CACAP Review Course

Psychiatry and Medicine

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Disclosures of Potential Conflicts

<table>
<thead>
<tr>
<th>Research Funding</th>
<th>No disclosures</th>
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<tr>
<td>Advisor/ Consultant</td>
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All psychiatric medication suggestions in this presentation should be considered off-label.
Outline

- Impact of medical illness
- Assessment principles
- Interplay of medical and psychiatric illness
- Management principles
- Delirium
- Somatoform disorders

Impact of Medical Illness
Statistics

- > 20% kids with chronic illness have emotional & behavioural disorders
  - Higher likelihood with physical disability
- 2x rates of psychiatric problems compared to healthy (OCHS Offord '87)
- Hospitalized kids have higher rates of depression compared to the general population
- 50% more school absences/year compared to healthy
  - Problems with re-entry related to poor communication between school/parents/medical team (Tadmor et al, '04)
  - Shugart '91, Knapp & Harris, '98

Biopsychosocial Impact

Body-sexual image & integrity
- disability, deformity, disfigurement
Existential issues
- Fears / possibility of death
Dependence - independence issues
- Affects autonomy
- Parent overprotective / child dependent
Altered interpersonal relationships
- Family stress
- Sibling rivalry
- Separation from peers
Achievement disruptions
- Decreased sense of mastery
- Academics affected
**Impact on Development**

**Preschooler**

- Task: Separate & explore environment
  - Initiative vs guilt
    - Parental overprotection, separation from caregiver
    - Initiative may be discouraged
    - Regression – tantrums, feeding, elimination

- Pre-operational
  - Immanent justice & Magical thinking
    - Events related to own wishes / behaviour
    - Illness / treatment viewed as punishment

Pao et al, 2006

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**School Aged child**

- Task: Gain mastery via learning/physical challenges

- Industry vs inferiority
  - Fewer social interactions due to illness
    - Possible alienation from peers
    - Parents may limit social activities
  - School absenteeism
  - Impact on sense of mastery & self-esteem, mood

- Concrete-Operational
  - Illness due to bad behaviour / contact with germs
  - Child may understand disease & treatment; worry about death

Pao et al, 2006
Adolescent

- Tasks: Autonomy, identity, growth, appearance, relationships

- Identity vs role confusion
  - Concern for appearance & medication side effects
  - Risk taking behaviour
  - Non-adherence
  - Fears of disfigurement and death
  - Alienation

- Formal Operations
  - Greater understanding of illness, mind-body connection

Pao et al, 2006

Issues facing patients with life threatening illnesses

- 10 “D’ s”
  - Denial
  - Discomfort, Distress,
  - Dysfunction, Disruption
  - Disfigurement, Disability
  - Dependence, Distance
  - Death

- Multiple losses
  - health/body image, notion of immortality
  - predictability, control, normality
  - meaning, innocence, identity/role, potential
  - independence, relationships, security, finances
Losses may be reflected in:

<table>
<thead>
<tr>
<th>Feelings</th>
<th>sadness, anger, rage, fear, uncertainty, guilt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thoughts</td>
<td>powerlessness, hopelessness, loneliness</td>
</tr>
<tr>
<td>Behaviour</td>
<td>risk-taking, non-adherence, regression, withdrawal</td>
</tr>
<tr>
<td>Physical complaints</td>
<td>pain, immobility etc</td>
</tr>
</tbody>
</table>
Narrative Approach:
Review illness & treatment course

- Life before the diagnosis
- How the diagnosis came about: (perceived/actual) delay?
- Explanatory model of illness - cultural factors, existential
- Adherence
- Impact of illness / treatment
- Anticipated sources of stress
- Coping skills, supports, strengths
- Family’s experience with illness (in family, friends)
- History of stressors & coping

Interplay of
Physical & Psychiatric Illness
Common Psychiatric Diagnoses in Medically Ill Children / Teens

- Adjustment disorder
- Anxiety disorder Not Otherwise Specified
- Specific Phobias – Needle Phobia
- Mood disorder Not Otherwise Specified
- Psychotic disorder Not Otherwise Specified
- Delirium
- Cognitive Disorder Not Otherwise Specified
- Somatoform Disorder
  - Conversion disorder
  - Pain disorder
  - Somatoform disorder Not Otherwise Specified
- Psychological Issues Related to Medical Condition
Consider Potential for Medical Illness in “Psych” Patients

- ER patients with new psychiatric symptoms
  - 2/3 due to medical reasons (Henneman et al, 1994)

- ER patients with psychiatric complaints who were deemed “medically cleared”
  - 80% had a medical condition that should have been identified by history, physical exam (Tintinalli et al, 1994)

- New psychiatric in-patients
  - Up to ½ have an unrecognized medical illness contributing to psych symptoms (Hall et al, 1990)

- Psychiatric out-patients
  - 10-20% have a medical etiology for their symptoms

Generating a Medical Differential Diagnosis (DDx)

“VINDICATE”

V  Vascular
I  Infectious
N  Neoplastic
D  Degenerative
I  Inflammatory
C  Congenital / CNS
A  Autoimmune
T  Toxin / Meds / Trauma
E  Endocrine / metabolic

BY ORGAN SYSTEM

- Neurological (CNS)
- Endocrine / Metabolic
- Cardiovascular
- Respiratory
- Gastroenterology
- Genitourinary
- Musculoskeletal
- Dermatological
Causes of Secondary Depression

<table>
<thead>
<tr>
<th>V – Vascular</th>
<th>anemia</th>
</tr>
</thead>
<tbody>
<tr>
<td>I – Infections</td>
<td>encephalitis, influenza, mononucleosis, pneumonia, subacute bacterial endocarditis, hepatitis, AIDS, tuberculosis, syphilis</td>
</tr>
<tr>
<td>N – Neoplastic</td>
<td>tumours of the CNS, lung, pancreas; paraneoplastic</td>
</tr>
<tr>
<td>D – Nutritional</td>
<td>failure to thrive; vitamin D, B12, folate deficiency</td>
</tr>
<tr>
<td>C – CNS</td>
<td>epilepsy, post-concussion syndrome, stroke, sleep apnea, subarachnoid hemorrhage, chronic pain</td>
</tr>
<tr>
<td>T – Medications</td>
<td>amphoterin B, beta blockers, clonidine, corticosteroids, vincristine, cyclosporine, interferon, L-asparaginase, methadone, contraceptives, oxycodone, procarbazine, procainamide, tacrolimus, vinblastine, vincristine</td>
</tr>
<tr>
<td>E – Endocrine / Metabolic etc</td>
<td>diabetes, Cushing’s, Addison’s, hyper/hypothyroidism, hyper/hypoparathyroidism, hyper/hypokalemia, hyponatremia, hypophosphatemia, uremia, hemodialysis</td>
</tr>
</tbody>
</table>

Shaw and DeMaso. Textbook of Pediatric Psychosomatic Medicine. 2010

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<table>
<thead>
<tr>
<th>DDx depression</th>
<th>Primary</th>
<th>Organic</th>
<th>Adjustment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stressors</td>
<td>+/-</td>
<td>+/-</td>
<td>++</td>
</tr>
<tr>
<td>Mood reactive</td>
<td>+/-</td>
<td>+/-</td>
<td>++</td>
</tr>
<tr>
<td>*Flat affect</td>
<td>+</td>
<td>++</td>
<td>-</td>
</tr>
<tr>
<td>*Significant weight</td>
<td>+</td>
<td>++</td>
<td>-</td>
</tr>
<tr>
<td>DSM-IV Major Depressive Episode</td>
<td>++</td>
<td>+</td>
<td>+/-</td>
</tr>
<tr>
<td>History of low mood</td>
<td>+</td>
<td>+/-</td>
<td>+/-</td>
</tr>
<tr>
<td>Family history of depression</td>
<td>++</td>
<td>-</td>
<td>+/-</td>
</tr>
<tr>
<td>*Neurological signs</td>
<td>-</td>
<td>++</td>
<td>-</td>
</tr>
</tbody>
</table>
## Causes of Secondary Mania

<table>
<thead>
<tr>
<th>Category</th>
<th>Causes</th>
</tr>
</thead>
<tbody>
<tr>
<td>V – Vascular</td>
<td>anemia</td>
</tr>
<tr>
<td>I – Infectious</td>
<td>encephalitis, influenza, mononucleosis, AIDS, syphilis</td>
</tr>
<tr>
<td>N – Neoplastic</td>
<td>gliomas, meningiomas, thalamic, carcinoid</td>
</tr>
<tr>
<td>D – Nutritional</td>
<td>niacin deficiency, vitamin B12 deficiency</td>
</tr>
<tr>
<td>C – CNS</td>
<td>epilepsy, multiple sclerosis, post-concussion, stroke, Wilson’s</td>
</tr>
<tr>
<td>T – Medications</td>
<td>antidepressants, bronchodilators, captopril, carbamazepine, cimetidine, corticosteroids, decongestants, lorazepam, methylphenidate, metoclopramide, procarbazine, thyroid medications</td>
</tr>
<tr>
<td>E – Endocrine / Metabolic etc</td>
<td>Cushing’s, hyper/hypothyroidism, hypocalcemia, uremia, hemodialysis</td>
</tr>
</tbody>
</table>

Shaw and DeMaso. Textbook of Pediatric Psychosomatic Medicine. 2010

## Causes of Secondary Anxiety

<table>
<thead>
<tr>
<th>Category</th>
<th>Causes</th>
</tr>
</thead>
<tbody>
<tr>
<td>V – Vascular</td>
<td>arrhythmia, congestive heart failure, hypovolemia, valvular disease, pulmonary edema, pulmonary embolism</td>
</tr>
<tr>
<td>N – Neoplastic</td>
<td>brain, pancreas, thyroid, parathyroid, adrenocorticotropic, pheochromocytoma</td>
</tr>
<tr>
<td>I – Inflammatory</td>
<td>systemic lupus erythematosus, anaphylaxis, asthma</td>
</tr>
<tr>
<td>C – CNS</td>
<td>migraine, seizure, encephalopathy, vertigo, stroke, post-concussive syndrome, uncontrolled pain</td>
</tr>
<tr>
<td>T – Toxin; Medications; Trauma</td>
<td>lead, caffeine anti-asthmatics, anticholinergics, antidepressants, antiemetics (metoclopramide), anti-histamines, antipsychotics, cold medications, sympathomimetics, steroids, metronidazole, thyroid medications, withdrawal (opiate, steroid, lorazepam) pneumothorax</td>
</tr>
<tr>
<td>E – Endocrine / Metabolic etc</td>
<td>hyper/hypothyroid, hypoglycemia, diabetes, hyperkalemia, hyper/hypocalcemia, hypomagnesemia, hypophosphatemia, carcinoid syndrome, hypoxia, porphyria, hyperthermia</td>
</tr>
</tbody>
</table>

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# Medical DDx of Somatoform

<table>
<thead>
<tr>
<th>Category</th>
<th>Causes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>V - Vascular</strong></td>
<td>arrhythmias, angina, superior mesenteric artery (SMA) syndrome</td>
</tr>
<tr>
<td><strong>I – Infectious</strong></td>
<td>AIDS, Lyme disease, chronic systemic infections, Creutzfeldt-Jakob disease</td>
</tr>
<tr>
<td><strong>D - Degenerative</strong></td>
<td>acquired myopathies</td>
</tr>
<tr>
<td><strong>I – Inflammatory</strong></td>
<td>systemic lupus erythematosus, polymyositis</td>
</tr>
<tr>
<td><strong>C – CNS</strong></td>
<td>multiple sclerosis, migraines, basal ganglia disease, seizure disorder, periodic paralysis, optic neuritis, Guillain-Barre syndrome, myasthenia gravis, narcolepsy</td>
</tr>
<tr>
<td><strong>E – Endocrine</strong></td>
<td>hyperparathyroidism, hyperthyroidism</td>
</tr>
</tbody>
</table>

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# Causes of Secondary Psychosis

<table>
<thead>
<tr>
<th>Category</th>
<th>Causes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I - Infectious</strong></td>
<td>brain abscess, CNS parasite, HIV, syphilis, viral, Lyme</td>
</tr>
<tr>
<td><strong>N – Neoplastic</strong></td>
<td>brain tumour (limbic, post fossa affecting dopamine: astrocytomas, ependymomas)</td>
</tr>
<tr>
<td><strong>D – Nutritional</strong></td>
<td>B12, magnesium, vitamin A, vitamin D</td>
</tr>
<tr>
<td><strong>I - Inflammatory</strong></td>
<td>systemic lupus erythematosus, paraneoplastic (NMDA receptor encephalitis)</td>
</tr>
<tr>
<td><strong>C – CNS</strong></td>
<td>epilepsy (temporal lobe epilepsy, tonic-clonic, absence, myoclonic, complex and simple partial), brain tumours, systemic lupus erythematosus, multiple sclerosis, cyst, trauma, hydrocephalus, arteriovenous malformation, hematoma, Huntington's disease, Wilson’s</td>
</tr>
<tr>
<td><strong>C - Congenital</strong></td>
<td>22q11 Deletion Syndrome, Turner’s, fragile X</td>
</tr>
<tr>
<td><strong>T – Toxin; Medications</strong></td>
<td>amphetamines, hallucinogens, inhalants, opioids, stimulants, SSRIs, bupropion, hypnotics, opiates, guanfacine, herbal (St. John’s wort, ginseng, ma-huang)</td>
</tr>
<tr>
<td><strong>E – Endocrine / Metabolic</strong></td>
<td>thyroid, parathyroid, hypocalcemia, hypoglycemia, hypophosphatemia, hypomagnesemia</td>
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Clinical Pearls: Diagnostic

- ‘Primary’ psychiatric condition
  - based on DSM criteria, not the exclusion of medical conditions
- Determine what doesn’t fit a primary psych condition
  - Acute onset psychiatric symptoms
  - Timeline between psychiatric & physical symptoms / medical diagnosis / treatment
  - Somatic symptoms may be downplayed / ignored in the presence of prominent psychiatric symptoms
  - Atypical features (ie which don’t fit primary psych Dx criteria)

- History suggestive of a medical explanation for psych symptoms:
  - Atypical / new psychiatric symptoms, physical symptoms, Medical condition, Substance use, physical trauma, no psych Hx
- Focused medical assessment: history, physical including vital signs, neurological
  - “Indicated” testing to r/o Medical Condition
    (Lukens et al, 2006)

Clinical Pearls: Management

- Need to:
  - Search for and treat acute medical conditions
  - Avoid unnecessary investigations
  - Distinguish primary vs secondary psychiatric Dx
    - If a patient doesn’t respond to treatment, review symptoms which may have been overlooked
SAQ

- *Describe 3 features on history that may suggest a medical explanation for psychiatric symptoms.*

- *Possible answers (3 of the following):*
  - Presence of physical symptoms
  - Acute onset of psychiatric symptoms
  - Presence of a medical illness
  - History of substance use
  - No past psychiatric history

Management Principles
Support

- Provide hope, reassurance, encouragement
- Use metaphors to reflect the family's experience
- Normalize routine, environment as much as possible
- Emphasis on improving functioning
  - Develop realistic step-wise goals to focus on
- Increase their sense of control
  - View them as part of the team with important roles: (conveying information, providing support, decision making, medication management)
  - Involve the child / teen in the discussion
  - Give choices, breaks
- Prepare them for procedures
- Provide anticipatory guidance
- Convey strategies to medical team
- Connect them with peers with similar condition
- School support

Educate

- Important for
  - Cooperation
  - Coping
  - Adherence
  - Decision-making
- Match to cognitive level
- As a dialogue
- Correct misconceptions
  - Address fears, guilt
- Discuss helpful resources, websites
CBT (Cognitive Behavioural Therapy): Monitor feelings, physical symptoms

- **Scale 1-10/10:**
  - symptoms
  - functional status
  - visual analogues / scales

CBT: Cognitive restructuring

Catastrophic thinking → crisis!

- **Guilt**
  - I am being punished by having this illness
  - I am a burden to my family
- **Blame**
  - I am to blame
  - The team is keeping information from me
- **Hopeless**
  - I won’t be successful
  - I won’t have friends / be liked
- **Helpless**
  - I can’t cope

→ Correct misconceptions, ascertain usefulness of thoughts
CBT: Behavioural strategies

- Relaxation strategies
  - deep breathing, progressive muscle relaxation, guided imagery, distraction
- Routine, structure, schedule
- Preparation, desensitization
- Modeling, role playing
- Reinforcers

IPT: Interpersonal approach

- Role Transition brought about by illness
  - Change is difficult as it is ‘unexpected, undesired’
  - Unable to meet expectations of new role, miss old role
- Pros/cons of OLD role → pros/cons of NEW role
- Process feelings & expectations of OLD / NEW roles
- Increase mastery / social skills in NEW role
  - Identify strengths, role play, transfer skill set, seek modified involvement
- Enhance supports in NEW role
  - Peers who have mastered the same transition
Therapeutic Strategies
(Narrative, Supportive, Existential)

- Externalize the Illness
  - Illness has taken so much; get life / control back
- Reflect on identity, self-esteem
  - Strengths, weaknesses
- Find meaning, purpose
  - “challenge / opportunity” to develop different skills

Psychopharmacology
with Medically Ill Patients

- Target symptoms +/- diagnosis
  - agitation, psychosis, anxiety, insomnia, pain, fatigue
- Provide education
- Consider potential drug interactions
  - Liver / renal / cardiac functioning
  - Discuss with pharmacist, team
- Suggest baseline investigations
  - CBC, electrolytes, liver function, renal function, ECG
- Start lower, go slow
- Monitor response / tolerance
Delirium

Examples

- 3 year old girl with 3 day history of worsening agitation, biting, scratching, seeing snakes, having seizure like episodes, and abnormal mouth movements. Premorbidly, she was playful, and enjoyed singing and dancing.

- 8 year old girl with a 2 day history of agitation, visual hallucinations and mood lability. Parents report that their daughter had a sudden change in behaviour; poor attention; complaint of headache and vomiting (x1). They report “this is not our child.”

- 15 year old previously well boy with a 4 day history of fever, vomiting, diarrhea, day/night reversal, confusion, irritability, disorientation. He appears easily distracted, complains of seeing spiders, pulls out his IV, does not recognize parents.
Delirium: DSM-IV TR criteria → applicable to pediatrics

- Disturbance of consciousness (reduced awareness of environment) with reduced ability to focus / sustain / shift attention
- Change in cognition (ie memory deficit, disorientation, language disturbance) or perceptual disturbance (not due to dementia)
- Develops over short period of time (hours – days) & fluctuates during course of day
- Evidence from history / physical / lab that it’s due to direct physiological consequences of medical condition(s)

Pediatric Delirium: Stats

- 15-18% of kids/teens on pediatric wards
- higher in specific conditions
- Associated with
  - longer hospital stays
  - higher mortality rates
Pediatric Delirium:
Risk Factors

- Host Factors:
  - age, baseline comorbidities (vision, hearing, cognition, medical), surgical procedure, pain

- Acute Illness:
  - sepsis, hypoxemia, disease severity, stroke

- Psychological:
  - Difficult temperament, separation anxiety, psychiatric history

- Social:
  - Caregiver (anxious; absence/presence, pain perceptions)

- Environmental / Iatrogenic:
  - ICU admission, metabolic, meds (anticholinergic, sedatives, analgesics), noise, cool temperature, light, high # procedures

  de Carvalho et al, 2008; Smith et al 2009

Fluctuating Mental Status

- Mood/Affect changes*
  - Labile, with rapid changes
  - Anxious, fearful, depressed, irritable, angry, euphoric, apathetic
  - Inconsolable

- Cognitive changes
  - Impaired alertness*, “confused”**
  - Reduced awareness of caregiver
  - Disorientation
  - Inattention*
  - Poor (recent) memory
  - Language disturbance (dysgraphia, dysarthria, dysnomia, aphasia)

- Perceptual
  - misinterpretations, misidentification, illusions, hallucinations (visual, tactile, olfactory, auditory etc)

- Psychomotor changes

  * > 80% pediatric delirium
  ** Turkel et al, 2003
Other features

- Disturbed Sleep/Wake*
  - daytime sleepiness, night time agitation, day/night reversal
- Non-specific neurological
  - Tremor, myoclonus, asterixis, change in reflexes/tone
- Purposeless movements
- Autonomic dysregulation
- Parents report: “this is not my child anymore”


Pediatric Delirium: Course

- Subclinical Picture / prodrome
  - Restlessness
  - Withdrawal
  - Anxious, irritable
  - Distractible
  - Sleep disturbance
  - Behavioural change
- Duration
  - < 1 week to > 2 months; average 10-12 days
  - Perceptual & motor problems x weeks
- Possible outcomes
  - Post traumatic stress disorder
  - Cognitive changes
  - Death in up to 20% in specific subgroups (transplant, autoimmune)
Etiology of Pediatric Delirium  
‘I WATCH DEATH’

- I Infection* – encephalitis, meningitis, sepsis
- W Withdrawal – sedative-hypnotics
- A Acute Metabolic – electrolyte disturbance
- T Trauma – head injury*, post-operative, severe burns
- C CNS pathology – infection*, seizures, vasculitis
- H Hypoxia
- D Deficiencies
- E Endocrine
- A Acute vascular - shock
- T Toxins/drugs – medications* (opioids, anticholinergics)
- H Heavy metals – mercury
* more commonly seen in pediatric delirium

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Rare but Worrisome:  
Herpes Encephalitis

- Abrupt fever, personality change, headaches, nuchal rigidity, cognitive changes, focal neurological signs, delirium
- May present with psychosis
- Need lumbar puncture
- Need Acyclovir as soon as possible (within 24 hours)
  - <40% have minimal to no sequelae with treatment
- Serious sequelae
  - Necrosis of fronto-temporal lobes
  - 40-70% death within 2 weeks without treatment
Investigations
informed by History, Physical exam

- History, Physical exam, MSE, MMSE, vital signs, O2 sat

- Lab
  - CBC, electrolytes, renal function tests, glucose, liver function tests, albumin, bilirubin, calcium, magnesium, phosphate
  - TSH
  - Arterial blood gases
  - Urinalysis
  - Drug screen
  - Chest xray
  - ECG, EEG, CT head

- Additional if indicated:
  - Blood/urine/cerebrospinal cultures
  - Medication levels
  - B12, folate, ANA, ESR, LE prep, osmolality, NH4, heavy metal screen, urinary porphyrins, HIV, VDRL
  - MRI, MRA

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Investigations by Condition

- Anemia – CBC

- Dehydration
  - urine specific gravity, serum osmolality, BUN, creatinine

- Electrolyte abnormalities
  - Serum chemistries (sodium, calcium, magnesium)

- Endocrine abnormalities
  - Serum glucose, TSH, +/- serum cortisol or ACTH

- Renal failure / insufficiency
  - BUN, creatinine, urinalysis, estimated GFR

- Liver failure / insufficiency
  - Liver function tests & transaminase levels, +/- serum ammonia

- Acid Base disorders
  - Basic metabolic panel; +/- Arterial Blood gases

- Infection
  - CBC, urinalysis, blood / urine / CSF cultures, CXR, CT
Investigations by Condition

- **Hypercarbia, Hypoxemia**
  - Pulse oximetry; +/- Arterial Blood gases

- **Toxicities** - medication levels, serum alcohol, urine/serum toxicology, heavy metal

- **Myocardial ischaemia** - ECG; +/- troponin & myoglobin

- **Stroke, Head Trauma** - CT head

- **Seizures** – EEG

- **Vasculitis** - ESR, CRP

- **Vitamin deficiencies** - Serum B₁₂ & folate

Management: Search/Treat, Monitor, Educate

- **Search for & treat underlying cause(s)**
  - Remove contributors
  - NB Preventive measures
  - Review meds – past & present
    - Opioids, benzodiazepines - including withdrawal

- **Monitor**
  - Vital signs, O₂ saturation, fluid balance (ins/outs)
    - Ensure good oxygenation; fluid intake
    - Symptoms (mood, behaviour, cognition, psychosis, sleep)

- **Educate** patient, family, team
Management: Environmental

- Well-lit room – preferably private, near nursing station
- Minimize excessive stimulation
- Sensory aids
- Try to restore normal sleep/wake cycle
  - Lights on during the day; sufficient nighttime illumination
- Familiar objects – photos, toys, people
- Re-orient – use clock, calender

Management: Supportive Measures

- Support, reassure patient, family (& team)
- Safety – risk of self-harm, aggression, falls, wandering
  - Constant observation by staff ( / family member)
  - Restraints – due to risk of injury, agitation
    - Chemical better than physical restraints
Management: Medications

- Consult with team, pharmacist
- Follow daily to titrate the dose

Avoid Benzodiazepines in Pediatric Delirium
- Unless alcohol / sedative-hypnotic withdrawal
- Risk of sedation, confusion, disinhibition, agitation
- Avoid if respiratory insufficiency

Antipsychotics:
- off label use; improvement within 2 days at right dose
- Use low doses
- Metabolized via Cytochrome P450 - 2D6
- Benefits:
  - low risk of sedation or hypotension, no active metabolites, low anticholinergic side effects
- Risks:
  - lower seizure threshold, liver dysfunction, EPS, prolong QTc

Atypical antipsychotics – problem: no IV
- Risperidone - Rapid dissolve / liquid
- Quetiapine
- Olanzapine - Zydis – if unable to swallow

High potency antipsychotics
- Haldol – low risk of hypotension / anticholinergic
  - start with low doses: 0.25mg od → bid (up to 10mg/d)
  - 0.05 – 0.15mg/kg/day
  - IV – bolus / continuous; need cardiac monitoring
    - ↓ EPS, low effect on vital signs; IV twice as potent as oral
    - risk: ↑ QTc, VT, Torsades de pointes
    - If QTc > 450ms or >25% over baseline → cardiology
Pediatric Delirium: antipsychotic works!

- N=40 cases in ICU, age range: 7.6 +/- 5.9
  - 55% had alteration of analogosedatives
  - 52% had neurological disorders
  - 50% had infections
  - 85% on mechanical ventilation
- 38/40 received antipsychotics
  - 27 (68%) Haldol
    - 0.15 – 0.25mg IV over 30-45min then 0.05 – 0.5mg/kg/24hr
    - 2 developed acute torticollis on Haldol
  - 10 (25%) Risperidone
    - 0.1-0.2mg then 0.2 – 2.0mg/24hr
  - 1 Haldol → Risperidone
- Benefits – seen rapidly – few hrs - days
- All recovered from delirium; 5 died of underlying disease
- Once recognized, responds to treatment
  (Schieveld et al 2007)

SAQ

A 15 y.o. previously well boy presents to hospital with a 4 day history of confusion, agitation and inability to sleep. In his hospital room, he appears easily distracted, complains of seeing spiders and tries to pull out his intravenous line. Parents are concerned about this sudden change. They worry that he doesn’t recognize them and doesn’t know where he is. The pediatrician asks for a psychiatry consult.

- What is the working diagnosis?
- List the 3 most common causes.
- List 5 recommendations for management.
**SAQ answers**

- What is the working diagnosis? Delirium

- List the 3 most common causes.
  - Head injury
  - Infection (especially CNS)
  - Medication (anticholinergics, opioids)

- List 5 recommendations for management.
  - Search for and treat underlying causes
  - Monitor: symptoms, vital signs
  - Provide education to patient, family, team
  - Support
  - Make environmental changes (well-lit room during day, minimize excessive stimulation, sensory aids, familiar objects, clock, calendar)
  - Medications – low dose antipsychotics

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**Somatoform disorders**
Psychosomatic Complaints

- 4.5% boys, 10.7% girls age 12-16
  (OCHS: Offord et al, 87)
- Medically unexplained symptoms in childhood are common
  - Common: headaches, recurrent abdominal pain, limb pain, chest pain, fatigue
  - Uncommon: pseudoneurological
- Related to life events / psychological stress
- Risk of unnecessary investigations, disability, cost, time
- Rule out anxiety, depression and abuse
- More complicated & common in the medically ill

Psychiatric DDx

Psychosomatic Complaints

- Somatoform Disorders (unconscious):
  - Somatization disorder (pain, gastrointestinal, sexual neurological symptoms)
  - *Conversion disorder (motor / sensory / seizures)
  - Pain disorder
  - Hypochondriasis
  - Body dysmorphic disorder

- Factitious Disorder (conscious, for psychological reasons)

- Malingering (conscious, for external incentives)
Development of psychosomatic complaints

emotional predisposition → issues / conflicts

Physiological arousal
Family factors
System factors

mood

behaviour

interpersonal

somatic complaint
"body language"

→ sick role

(Broom, 1997; Maisami and Freeman 1987)

1. Individual Factors

- Stressors / Losses
  - academics, bullying, conflict with parents, relationships, deaths, abuse
- Personality traits, poor coping, alexithymia
- Anxiety, Depression
- Medical illness, perceived delay in diagnosis, preoccupation with illness with a decrease in activities
- Somatosensory amplification
- Function of symptoms (family dynamics, expressing distress, seeking comfort, avoidance)

Wynick et al 1997; Middleton et al 2008; Shaw and DeMaso 2006.
2. Family Factors

- Family dynamics
  - Enmeshed, rigid, overprotective, poor conflict resolution
- Parental medical illness, somatization (modeling)
- Family stress
- Low SES, cultural factors

Shaw and DeMaso 2006

3. Medical System Factors

- Focus on Somatic Complaint
- Investigations to search for underlying physical cause

Focus on Physical Causes

- Pain
- Anxiety
- Complications
4. Community Factors

Somatic complaint  Sick role

School avoidance

<table>
<thead>
<tr>
<th>Clinical Features</th>
<th>Conversion Seizures</th>
<th>Epilepsy</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEG</td>
<td>Normal</td>
<td>Abnormal</td>
</tr>
<tr>
<td>Duration</td>
<td>Often prolonged</td>
<td>Short</td>
</tr>
<tr>
<td>Pattern</td>
<td>Variable</td>
<td>Stereotyped</td>
</tr>
<tr>
<td>Frequency</td>
<td>Generally higher frequency</td>
<td>Paroxysmal/cluster</td>
</tr>
<tr>
<td>Presence of others</td>
<td>Yes</td>
<td>variable</td>
</tr>
<tr>
<td>During sleep</td>
<td>Rare</td>
<td>Yes</td>
</tr>
<tr>
<td>Onset</td>
<td>Gradual</td>
<td>Sudden</td>
</tr>
<tr>
<td>Incontinence</td>
<td>Rare</td>
<td>Infrequent</td>
</tr>
<tr>
<td>Biting</td>
<td>Tongue</td>
<td>Cheek</td>
</tr>
<tr>
<td>Scream</td>
<td>During spell</td>
<td>At onset</td>
</tr>
<tr>
<td>Convulsion</td>
<td>Bizarre, thrashing, sexual</td>
<td>Tonic/clonic</td>
</tr>
<tr>
<td>Injury</td>
<td>Infrequent, mild</td>
<td>Infrequent, severe</td>
</tr>
<tr>
<td>Pupillary reaction</td>
<td>Normal</td>
<td>Slow, non-reactive</td>
</tr>
<tr>
<td>Memory of seizure</td>
<td>Variable but sometimes intact</td>
<td>Usually amnestic</td>
</tr>
<tr>
<td>Suggestion</td>
<td>Precipitate / terminate</td>
<td>No effect</td>
</tr>
<tr>
<td>Antiepileptic</td>
<td>Minimal effect</td>
<td>Decreased frequency</td>
</tr>
</tbody>
</table>
Presenting Somatoform Dx to Family

- Present objective evidence
- Explain common reasons for symptoms (medical DDx)
- Give the good news – ‘not due to’ medical DDx
- Explain somatic complaints may be an expression of distress
- Cite common examples of physical symptoms due to emotional causes
- Acknowledge patient suffering, family concerns
- Emphasize it’s not under voluntary control
- Explain relationship to stressors & mind-body connection
- Explain importance of appropriate treatment & refer for psychosocial support if symptoms remain (ie despite reassurance & support)

Shaw & DeMaso 2006; Beatty 1999; Bain et al 2000; Middleton et al 2008

How Primary Care can discuss Psychiatry Referral with Family

- Explain & Normalize the referral process
  - ‘The physical symptom is real and is affecting your life…we want to explore the different causes as well as ways to help’
  - ‘Can help explore mind-body connection’
  - ‘Many teens who have experienced similar physical symptoms/episodes may find that they need to speak with someone about it and they find it helpful’
  - ‘Can help with coping’
  - ‘We refer many teens routinely to…who is part of the team’
Goals of Psychiatric Interview

- Develop a therapeutic alliance
- Explore physical symptom:
  - development, meaning, impact, reinforcers
  - History of other such symptoms / illness in self / others
- Facilitate expression of distress
  - By reviewing & reflecting life history
  - Including history of stress & response
- Establish timeline between physical symptoms & stressors
- Start to connect physical symptom with affect, stressors
- Screen for psychiatric comorbidity
- Observe family dynamics
  - Parents' cues affecting child’s coping
    - ie parents discouraging negative affect

Psychiatric Management

- Psychoeducation: patient, family, medical team
  - Validate physical symptoms
  - Discuss biopsychosocial contributors to symptom
  - Normalize routine as much as possible
  - Place emphasis on improving functioning, coping
  - Deemphasize sick role, emphasize capacity
- Therapy: individual, family
  - Facilitate expression of loss / feelings / thoughts
  - Reflect the feelings and issues that may be contributing to the symptom
  - Develop coping strategies
- Treat comorbid psychiatric disorders
- Communicate with School
- Collaborate with primary care
Medical Management

- Regular follow-up
- Indicated investigations
- Physical therapy / rehabilitation approach: face-saving

SAQ

*A pediatrician describes a case in her practice of a 10 year old boy with a variety of physical complaints. The boy is experiencing academic failure and school refusal. Physical exam and investigations to date have been normal. Parents are concerned that he may have Lyme disease. The pediatrician thinks it’s psychiatric. She asks for your advice on what to say to the family. In hearing about the case, you wonder about the possibility of a Somatoform disorder. She would like to make a referral to you.*

- List 5 points that the pediatrician can outline to the family
- List 3 goals of the psychiatric interview
SAQ answers

List 5 points that the pediatrician can outline to the family (any 5 of the following 9)
- Present objective evidence
- Explain common reasons for symptoms (differential diagnosis)
- Give the good news – ‘not due to’ differential diagnosis
- Explain somatic complaints may be an expression of distress
- Cite common examples of physical symptoms due to emotional causes
- Acknowledge patient suffering, family concerns
- Emphasize it’s not under voluntary control
- Explain relationship to stressors & mind-body connection
- Explain importance of appropriate treatment & refer for psychosocial support if symptoms remain (ie despite reassurance & support)

List 3 goals of the psychiatric interview (any 3 of the following 7)
- Develop a therapeutic relationship
- Explore physical symptom
- Establish timeline between physical symptoms & stressors
- Facilitate expression of distress
- Start to connect physical symptom with affect, stressors
- Screen for psychiatric comorbidity
- Observe family dynamics
Summary: Psychiatry & Medicine

- **Medical Expert**
  - Identify comorbid psychiatric illness
  - Assess biopsychosocial contributors
  - Assess impact of illness, coping
    - Narrative approach may be useful
  - Assess relationships
  - Be familiar with relevant legislation
    - Consent to treatment, mental health, child welfare

- **Communicator**: Formulation / Impression; Management

- **Health Advocate**: Provide insight into child’s view of illness/treatment

- **Collaborator**: Care for Patient, Seek Consultation

- **Educator**: Psych illness/treatment, strategies, countertransference

- **Professional**: Care for the Caregiver

- **Manager**: Team meetings are very useful

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**Good Luck on the exam!**