Building Confidence in Your Clinical Reasoning

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Interact II: Early Warning Tool

- Seems different than usual
- Talks or communicates less
- Overall needs more help
- Pain – new or worsening; Participated less in activities
- Ate less
- No bowel movement in 3 days; or diarrhea
- Drank less
- Weight change
- Agitated or nervous more than usual
- Tired, weak, confused, or drowsy
- Change in skin color or condition
- Help with walking, transferring, toileting more than usual

https://interact2.net/tools_v4.html
Clinical Communication
• Situation – *the problem*

• Background – *brief, related, to the point*

• Assessment - *what you found, what you think*

• Recommendation – *what you want*
• The symptom/sign or change I’m calling your about...

• This started...

• This has gotten worse/better/stayed the same since it started...

• Things that make the condition worse...

• Other things that have occurred with the changes...
Background

• Primary diagnosis and/or reason is in care...

• Recent history (eg recent falls, fever, decreased intake, pain, SOB, other)

• Obs: BP, HR, RR, T, SPO2 (room air?)

• Change in function or mobility

• Medication changes in the last 2 weeks

• Mental status changes

• Pain level/location
• GI/GU changes:  
  – nausea/vomiting  
  – diarrhoea/constipation  
  – distention/urinary retention  

• Change in intake/hydration  

• Change in wound or skin status  

• Recent pertinent or abnormal labs  

• BSL  

• Advanced directives/goals of care  
  – comfort care only  
  – hospitalisations?  

• Have you talked to the family and what are their concerns and what do they want?  

• Allergies  

• Other pertinent data  
  – What have you already tried/done?
Assessment

• RN:
  – I think the problem may be *(e.g. cardiac, infection, respiratory, dehydration, etc.)*

• EN or HCA
  – The resident appears *(e.g. short of breath, in pain, more confused, etc.)*
Request

- What do you want from the prescriber?
- Monitor vital signs and further deterioration?
- Lab work?
- X-ray?
- Provider visit?
- Transfer to the hospital?
Mental Status Evaluation

- Decreased level of consciousness (sleepy, lethargic)
- Increased confusion (disorientation)
- Memory loss (new or worsening)
- New or worsening behavioral symptoms
- New or worsened delusions or hallucinations
- Other symptoms or signs of delirium (e.g. inability to pay attention, disorganized thinking)
- Unresponsiveness
The diagnosis of delirium requires presence of **BOTH A and B**

<table>
<thead>
<tr>
<th></th>
<th><strong>A</strong></th>
<th><strong>B</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acute onset / fluctuating Course</strong></td>
<td></td>
<td><strong>Inattention</strong></td>
</tr>
<tr>
<td></td>
<td>o Is there evidence of an acute change in mental status form patient baseline.</td>
<td>Does the patient:</td>
</tr>
<tr>
<td></td>
<td>o Does the behaviour</td>
<td>o Have difficulty focusing attention?</td>
</tr>
<tr>
<td></td>
<td><em>• Come and go?</em></td>
<td>o Become easily distracted?</td>
</tr>
<tr>
<td></td>
<td><em>• Fluctuate during the day ?</em></td>
<td>o Have difficulty keeping track of what is said?</td>
</tr>
<tr>
<td></td>
<td><em>• Increase / decrease in severity?</em></td>
<td></td>
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</tbody>
</table>
Confusion Assessment Method (CAM) (cont)

and the presence of EITHER C or D

<p>| | | |</p>
<table>
<thead>
<tr>
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</table>
| **C** | **Disorganised Speech** | Is the patient’s thinking:
  o Disorganised
  o Incoherent
  For example, does the patient have:
    - Rambling speech / irrelevant conversation?
    - Unpredictable switching of subjects?
    - Unclear or illogical flow of ideas? |
| ✔ |   |   |

| **D** | **Altered Level of Consciousness** | Overall is the patients level of consciousness:
  o Alert (normal)
  o Vigilant (hyper-alert)
  o Lethargic (drowsy but easily roused)
  o Stuperous (difficult to rouse)
  o Comatose (unrousable) |
| ☐ |   |   |
The rest of the CAM screen

- Disorientation: time, location
- Memory impairment?
- Perceptual disturbances?
  Hallucinations / illusions
- Altered sleep-wake cycle: sleep in day, insomnia at night
Basic Delirium Screen Labs

- Midstream urine / urinalysis
- Full blood count
- Electrolytes + calcium
- Renal function
- Glucose
- Liver function
- CRP
- Thyroid function
- Troponin I (?)
- Serum medication levels (eg digoxin, phenytoin)
## Pharmacologic treatment

<table>
<thead>
<tr>
<th>Class &amp; Drug</th>
<th>Dose</th>
<th>Adverse Effects</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antipsychotic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haloperidol</td>
<td>0.25-1mg BD po with prn doses q4hrly (peak 4-6hrs)</td>
<td>EP symptoms</td>
<td>Usual agent of choice. Effectiveness demonstrated in RCT Avoid IV</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prolonged QT</td>
<td></td>
</tr>
<tr>
<td>Atypical antipsychotic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risperidone</td>
<td>0.25mg BD 2.5-5mg daily 12.5-50mg daily</td>
<td>EP effects equivalent to or slightly less than Haloperidol Prolonged QT</td>
<td>Tested only in small studies Associated with increased mortality in older people with dementia</td>
</tr>
<tr>
<td>Olanzapine</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quetiapine</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benzodiazepine</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lorazepam</td>
<td>0.5-1mg, add doses q4hrly as needed Avoid monotherapy</td>
<td>Paradoxical excitation, resp depression, oversedation</td>
<td>2nd line agent Assoc with prolongation, worsening of symptoms Use for withdrawal, Parkinson's</td>
</tr>
<tr>
<td>Temazepam</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Neurologic History

Dizziness/vertigo: person or environment is spinning

Lightheadedness/faintness: Is it affected by change in position?

Loss of consciousness

Visual disturbances: One or both eyes; constant or intermittent; blurred vision? Double vision?

Wavy appearance of visual images (migraine)

Curtain being drawn over the Visual field (detached retina)?

Rainbows or halos (glaucoma)?

Yellowish hue (digitalis toxicity)?

Motor/sensory/speech losses

Altered mental status (AMS), weakness, sensory loss, incoordination, tremors

Difficulty with speech
Neurologic Assessment Basics

- Symmetrical Facial movements
  - Smile asymmetrical?
  - Eyes move together?
  - Swallowing difficulty?

- Power and strength equal bilaterally
  - Grip strength
  - Upper arm extension/flexion with resistance

- Able to stand – Romberg (cerebella function)
  - Stand on one foot?

- Sensation
  - Numbness? Face, hands or feet?

- Pupils equal and reactive to light
STROKE

F
Face: SMILE
Is one side droopy?

A
Arms: RAISE
Is one side weak?

S
Speech: SPEAK A SIMPLE SENTENCE
Slurred? Unable to?

T
TIME:
Lost time could be lost brain
<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>AGE over 60 years</td>
<td>1</td>
</tr>
<tr>
<td>B</td>
<td>BP &gt;140/90</td>
<td>1</td>
</tr>
<tr>
<td>C</td>
<td>clinical features</td>
<td></td>
</tr>
<tr>
<td></td>
<td>unilateral weakness</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>speech disturbance w/o weakness</td>
<td>1</td>
</tr>
<tr>
<td>D</td>
<td>duration</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;60 mins</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>10-59 mins</td>
<td>1</td>
</tr>
<tr>
<td>D</td>
<td>diabetes present</td>
<td>1</td>
</tr>
</tbody>
</table>

### ABCD2 Score and Risk of Subsequent Stroke

<table>
<thead>
<tr>
<th>Risk Group</th>
<th>2 day risk (%)</th>
<th>7 day risk (%)</th>
<th>90 day risk (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low (1-3)</td>
<td>1.0</td>
<td>1.2</td>
<td>3.1</td>
</tr>
<tr>
<td>Medium (4-5)</td>
<td>4.1</td>
<td>5.9</td>
<td>9.8</td>
</tr>
<tr>
<td>High (6-7)</td>
<td>8.1</td>
<td>11.7</td>
<td>18</td>
</tr>
</tbody>
</table>
Pain Assessment

• Is the pain?
  – New
  – Worsening of chronic pain
  – Location of pain
  – Intensity of Pain (*rate on scale of 1-10, with 10 being the worst*)
  – Does the resident show non-verbal signs of pain?
## PAINAD score

<table>
<thead>
<tr>
<th>Items*</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative vocalization</td>
<td>None</td>
<td>Occasional moan or groan. Low-level speech with a negative or disapproving quality.</td>
<td>Repeated troubled calling out. Loud moaning or groaning. Crying.</td>
<td></td>
</tr>
<tr>
<td>Consolability</td>
<td>No need to console</td>
<td>Distracted or reassured by voice or touch.</td>
<td>Unable to console, distract or reassure.</td>
<td></td>
</tr>
</tbody>
</table>

**Total**
Respiratory Assessment
Respiratory Changes

• Abnormal lung sounds
  – *(rales, rhonchi, wheezing)*
• Asthma *(with wheezing)*
• Cough *(Non-productive or Productive)*
• Inability to eat or sleep due to SOB
• Labored or rapid breathing
• Shortness of breath
• Symptoms of common cold
ARE 2 OR MORE OF THE FOLLOWING SYMPTOMS PRESENT?

- New or worsening cough.
- Increased or newly purulent sputum, unable to expectorate?
- New crackles or wheezes heard on chest exam.
- Decline in cognitive (see CAM pg xx), physical or functional status.
- New agitation.
- Fever or hypothermia – ↑↓ from baseline.
- Dyspnoea (difficulty in breathing, SOB).
- Tachypnea (respirations >30/min or 10/min over baseline).
- Chest pain (pleuritic – worse with breathing?).
- New or worsening hypoxaemia (pulse Ox<90%).
- Systolic BP<20 mm/hg from baseline.

If unarousable call ambulance and GP.

YES NO

Contact GP with new onset of symptoms

Initiate palliative measure for shortness of breath and / or anxiety
Cardiac Issues

- Chest pain/tightness
- Irregular pulse (new)
- Oedema
- Resting pulse >100 or <50
- Inability to stand without severe dizziness or lightheadedness
Causes of CHF

• The vast majority of cases of CHF are caused by:
  – MI (70%)
  – Hypertension
  – valvular disease
  – atrial fibrillation.

• Greatest risk factor is age

• Most common reason for hospital admission for elderly patients
CHF Treatment Algorithm

Clinical heart failure
Left ventricular systolic dysfunction

Non-pharmacological measures
Consider exacerbating factors, eg, anaemia, infection, NSAIDs, excess salt intake, arrhythmias (eg, AF)

Fluid overload?

Yes

Diuretic
ACE inhibitor

No

ACE inhibitor

Titrate ACE inhibitor dose

Clinically stable with minimal congestion?

No

Consider: spironolactone and/or digoxin

Yes

Consider: beta-blocker

NZGG CVD Handbook
http://www.nzgg.org.nz/search?tag_id=95
Classification – New York Heart Association

• Functional Status Rating
  • Class I - no limitations on physical activity
  • Class II - mild limitation and/or Sx with activity
  • Class III - Moderate/Marked limitation and/or Sx with activity
  • Class IV - Severe limitation and/or Sx with activity or at rest
Symptoms

• A common and early symptom of CHF is fatigue.
• Other symptoms include
  – difficulty breathing
  – swelling of the ankles and/or legs
  – discomfort or indigestion in the lower abdominal region due to pressure
  – awaking in the middle of the night breathless (PND)
  – orthopnea
  – sweating
  – wheezing
Reversible CHF exacerbating factors

• Anaemia

• Infection (bronchopneumonia, urinary tract infection, endocarditis)

• Arrhythmias
  – tachyarrhythmia - atrial fibrillation, atrial flutter or ventricular tachycardia
  – bradyarrhythmia such as sinus bradycardia or heart block

• Drugs
  – salt-retaining drugs (corticosteroids, nonsteroidal anti-inflammatory drugs (NSAIDS)
  – negatively inotropic drugs (diltiazem)
  – liquorice
Palliative care should be considered for patients with the strong possibility of death within 12 months and who have advanced symptoms e.g. NYHA Class IV, and poor quality of life, resistant to optimal pharmacological and non-pharmacological therapies. Strong markers of impending mortality include:

- Advanced age
- Recurrent hospitalisation for decompensated heart failure and/or a related diagnosis
- NYHA Class IV symptoms
- Poor renal function
- Cardiac cachexia
- Low sodium concentration
- Refractory hypotension necessitating withdrawal of medical therapy
Pedal Edema

- Grade 1+: 2 mm
- Grade 2+: 4 mm
- Grade 3+: 6 mm
- Grade 4+: 8 mm
Abdomen

- Abdominal pain
- Nausea and/or vomiting
- Abdominal tenderness
- Constipation
- Date of last BM
- Decreased/absent bowel sounds
- Distended abdomen
- Decreased appetite/fluid intake
- Diarrhoea
- GI Bleeding (*blood in stool or vomitus*)
- Hyperactive bowel sounds
- Jaundice
Cachexia versus Starvation

• Starvation: pure protein/energy deficiency (under-nutrition)
• Cachexia: cytokine-induced wasting of protein and energy stores, *caused by effects of disease*
  – Malignancy, COPD, ESRD, CHF
  – Remarkably resistant to hyper-caloric feeding

# Cachexia versus Starvation

<table>
<thead>
<tr>
<th></th>
<th>Starvation</th>
<th>Cachexia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appetite</td>
<td>Late suppression</td>
<td>Early suppression</td>
</tr>
<tr>
<td>BMI</td>
<td>Not predictive of mortality</td>
<td>Predictive of mortality</td>
</tr>
<tr>
<td>Albumin</td>
<td>Low in late phase</td>
<td>Low in early phase</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>May remain normal</td>
<td>Low</td>
</tr>
<tr>
<td>Total lymphocyte count</td>
<td>Low, responds to re-feeding</td>
<td>Low, no response to re-feeding</td>
</tr>
<tr>
<td>Cytokines</td>
<td>Little data</td>
<td>Elevated</td>
</tr>
<tr>
<td>Inflammation</td>
<td>Usually absent</td>
<td>Present</td>
</tr>
<tr>
<td>With re-feeding</td>
<td>Reversible</td>
<td>Resistant</td>
</tr>
</tbody>
</table>

Genito-urinary Issues

- Blood in urine
- Decreased urine output
- Lower abdominal pain or tenderness
- Need to urinate more urgently
- New or worsening incontinence
- Painful urination
- Urinating more frequently or urgency
Immediate Fall Assessment

- airway, breathing and circulation

- Do not move the person until a thorough examination has been performed

- rule out spine injury

- If stable:
  - Ask about pain
  - ask the patient/witness how they fell,
  - shortness of breath
  - Syncope before fall
  - palpitations or chest pain

- Monitoring level of consciousness

- measure vital signs, SPO2

- blood glucose (especially for diabetes)

- Monitor every 15 minutes as well as with any drastic change in status
  - loss of consciousness
  - new onset of confusion
  - agitation
Immediate Fall Assessment

- Slide your hands along entire body with a firm but gentle pressure using a systematic head-to-toe approach.
- Feel for deformities and watch the patient's face for expressions of pain.
- Inspect the patient's chest and abdomen for asymmetrical chest movement, rapid, shallow breathing, use of accessory muscles and/or tenderness of chest that may indicate a rib fracture or respiratory distress.
- If chest pain is only elicited with pressure applied to the sternum, then a rib fracture instead of a cardiac cause is likely.
- A firm, distended or tender abdomen may suggest internal bleeding, peritonitis or bowel obstruction.
- Check the head, ears, eyes, nose and throat for lacerations, bruising or bleeding.
Fracture Assessment

• Hip Fracture:
  – involved extremity to be shorter than the other extremity and externally rotated.
  – A dislocated hip is usually internally rotated and slightly flexed.

• Distal radius and ulna Colles' fracture
  – "dinner fork" deformity

• Fracture of the proximal humerus
  – may also have dislocation of the involved shoulder
  – frequently a large bruise may spread into the pectoral region

• Assess for a pelvis injury by applying pressure to both iliac crests while moving the hips forward and backward.
  – pain or crepitus (a feeling of grating with movement) may mean a pelvic fracture
FALLS RISK FACTORS

Multifactorial assessment

- Falls history
- Medication review
- Functional ability/ fear of falling
- Neurological examination
- Urinary continence
- Recent Illness
- Osteoporosis risk
- Cardiovascular examination
- Cognitive impairment
- Visual impairment
- Gait, balance and mobility

NICE guideline 21

Recent Illness
Falls Intervention

- Treat any acute illness that precipitated the fall
- Treat specific conditions affecting balance e.g. Parkinson’s disease, osteoarthritis, stroke
- GP/NP treatment of postural hypotension or arrhythmia
- Rationalise medication especially psychotropic agents
- Correct visual impairment where possible
- Physiotherapy: balance and strength training
- Environmental hazard check, safety awareness
Hip protectors

Cochrane review 2006

• Meta-analysis of 11 trials in care home settings:
  Reduction in incidence of hip fracture (RR 0.77 (95% C.I. 0.62-0.97) (but weak cluster randomisation methodology in 7 trials)

• Meta-analysis of 3 individually randomised trials in community settings: No reduction (RR 1.16 (95% C.I. 0.85-1.59)

• Poor acceptance (median 68%) and compliance rates (median 56%)

• Conclusion: hip protectors are ineffective for those living at home and their effectiveness in an institutional setting is uncertain.

Parker et al. BMJ 2006
Falls prevention in dementia:

• Multifactorial intervention in patients with cognitive impairment
  – RCT of those with MMSE of <24 found no benefit from multifactorial assessment and intervention after a fall which led to presentation to A&E
    (Shaw et al, BMJ 2003:326:73)

• Hospital and Care homes meta-analysis:
  – Meta-regression showed no significant association between effect size and prevalence of dementia or cognitive impairment
Drugs and falls

• Falls often lead to fractures
• Elderly have less efficient homeostatic mechanisms
• Increased postural hypotension with:
  – Antihypertensives and alpha blockers
  – TCAs
  – Benzodiazepines
  – Nitrates
  – Diuretics
In Conclusion:

Whenever I feel blue,
I start breathing again.

L. Frank Baum (Author of Wizard of Oz)