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1. Fundamentals of C-L Psychiatry

<https://www.youtube.com/watch?v=bs02G2rTzRw>

Medical Student Education Subcommittee Reviewer: Andrew Alkis, MD

How to Perform a Comprehensive and Efficient Psychiatric Consultation by Dr. Stephen Nicolson

- Importance for medical students: This is an extremely high-yield presentation detailing how to complete a thorough C-L consultation in an efficient way.
- Key learning points:
 - An essential part of the pre-examination routine is to speak directly to the consultee. This will help clarify the consult question in a way that is most helpful for the consultant as well as the consultee. This can also be an opportunity to ask questions about the patient's medical history and hospital course to minimize time spent reviewing the chart. While reviewing the chart is important, early trainees can often get bogged down in superfluous detail. Speaking directly to the consultee can help get a good sense of what is most pressing regarding the patient's presentation.
 - Review previous notes, laboratory data, and vital signs to build a differential diagnosis, focusing on aspects of the consultation question.
 - During the examination, always knock before entering the room, ask visitors to leave the room, ask to sit down, identify yourself, and identify the reasons for the visit. It can be helpful to ask the patient if they were aware a psychiatrist had been asked to evaluate them and what their thoughts are about you being there. Hearing the patient's response can help assess multiple elements of the mental status examination.
 - Many aspects of the mental status examination can be assessed even if the patient does not wish to participate in the evaluation, just by asking that they explain why they do not wish to participate in the consultation. These elements include sensorium, appearance, behavior, psychomotor activity, eye contact, affect, impulse control, response to internal stimuli, gait, motor (tremor), and skin (diaphoresis).
 - Cognitive testing should start with consciousness and language, as these are pre-requisites to the other elements of cognitive assessment (i.e., orientation, attention, memory, praxis).
 - Asking patients to list the months of the year in reverse can be extremely helpful in assessing attention regardless of the individual's education level.
 - Executive functioning is assessed by the Montreal Cognitive Assessment, but not the Mini-Mental Status Examination. The "go/no-go" and clock draw tests are highly effective at assessing executive functioning.
 - A complete physical examination may not be essential to the consult; however, a focused physical examination is extremely important (i.e., diaphoresis, bruising, excoriations, repetitive scarring, slow capillary refill, palmar erythema).

- Collateral information can be an essential part of the post-examination routine, not just in cases of suicide-risk assessment. It can help to determine pre-morbid functioning, recent medication changes, recent changes in health status, etc. that the interview may not elucidate.

Psychopharmacology in the Medically Ill by Dr. J.J. Rasimas

- Importance for medical students: There is little evidence (studies are often small and/or open label) to guide psychotropic medication prescription in the complex medically ill. Understanding pharmacokinetic and pharmacodynamic changes in individuals with complex medical illness is especially important as a result.
- Key learning points:
 - Pharmacokinetics
 - Phases
 - Absorption (and bioavailability) -> gastric and intestinal (first pass metabolism)
 - Distribution -> Various fluid/tissue compartments
 - Metabolism -> mostly hepatic
 - Limited by rate of drug delivery (hepatic blood flow) and capacity of CYP enzymes
 - Excretion -> mostly renal
 - Most psychotropics will have clearance reduced in renal disease
 - Lithium, gabapentin, pregabalin, topiramate are almost entirely dependent on renal excretion
 - IV, IM, TD bypass first metabolism. To a lesser degree, rectal administration will also bypass first metabolism, but not entirely as some absorption will enter the portal circulation.
 - Most drug-drug interactions occur through inhibition/competition in the CYP450 system
 - Protein binding can impact drug monitoring in the medically ill
 - Free drug levels (as opposed to total) can be more useful as a result
 - Troughs are used to simplify interpretation of serum concentrations
 - Removes issue of having to account for impact of ongoing absorption from last dose
 - Steady state is achieved with consistent dosing over about 5 elimination half-lives
 - Outside steady state, efficacy and toxicity can occur with “low,” “therapeutic,” or “high” levels depending on the scenario.
 - Loading: Can be helpful if a patient needs acute stabilization and there is little to none of the drug currently in the body.

- Absorption & distribution are much faster than elimination
- $\text{Dose} = \text{Concentration} * \text{Volume of distribution} * \frac{\text{Weight}}{\text{Bioavailability}}$
- Levocarnitine helpful in reducing risk for hyperammonemia if loading valproic acid
- Psychotropics in Liver Disease
 - Liver damage and liver dysfunction are NOT equivalent
 - “LFTs” are actually liver damage tests.
 - Bilirubin, prothrombin time, and measures of protein, ketone, and acid/base status correlate with liver function.
 - No dose adjustment needed in acute hepatitis whereas dose adjustment depends on severity with chronic hepatitis.
 - Cirrhosis: Decrease initial doses and titrate more slowly.
 - Hepatic Encephalopathy
 - Benzodiazepines worsen the condition and flumazenil may provide transient benefit
 - Most benzodiazepines require Phase 1 metabolism
 - The exception are metabolized “Outside The Liver”
 - Oxazepam
 - Temazepam
 - Lorazepam
 - Most mood stabilizers require Phase 1 metabolism (except gabapentin and pregabalin)
 - Even renally excreted agents (i.e., lithium) can be difficult to safely manage in severe liver disease due to fluid shifts, diuretic use, hyponatremia, and diarrhea
- Psychotropics in the Gastrointestinal System
 - Delayed emptying/Constipation
 - Avoid anticholinergics
 - Diarrhea
 - Serotonergics and lithium may exacerbate
 - Gastric Bypass
 - Reduced surface area for absorption and reduced exposure to gastric acid
 - Use immediate release forms, crushed tablets, and liquids, avoid enteric-coated or ER forms
 - Lithium doses will need to be lowered following surgery
 - Watch for emergent substance abuse that could impact safe prescribing (alcohol, cannabis)
- Psychotropics in Renal Disease
 - Most psychotropics carry an indication for dose adjustment according to creatinine clearance for renal patients

- Renal insufficiency also affects liver function over time adding another factor to the need for frequent monitoring and adjustments
- Lithium can be given in HD patients, typically a single dose of 300 – 600 mg once after each HD run
- Mirtazapine and amitriptyline levels decrease significantly after HD runs
- Psychotropics and the Lung
 - Benzodiazepines should be avoided in CO₂ retainers when possible as well as avoided in obstructive sleep apnea (along with TCAs and mirtazapine)
 - Benzodiazepines may be safe and beneficial in those with asthma and COPD
 - Co-morbid anxiety is common
- Psychotropics and the Heart
 - TCAs (and carbamazepine) – safer than we generally think
 - Orthostasis, Type 1A antiarrhythmic effects
 - Generally safe in selected patients with stable heart disease, lacking major rhythm problems
 - Contraindicated after MI (associated with increased mortality)
 - Stimulants – generally safe
 - Still there is a black box warning for cardiovascular risk
 - Antipsychotics – chronic metabolic risk is likely the most important
 - All antipsychotics may increase QTc
 - Screen for already increased QTc interval, other QTc prolonging drugs, personal or family history of unexplained syncope or sudden death. Control the variables. Remember the hospital is the best place for TdP!
 - Antidepressants
 - Sertraline, mirtazapine, and escitalopram considered safe
 - Citalopram may not be the ideal first choice due to QTc risk
 - Venlafaxine, duloxetine, and bupropion – monitor for emergent hypertension
 - Trazodone – orthostasis can be problematic in those without good pump function
- Psychotropics and Neurology
 - Stroke
 - Depression is a common sequela of CVA, and SSRIs can be helpful
 - Avoid starting an SSRI in the wake of hemorrhagic stroke
 - Abulia/Apathy
 - Psychostimulants/bupropion may have a role
 - Avoid medications than can cause orthostatic hypotension
 - Trazodone, mirtazapine, quetiapine, other antipsychotics, alpha-2 agonists
 - Pseudobulbar affect

- May be managed with SSRIs (sertraline, citalopram) as DXM/quinidine is expensive
- Migraine patients can safely take SSRIs and triptans
- Depression in Parkinson disease may respond to pramipexole, but need to monitor for emergent impulsivity/pathological gambling
- Psychosis in Parkinson disease challenging to manage
 - Quetiapine may be first choice as pimavanserin is expensive and clozapine associated with heavy side-effect burden
 - Don't forget ECT is the only intervention that might improve both sides (i.e., psychosis, extrapyramidal symptoms)
- SSRIs and Bleeding
 - GI Bleed
 - Relative risk is variable, with meta-analysis data showing risk increased about 36%. Risk is higher when taking NSAIDs or anti-platelet drugs.
 - Absolute risk is small
 - Number needed to harm for upper GI bleed with SSRIs in low-risk patients was 3,177 in one study and 881 in high-risk patients
 - Usually not clinically significant and no increased mortality from SSRI-associated GI bleeds
 - Caution is warranted in high-risk patients: thrombocytopenia, platelet disorders, coagulopathy, multiple antiplatelet drugs, older age
 - Stroke
 - Depression and anxiety are associated with increased risk for hypertension and stroke
 - SSRIs are not contraindicated in thrombotic stroke including those receiving thrombolysis
 - Prudent not to start an SSRI soon after a hemorrhagic stroke
 - Postpartum: least studied
 - Do not stop SSRIs just before delivery (postpartum depression risk is significant)
 - Caution warranted only in those at high bleeding risk
 - Perioperative
 - Do not routinely stop SSRIs before surgery, but high-risk patients could consider for elective surgeries where many variables can be controlled
 - Cholinesterase Inhibitors
 - Non-specific cholinesterase inhibitors should be stopped prior to surgery as there is a synergistic increase in the effects of depolarizing neuromuscular blockers (i.e.,

succinylcholine) and decreased effects of non-depolarizing agents (i.e., atracurium).

- Remember that there are more drugs than the ones we prescribe, and they will necessarily be halted around the operative period. Frank discussions with patients about substance use can head off serious discomfort.
- Alternative Formulations
 - Available for most classes of psychotropic medication in situations where patients cannot take medication by mouth.

Comprehensive Psychosocial Evaluation of Transplant Candidates by Dr. José Maldonado

- Importance for medical students: Helps the medical student understand the mental health providers role in the transplant process.
- Key learning points:
 - Every 10 minutes, someone is added to the national transplant waiting list. On average, 22 people die each day while waiting for a transplant. The need vastly outnumbers the availability.
 - Psychosocial pre-transplant evaluation is a means to ensure a candidate is the most suitable for the available organ and aims to do so in a standardized way that can be replicated at different transplant institutions across the country.
 - Kidneys (58.8%) are the most transplanted organ followed by liver (21.7%) and heart (9.6%).
 - Medical listing criteria by organ system has been well-established (Liver – Model for End-Stage Liver Disease, Kidney – Kidney Allocation Score, Heart – New York Heart Association). How transplant programs undergo psychosocial evaluations for transplant candidacy has historically been variable.
 - Effective psychosocial pre-transplant assessment tools over the years have included the Psychosocial Assessment of Transplant Candidates (PACT) and Transplant Evaluation Rating Scale (TERS). Stanford has developed the Stanford Integrated Psychosocial Assessment for Transplantation (SIPAT) which is becoming a leading psychosocial pre-transplant assessment tool.
 - Psychosocial Pre-transplant Evaluation Goals:
 - Identify patient’s level of neuropsychiatric and cognitive functioning
 - Identify patient’s social support network
 - Increase fairness
 - Implement appropriate treatments that reduce harm, mitigate risk, and optimize graft survival and patient’s level of functioning and quality of life
 - An additional hope is an effective psychosocial pre-transplant evaluation will identify risk factors that impact adherence, morbidity, and mortality.
 - “It’s not just the presence of psychopathology, but the additive effect of multiple other psychosocial factors that counts.”

- The SIPAT also aims to provide poor candidates a means of improving their candidacy by highlighting areas for improvement.

Considerations in Care of the Pediatric Patient by Dr. Laura Markley

- **Importance for medical students:** Adult patients can regress to primitive coping mechanisms when frightened or under duress. Childhood trauma can cause a child/adolescent to remain “stuck” in a developmental phase where in terms of years they may be an adult, but an adolescent by emotional standards.
- **Key learning points:**
 - There are a myriad of differences between pediatric and adult patients, but there are several key distinctions:
 - Pediatric patients more often dealing with congenital/hereditary illness
 - Patients unable to manage their own illness and are dependent on others
 - Caveats to confidentiality given parents are often involved
 - Duty to report any cases of suspected abuse
 - Children can be more prone to adverse medication effects (EPS, paradoxical reactions to benzodiazepines)
 - Baseline organ function is different
 - Medications take size into consideration and doses are usually smaller and require calculation
 - Infant Patients – stranger anxiety
 - Address parents first, you are less threatening at eye-level or lower
 - Toddler – separation anxiety
 - Keep parents in room, use their curiosity and their egocentrism to entice them to you (i.e., bring in a toy, but don’t present it to them initially, wait for them to ask about it)
 - School Age
 - Starting to understand concept of death, provide concrete assurance you will not be touching or causing any physical pain
 - Adolescence
 - Social concerns are paramount, address teens first and ask them to introduce parents, perception of risk is diminished but appearance is important (i.e., may not stop cannabis if discussing general health-related concerns but will stop if discussing how it can cause/aggravate acne)
 - Non-Neurotypical Patients
 - Sensitive to changes in routines, environment, and sensation
 - Communication is often a struggle due to either basic language deficits or difficulty in syntax (i.e., blue cereal means Frosted Flakes that come in a blue box)
 - Hospital Challenges: unfamiliar, loss of routine, loss of familiar foods/clothing, sensory overload, staff misinterpretation of self-stim behavior as agitation, inability to understand or be understood

- Caretaker involvement is key, try to understand baseline behaviors, try to provide consistent “primary” staff to ensure awareness of patient’s baseline
- Additional Pearls: always advocate for investigation into underlying any possible physiological issue, maintain usual dress/sleep schedule/diet as able, avoid unnecessary entries/disruptions, involvement of speech therapy for tools to improve communication, involvement of Child Life
- Confidentiality and Consent
 - Most conversations with minors are confidential with the caveat being that the limits are:
 - If something is conveyed that relates to imminent danger for the patient
 - If something is conveyed that relates to the patient placing another in imminent life-threatening danger (HI, suicide pacts)
 - Disclosures of abuse
 - Know state laws
 - Most states allow adolescents to seek mental health psychotherapy but NOT mental health medication without parental consent.
- Trauma-Informed Care
 - Minimize traumatic aspects of medical care
 - Provide all pediatric patients with basic support and information
 - Screen to identify those who may need more help
 - Maximize continuity of care
 - Remain aware of one’s own stress
- Delirium
 - Cornell Assessment for Pediatric Delirium (CAPD)
 - Effective screening/assessment tool for pediatric delirium
 - 1/3 of patients who develop delirium go on to develop PTSD after recovery from delirium

Suicide Risk Assessment and Management in C-L Psychiatry by Dr. Scott Simpson

- Importance for medical students: Suicide incidence in the United States continues to increase and evidence-based methods of screening and treating can be extremely helpful when implemented.
- Key learning points:
 - Suicide rate has increased from 17.8 to 22.4 (per 100,000) between 1999 and 2019
 - ED and hospital visits are opportunities for suicide prevention

- 27% of patients who die by suicide have seen their primary care provider within the previous month; however, the relative risk for death by suicide is higher in patients discharging from inpatient treatment (aOR 16.9) or ED/Urgent Care (aOR 6.8) in comparison to primary care visits (aOR 1.9)
- “Validated Screening Tools” for Suicidal Ideation
 - Columbia-Suicide Severity Rating Scale Clinical Practice Screener
 - Ask Suicide-Screening Questions
 - Effective tools inquire about passive suicidal ideation, active suicidal ideation, and any history of self-harm.
 - Limitations:
 - Validated against other screeners (not clinical outcomes)
 - Difficulty in staff implementation
 - Resource utilization
 - Ascertainment of mortality
 - Symptom over-endorsement (how to account for malingering patients)
- Steps after Positive Screening
 - Stress-Diathesis Model
 - Diathesis (predisposition) -> hopelessness, impulsivity, or aggression
 - Stressor -> psychiatric disorder, psychosocial cues
 - Stressors overwhelm the individual’s ability to cope and there may not be enough resources in place to help balance those stressors. If there is a predisposition for suicide based on hopelessness or impulsivity/aggression, the risk for suicidal behavior may acutely go up.
 - Consider risk factors unique in C-L patients (chronic medical illness is a risk factor for suicide, certain medications carry black-box warnings for suicidal ideation)
 - Consider focusing on dynamic and manageable (modifiable) risk factors
 - Suicide risk ≠ suicidal ideation
 - Most individuals who die by suicide do not report suicidal ideation when asked on screeners
 - Models for Assessment
 - SAFE-T (Suicide Assessment Five-step Evaluation and Triage)
 - Identify Risk Factors, Identify Protective Factors, Conduct Suicide Inquiry, Determine Risk Level/Intervention, Document
 - Risk Level: High, Moderate, Low with recommended possible interventions dependent on risk level.
 - 2 x 2 Table
 - Columns (Acute or Chronic Chronicity)
 - Rows (Risk or Protective Factors)

- Interventions
 - Psychoeducation to patient and family, write a safety plan, lethal means restriction, identify ONE NEXT BEST provider they could contact if someone is not available, offer follow-up call, determine disposition
 - Safety Planning: strongly supported by evidence

2. 2021 Neuropsychiatry Updates

https://www.youtube.com/watch?v=3JU8s9_mbEY

Medical Student Education Subcommittee Reviewer: Amy Rosinski, MD

Importance for medical students:

This group of talks contained several practical points/a review of literature on common neuropsychiatric issues that are seen in medically ill patients. Evidenced based treatment strategies are recommended.

Key learning points:

Cytokines Induced mechanism of Delirium related to COVID-19 and other infectious processes

- COVID-19 can cause delirium through multiple mechanisms: direct CNS invasion via the olfactory nerve with spread to thalamus and brainstem, cytokine storm, CNS hypoxia from poor respiratory status, among others.
- Risk factors for delirium from COVID-19 include underlying neurocognitive susceptibility, age, frailty, respiratory status, comorbid medical conditions, sedative agent use needed for ventilation/ECMO, social isolation, limited access to natural light patterns, among others.

Cefepime Induced Neurotoxicity

- Cefepime is a 4th generation cephalosporin antibiotic (in beta-lactam class) often used in hospital settings for health care associated infections including UTI, pneumonia, neutropenic fever, among others.
- All beta-lactam antibiotics can cause neurotoxicity. They cross the blood brain barrier, with higher risk of a leaky barrier in critically ill patients, patients with kidney disease, and patients with compromised brains like dementia.
- The pathophysiology of neurotoxicity includes impeding neurotransmission of endogenous GABA, leading to neuroexcitability.

- Neurotoxicity occurs a median of 4 days after cefepime initiation, with symptoms including delirium, myoclonus, aphasia, agitation, and sometimes seizures.
- First line treatment is cessation of the drug, or reduction of dose if patient is in renal failure (85% is excreted unchanged by the kidney). Other treatments include antiepileptics, benzos (but may make delirium worse), dialysis.

Paraneoplastic Limbic Encephalitis

- Paraneoplastic limbic encephalitis is a neuropsychiatric syndrome due to inflammation of the limbic system.
- Pathophysiology: tumors elsewhere in the body cause an antibody-mediated immune response, with these antibodies cross-reacting with neuronal host antigens.
- Most common cancer types are small cell lung cancer, ovarian teratomas, testicular germ cell tumors, thymomas, and Hodgkin lymphoma.
- Symptoms can be acute, subacute, or chronic and consist of mood disturbances, psychosis, memory changes, cognitive impairment, sleep disturbance, irritability, and/or seizures.
- Hypothalamic dysfunction may occur causing hyperthermia, lethargy, or other endocrine disturbances.
- The neurologic syndrome develops before the cancer diagnosis is known in more than half of patients.
- Diagnosis is based on clinical symptoms, as well as evidence of LE on EEG, MRI, or CSF studies.
- Antibodies can be measured in the serum or CSF, but absence of antibodies does not exclude the diagnosis.
- Treatment includes immunosuppressive interventions (steroids, cyclophosphamide, plasma exchange, IVIG, rituximab), management of seizures with antiepileptics, management of psychiatric symptoms with meds and/or ECT, and treatment of the underlying tumor/cancer.
- There is emerging evidence that immune checkpoint inhibitors, a cancer treatment medication, may themselves be associated with limbic encephalitis.

Frontotemporal Dementias

- FTDs are a group of clinically and pathologically diverse neurodegenerative disorders characterized by distinct changes in behavior and personality, or by changes in language abilities. There are 3 subtypes, including the behavioral variant that is most common,

and has more behavioral and less language changes. These patients can be misdiagnosed as having a psychiatric disorder.

- Pathophysiology: degeneration in the frontal and/or temporal lobes. FTD is highly heritable.
- Symptoms of behavioral variant FTD include disinhibition, apathy/inertia, loss of empathy, perseverative/compulsive/ritualistic behaviors (hoarding, eye blinking, rubbing hands, excessive story telling), hyperorality/dietary changes, executive cognitive deficits with relative sparing of memory/visuospatial functions.
- Diagnosis is purely clinical, with emphasis on gathering collateral information. Neuroimaging and neuropsychological testing can provide supportive information and look for other possible causes. PET scans do not have the capability to diagnose. Labs to look for other reversible causes of dementia are also recommended.
- Treatments: There are no FDA-approved disease modifying or symptomatic treatments.
- For treatment of behavioral symptoms, the evidence is poor. SSRIs may have some benefit for disinhibition and compulsive behaviors, stimulants for apathy, intranasal oxytocin for loss of empathy, topiramate and SSRIs for hyperorality. Atypical antipsychotics should be a last resort, and benzodiazepines avoided.

3. Acute and Chronic Neuropsychiatric Sequelae of COVID-19

<https://www.youtube.com/watch?v=ekxR3Zv8Gk>

Medical Student Education Subcommittee Reviewer: Amy Rosinski, MD

Importance for medical students:

This group of talks described the gamut of neuropsychiatric symptoms that can be seen in the acute setting of COVID-19 and long-term recovery issues including post-acute sequelae of COVID or long COVID. Practical tips on managing delirium in COVID patients were discussed, as was the approach to long COVID workup and treatment.

Key learning points:

Acute Neuropsychiatric Sequelae of COVID-19

- COVID-19 can CAUSE multiple neuropsychiatric symptoms/syndromes including anosmia, strokes, and delirium, with association with many other neurologic and psychiatric conditions.
- Altered mental status in any patient should prompt a COVID test

- For COVID+ patients with delirium, basic bloodwork is recommended to look for comorbid etiologies of delirium. MRI may reveal specific pathology including strokes. CSF and EEG are less likely to be helpful given non-specific findings.
- Case reports suggest episodes of brief psychotic disorder in COVID patients, without prior psychiatric history. The mean age of onset is 40, and symptoms generally start abruptly and resolve quickly with antipsychotics. Cause vs association is not clear.
- Akinetic mutism, a syndrome in which patients are awake but mute and with a profound motivational deficit, has been seen in patients with COVID. It can look like catatonia but with only the motor elements, can result from dopamine depletion and hypoxia, and is less responsive to benzodiazepines. Pro-dopaminergic agents may or may not be helpful.

Delirium in COVID-19

- Unique features of delirium in COVID-19 include higher rates of agitation and more neurologic symptoms such as myoclonus, rigidity, abulia, alogia, and catatonia.
- COVID can enter the CNS through the nose, into the olfactory bulb and then the CNS. The area near the olfactory bulb contains structures of the medial forebrain, and direct viral invasion of those structures may lead to some of the motor symptoms described above.
- Patients with COVID pneumonia/ARDS often require deep sedation, and sedation for a long period of time, which may contribute to the higher rates of delirium.
- A study group at Massachusetts General proposed an algorithm to treat agitation from COVID-19 delirium, which started with melatonin, then considering alpha-2 agonists like clonidine and dexmedetomidine, then lower potency antipsychotics to avoid risk of extrapyramidal symptoms. Depakote could be an option if agitation was refractory or other agents were contraindicated. Dopamine agonists were proposed for catatonia or akinetic mutism.

Post-Acute Sequelae of COVID (PASC)

- Long COVID is a clinically distinct phenomenon with symptoms including fatigue, dyspnea, dysautonomia, changes to mood and anxiety and cognitive changes. Recovery is common.
- Treatment is focused on symptom/system specific care, with importance on a rehabilitation model.

4. Current Controversies in Agitation Management in the Emergency Department

<https://www.youtube.com/watch?v=ofAtjxFtv2w>

Medical Student Education Subcommittee Reviewer: Amy Rosinski, MD

Importance for medical students:

Agitation is a frequent reason for psychiatric consultation, and this group of talks discuss cutting edge issues that arise in the management of agitation, especially in the emergency department.

Key learning points:

Excited Delirium:

- Excited Delirium Syndrome is characterized by altered mental status, agitation, acidosis, and hyperadrenergic autonomic dysfunction. It is controversial, in that it is recognized by emergency medicine organizations, but not psychiatric organizations, and not in the DSM. Psychiatrists have concerns that not all patients exhibiting these symptoms meet the true definition of delirium.
- Patients exhibiting symptoms of excited delirium are often those with acute on chronic substance use, particularly with stimulants, and those with psychotic illnesses.
- There is overlap between the definitions and symptoms of excited delirium, delirious/Bell's mania, and neuroleptic malignant syndrome. This may speak to common pathophysiology and treatment strategies.
- Patients with symptoms of excited delirium can be at risk of cardiac dysrhythmias, even more so when they are restrained.
- Proposed pathophysiology involves failure of the dopamine transporter to regulate synaptic dopamine, leading to violent behavior, agitation, motor excitement, and rise in body temperature.
- The evidence base for treatment of agitation in EDS is limited at this time to case reports. Antipsychotics and benzodiazepines, alone or together, are reported to be first line treatments in one guideline.
- Ketamine is also used, although there is a higher risk for need for intubation with ketamine as opposed to antipsychotics/benzodiazepines.

Ketamine:

- Ketamine is non-competitive NMDA-receptor antagonist, that was introduced as a general anesthetic in the 1960s.
- It has a rapid onset of 1-3 minutes, IV and IM delivery forms, and has less cardiorespiratory depression than many other sedative agents. ED docs thus are using it more for agitation.

- BUT...it has up to 63% risk of need for intubation (possibly via secretions, laryngospasm, nausea/vomiting). It can also increase blood pressure.
- It produces effects via dissociation, with the user being awake but unaware of sensory input and amnestic.
- It can be a drug of abuse, with intoxication involving out of body experiences, vivid dreams, hallucinations/psychosis, with severe complications including agitation and rhabdomyolysis.
- Patients with schizophrenia who receive ketamine may have exacerbation of psychosis/worse psychosis than non-schizophrenia patients.
- Ketamine works faster than haloperidol, but ketamine has higher intubation rates, higher need for psychiatric hospitalization, and greater need for additional chemical sedation compared to haloperidol in some studies.

IV Olanzapine:

- Olanzapine is an atypical antipsychotic that blocks central D2, central M1 muscarinic, central serotonin 5HT-2 and peripheral alpha-1 receptors.
- Oral and IM forms of olanzapine are FDA approved only for schizophrenia and bipolar 1 disorder, but have expanded to use for acute agitation, with efficacy found.
- Intramuscular injections for agitation have the disadvantage of being painful, having the potential for local site reactions, and having less reliable absorption with delayed onset. This prompts the desire to consider intravenous (IV) medications for agitation.
- Benzodiazepines can be given intravenously, but are not optimal in most cases of delirium, or if concern for respiratory depression.
- There are no FDA approved antipsychotics for IV administration, but chlorpromazine, droperidol, and haloperidol are used off-label via this route. IV droperidol received a black box warning for QTC prolongation, leading to less use and then shortages. IV haloperidol also has a warning for QTC prolongation. Chlorpromazine can cause sedation and hypotension.
- Studies of IV olanzapine show efficacy and safety when compared to droperidol, and faster sedation compared to IM olanzapine. There was no evidence of torsades de pointes with IV olanzapine.
- Hypotension and respiratory depression are still possible side effects with IV olanzapine.
- Controversy exists about the sufficiency of existing evidence, and there are still no current prescribing guidelines for IV olanzapine.

Challenges at the interface of emergency medicine and psychiatry:

- "Medical clearance" for psychiatric admission is not the most appropriate term, with favored alternative being "medically stable to receive psychiatric care in a psychiatric facility."
- Recommended basic medical evaluation for patients in psychiatric emergency settings include: vital signs, physical exam, and assessment of mentation/cognition. Patients 45 and older with no prior psychiatric history and a new psychiatric complaint warrant further medical investigation, and patients greater than 65 warrant more medical investigation.
- Inability to obtain labs should NOT delay psychiatric transfer for medically stable patients.
- Patients with schizophrenia are nearly three times as likely to die from coronavirus, a risk factor that is second only to older age.

5. The ACLP Diversity, Equity, and Inclusion Task Force: Promoting Critical Change for Our Members, Trainees, Patients, and Field

<https://www.youtube.com/watch?v=qUsC9PDCdeI>

Medical Student Education Subcommittee Reviewer: Jai Gandhi, MD

Importance for medical students:

- The scope of this presentation is largely focused on ACLP governance structures, and unless the medical student has a specific interest in organizational psychiatry and leadership within ACLP, the nuances of the ACLP organization is likely of limited immediate value to medical students.
- The presentation does cover the organizational structure of ACLP which is difficult to find elsewhere, and therefore this presentation may be valuable for certain medical students who will find this degree of transparency about the operations of ACLP difficult to find elsewhere

Key points:

- ACLP currently does not have overt systems in place to account for nor respond to DEI-related issues.
- The majority of ACLP Special Interest Groups (SIGs) do not represent the needs of vulnerable or underrepresented populations.
- The ACLP DEI Task Force deemed anti-racism and health care disparities outside of the scope of the Task Force's charge leaving a large and important aspect of DEI issues thus far unaccounted for by ACLP

- ACLP could consider funding for pipeline programs or other awards to improve diverse and inclusive representation within the subspecialty
- Current ACLP educational resources and opportunities leave gaps in DEI related issues as well as in C/L research

6. Diversity, Equity, and Inclusion in C-L Training During COVID-19 and Beyond

<https://www.youtube.com/watch?v=A2DiP7z-yjo>

Medical Student Education Subcommittee Reviewer: Jai Gandhi, MD

Importance for medical students:

- A variety of factors influence medical student/resident matriculation, including but not limited to, implicit bias from interviewers, systemic factors influencing test performance, and programs' approach to recruitment
- This talk is better targeted towards educators and leaders in C/L psychiatry as opposed to medical students

Key points:

- Social determinants of health have been a significant set of factors influencing pandemic related outcomes
- Resident and fellow recruitment has been impacted by the pandemic (with both advantages and disadvantages) and programs can leverage equitable practice to improve diverse and inclusive recruitment
- There are programs that exemplify the way DEI topics can be weaved into CL fellowship training
- Microaggressions come in various forms and should be considered an important teaching moment across C/L services
- A four metric model in equity (access, transitions, quality, socioeconomic and environmental impact) can help guide fellowship projects to promote equity

7. AIM to Learn: Actioning on Implicit (Biases) and Microaggressions in the Learning Environment

<https://www.youtube.com/watch?v=1lzNAO5kUvs>

Medical Student Education Subcommittee Reviewer: Jai Gandhi, MD

Importance for medical students:

- Of the DEI talks, this is the only talk I would recommend for medical students

- The talk overviews DEI-related definitions, while simultaneously conducting an action-oriented overview and approach to microaggressions and discrimination that can and do impact medical students.

Key points:

- Stereotype threats can impair medical student performance on clinical rotations, can decrease communication, decrease sense of belonging and detracts from the learning experience
- Incidental biases, coincidental biases, and patterns of biases may be helpful to distinguish
- In letters of recommendation, medical students that were women and/or underrepresented in medicine have more adjectives describing personal attributes than describing competency
- There are multiple steps you can take as a medical student when responding to microaggressions, and multiple strategies that can be utilized if responding

8. The Ten Most Important Papers in C-L Psychiatry for the 2020-2021 Academic Year

https://www.youtube.com/watch?v=IkRd_TQCJFM

Medical Student Education Subcommittee Reviewer: Ewa Bieber, MD

Importance to medical students:

- Introduction of the Guidelines and Evidence Based Medicine (GEBM) Committee.
- Experts in the field of CL psychiatry review 10 papers published in the last year, highlighting findings, exploring strengths and weaknesses, and contextualizing the relevance of the findings.
- Great introduction to the critical appraisal of medical articles.

Key learning point:

- GEBM publishes annotated abstracts quarterly. These are available to all on the ACLP website under “Public Services” tab of the education section.

9. Think You Know How to Spot Catatonia? Let’s Talk About That

<https://www.youtube.com/watch?v=Jgj2saL1wOM>

Medical Student Education Subcommittee Reviewer: Ewa Bieber, MD

Importance for medical students:

- Review of the diagnostic criteria of catatonia, particularly focusing on the Bush-Francis Catatonia Rating Scale (BFCRS).

- In-depth review of catatonia features most frequently confused/missed on exam.
- Approach of evaluation of catatonia in delirium and coma.

Key learning points:

- Only 1 in 9 patients is accurately diagnosed with catatonia—obstacles to diagnosis include the wide range of presentations, features which may present in a variety of ways, and discrepancy between screening scales.
- The Bush-Francis Catatonia Rating Scale (BFCRS) is the standard for clinical use and research.
- The first 14 items listed in the BFCRS are the most “classic” signs and are used for screening (presence of 2 or more signs is indicative of catatonia); the severity of catatonia is quantified by the rating sum of all 23 items.
- RASS (Richmond Agitation Sedation Scale) ranges from -5 to 4; score of -5 and -4 is consistent with coma.

10. High-yield Pearls from the APA Council on C-L Psychiatry Workgroup on Treatment of Opioid Use Disorder in the General Hospital: A Guide for C-L Psychiatrists

https://www.youtube.com/watch?v=PEhtkN_Ocb8

Medical Student Education Subcommittee Reviewer: Pochu Ho, MD

Importance for medical students/Key learning points:

- Intravenous opioid drug use (OUD) is associated with high rates of infections requiring extended hospitalizations. Initiation of medications for OUD (MOUD) during medical admissions related to OUD is associated with reduction of AMA discharges, reduction of readmission, greater likelihood of completing intravenous antibiotics treatment, and improves linkage to outpatient substance use programs.
- Barriers to initiating MOUD in the general hospital include under-recognition of the role of C-L psychiatrists in addiction treatment by other specialists, lack of outpatient resources (to continue methadone or buprenorphine), stigma for patients with OUD, and knowledge gaps across specialties regarding MOUD.
- Microinduction of buprenorphine avoids putting the patient through opioid withdrawal.
- OUD in pregnant patients
 - Medically-supervised opioid detox is not recommended during pregnancy as it is associated with higher rates to return to use increasing the risk of infection
 - Methadone and buprenorphine are associated with known birth defects
 - Methadone and buprenorphine alone are unlikely adequate for treating pain during labor. Epidural, non-narcotic medications, and short-acting narcotics should be provided to patients during labor. Methadone and buprenorphine should not be increased for treating peripartum pain.
- Resources
 - Safety Manual for Injection Drug Users (harmreduction.org)

- Clinical Guidance for Treating Pregnant and Parenting Women with Opioid Use Disorder and Their Infants (SAMHSA and ACOG)

11. Getting Real About C-L Psychiatrists Treating Addiction

https://www.youtube.com/watch?v=1VUnUG_RcrQ

Medical Student Education Subcommittee Reviewer: Pochu Ho, MD

Importance for medical students/Key learning points:

- Cannabis use
 - Increased use of marijuana in states with legalized marijuana across all age groups, but especially in 18-25 age group.
 - Questions to ask patients regarding cannabis use:
 - More than how much and how often?
 - Which strains? Type of formulation? Withdrawal symptoms?
 - Exogenous cannabinoids binds to CB1 and CB2 receptors longer leading to non-physiologic activation of these receptors
 - Extrapolating data on Epidiolex (FDA approved CBD for Lennox-Gastaut syndrome or Dravet syndrome), CBD may impact on liver function. Depakote and Epidiolex concomitant use have been associated with increased risk of LFT elevations.
 - Cannabinoid hyperemesis syndrome is associated heavy daily use, frequent hot bathing and cyclic vomiting. Characterized by 3 phases: prodromal → hyperemesis (<48hours) → recovery
- Substance use in pregnancy
 - Effects of substance use: delay or no prenatal care, multiple substances, associated with other psychiatric comorbidities, increased maternity mortality.
 - Abstinence during pregnancy is common: cigarettes (32%), alcohol (96%), cannabis (78%), cocaine (73%)
 - Abstinence is not sustained after delivery. Abstinence rates 2 years after delivery: cigarettes (11%), alcohol (18%), cannabis (30%), cocaine (59%)
 - Opioid withdrawal during pregnancy causes acute maternal w/d: increased uterine contractions and decreased placental blood flow and oxygen supply and acute fetal w/d: increased fetal activity and increased oxygen demand.
 - Neonatal withdrawal syndrome comparing patients on buprenorphine vs methadone (the MOTHER study, 2010 NJEM). Neonates born to mothers on buprenorphine had shorter neonatal hospital stay, lower mean neonatal methadone dose, shorter length of treatment of neonatal withdrawal syndrome.
 - Methadone and buprenorphine dose may need to be increased in the second trimester or be given in twice a day dosing due to increased induction of CYP P450 enzymes by estrogen and progesterone.
 - There is insufficient data on naltrexone's efficacy and safety in pregnancy for OUD.
 - Alcohol use disorder-most effective treatment is motivational interviewing. Not enough data in efficacy or safety. Withdrawal should be treated with lorazepam

- or diazepam with a slow taper to avoid hypertension, which decrease fetal blood flow.
- Smoking cessation-No established data on safety or efficacy in nicotine replacement.

12. Advancing Knowledge, Developing Careers, and Strengthening Community Around Social Justice in CL

<https://www.youtube.com/watch?v=6vBpflptdI8>

Medical Student Education Subcommittee Reviewer: Samantha Zwiebel, MD, MA

Importance to medical students:

This presentation reviews key concepts in social justice in a case-based manner, with speakers leading viewers through tough cases using social justice as a framework for conceptualizing cases.

Key Points

- Social determinants of health and non-clinical circumstances contribute to greatly to an individual's medical presentation and are key to truly understanding a patient
- Structural vulnerability describes how many systemic forces can leave particular patients more disadvantaged and vulnerable to worse outcomes
- Psychiatric patients are very vulnerable to various forms of trauma and a trauma assessment is an important aspect of assessment and formulation

13. Beyond Broca's and the MOCA: Teaching Neuropsychiatry Across the CL Spectrum of Clinical Care

<https://www.youtube.com/watch?v=chrbdftLRw>

Medical Student Education Subcommittee Reviewer: Samantha Zwiebel, MD, MA

Importance to medical students:

This selection of talks reviews how psychiatry, medicine, science, and neurology intersect and have been historically conceptualized; key elements of a bedside exam to test cognitive domains; the "triple network theory" of the central executive, default mode, and salience networks that take neuroanatomy to the next level; and more!

Key Points

- Think of patients in the following order:
 - Neuroanatomy (textbook type material)
 - Cognition, emotional processing (clinical correlate)
 - Abnormality and patient exam (what do you see in your patient on exam)

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- Organic psychopathology and neurobiology (what is the diagnosis and what does it mean in the brain)
- Asking the patient to recite months of the year backward is probably the best test of attention and not specific to education level
- Neuroanatomy was previously conceptualized as brain regions, but we now recognize that brain networks are of equal if not greater importance to understanding the brain