protected and uninterrupted but it is also a time when you are tired and fatigued.

Short reading or video to help you consolidate some of the learning during the day before you go to sleep, as sleeping is where much of the encoding occurs.

Trying to create these memory before you go to sleep and connect to the emotional experiences of seeing the patients so that these memories get consolidated when you sleep.

Days Off

Clinical learning

If you have time, you can still do the methods described earlier (end of the day) to read up on 1-2 things for patient's you have seen recently (diagnosis, treatment, clinical presentation, etc.) or prepping for patient's to be seen the next day in terms of reading what labs, imaging, history, PE, treatments etc.

Days Off

Shelf exam Preparation

Reasonable, intentional planning:

- Start by blocking your rest and recovery time, off from work, for burnout prevention
- Number of days you are completely off from rotation
- How much time you will have after the rotation before shelf exam
- How many days you will have time after work to incorporate shelf preparation
- Decide number of questions you want to go through and match this against the days above and if need be, make adjustment
- Decide if you need to go through review material/high yeild review video etc. and again match ths against the days/time above
- Make sure you learn from incorrect answer by encoding /processing the questions by concept mapping, error analysis log etc
- Make sure to incorporate Rapid Review of material from your incorrect answers in your daily / weekly routine
- Decide number of practice NBME test you want to go through, plan how and when you will take them

Lectures/Didactics

Clinical learning

- Adding to illness scripts

Basically taking a few things, you learn from each lecture and putting it into the context of an illness script

Keeping things framed in a clinical manner to be a practicing clinical physician

Procedural Skills

Clinical learning strategies

Reflection

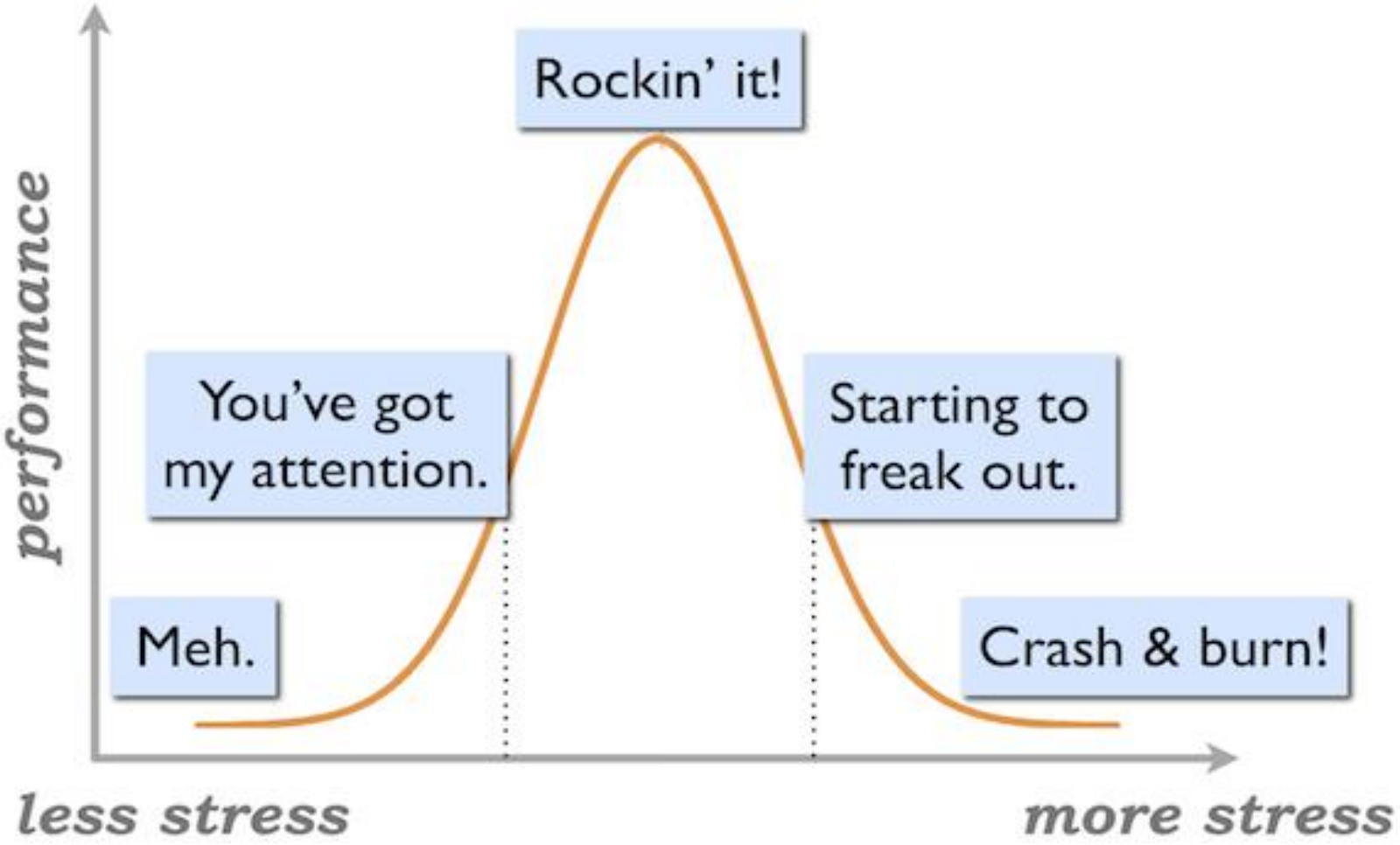
- Plan: Visualize
- Do: Verbalize
- Review:
    - What went well?
    - What didn't go well?
    - What do I need to do differently next time?

Procedural scripts: Lumbar Puncture

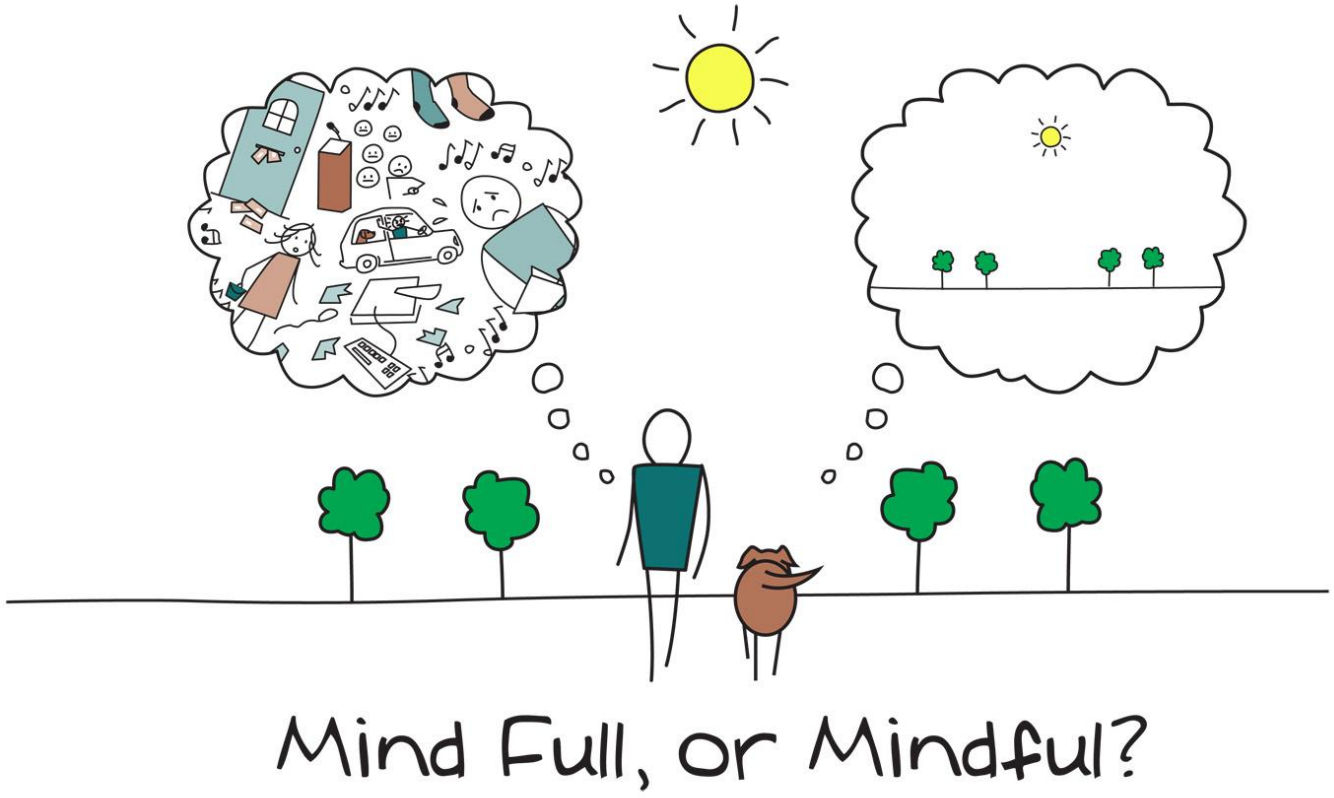
- Anatomy
    - Tuffer's line, L4 spinous process
- Indications
    - Meningitis
- Contraindications
    - Elevated ICP
- Technique
    - Early stylet removal?
- Complications
    - Headache

Wellness and Stress Mgt

Stress Management



Build Resilience



TUSOM Companion

Tactuum

References

- Illness Scripts Overview. https://www.sgim.org/web-only/clinical-reasoning-exercises/illness-scripts-overview
- Gavinski K, Covin YN, Longo PJ. Learning How to Build Illness Scripts. Acad Med. 2019;94(2):293. doi:10.1097/ACM.0000000000002493
- Tyng CM, Amin HU, Saad MNM, Malik AS. The Influences of Emotion on Learning and Memory. Front Psychol. 2017;8:1454. doi:10.3389/fpsyg.2017.01454
- Steidl S, Razik F, Anderson AK. Emotion enhanced retention of cognitive skill learning. Emotion. 2011;11(1):12-19. doi:10.1037/a0020288
- Pelley JW, Dalley BK. SuccessTypes in Medical Education: A Program for Improving Academic Performance. Psychologist Press, Inc; 2008.
- Sandars J. The use of reflection in medical education: AMEE Guide No. 44. Med Teach. 2009;31(8):685-695. doi:10.1080/01421590903050374

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