AMU Nurse Training 20.11.14

- 09:30-10:15 Delirium (Tom Heaps)
- 10:15-11:00 Diabetic Ketoacidosis (Alison Pullen)
- 11:00-11:15 BREAK
- 11:15-11:35 The role of SPA on the AMU (Tina Doherty)
- 11:35-12:20 Sepsis (Tom Heaps)
- 12:20-12:30 Evaluation and Close

Delirium and Frailty

Tom Heaps

Consultant Acute Physician

Clinical Case

- Ethel, 82-year-old female
- PMHx COPD, AF, CKD, HTN, mild dementia, OA, urinary incontinence
- DHx seretide, tiotropium, bfz, diltiazem, buprenorphine patch, oxybutynin, prednisolone
- Recent weight loss and fatigue, ET ≤20yds
- Admitted with ‘confusion’ and ‘off legs’
- Withdrawn, not eating and drinking, constipated, sleepy
- SpO_2 89% on RA, febrile 38.1C, left basal crackles
- Cachexic, AMTS 3/10, drowsy, BM 3.8
- CXR patchy consolidation L base, no mass lesion
- Na 124, urea 14.9, CRP 293

Diagnosis?

1. Hypoactive Delirium

2. CAP/AECOPD

What is Delirium?

1. DISTURBANCE OF CONSCIOUSNESS with reduced ability to focus, shift or sustain ATTENTION

2. CHANGE IN COGNITION not accounted for by pre-existing or evolving dementia

3. ACUTE (develops over hours to days) and FLUCTUATING

4. Caused by direct physiological consequences of general medical condition or drug/alcohol intoxication/withdrawal

How common is delirium in the acute setting?

- Prevalence in >65 on general medical wards? **25%**
- Prevalence after #NOF? **35%**
- Prevalence on ITU? **70%**

What are the physical signs of delirium?

1. **Hyperactive delirium:** increased motor activity, agitation, restlessness, wandering, hallucinations, paranoia, aggression
2. **Hypoactive delirium:** reduced activity, lethargy, sedation, drowsiness, withdrawn, reduced appetite, **most common** and **worst prognosis**
3. **Mixed delirium**

- Floccillation
  - Plucking at clothes/bedsheets, 'picking at straw'
- Carphologia
  - Plucking in the air, 'picking at tufts of wool'

Specificity 98%

How is delirium diagnosed?

Confusion Assessment Method (CAM)

1. **Acute onset** change in mental state that **fluctuates** over minutes to hours
2. **Inattention** (e.g. serial 7s, 20-1, WORLD backwards) with reduced ability to shift or maintain attention
3. **Disorganized thinking** e.g. rambling or incoherent speech
4. **Altered conscious level** e.g. hyperalertness/hypervigilance or stupor/coma

Positive test = 1 *and* 2 *plus either* 3 *or* 4

Sensitivity = 100%, specificity =95%

What are Ethel’s RISK FACTORS for delirium?

- **Age >65**
- Male gender
- **Pre-existing dementia/cognitive impairment**
- **Polypharmacy**
- Visual or hearing impairment
- Previous delirium
- Neurological disease e.g. stroke, Parkinson’s
- Alcoholism or benzodiazepine addiction
- **Hypertension**
- **Smoking**
- **Renal or hepatic impairment**
- Multiple comorbidities and **FRAILTY**

What do we mean by ‘frailty’?

‘A geriatric syndrome characterized by reduced functional reserve, increased vulnerability to external stressors and diminished homeostatic capacity (presby-homeostenosis) as a result of simultaneous decline in multiple physiological systems’

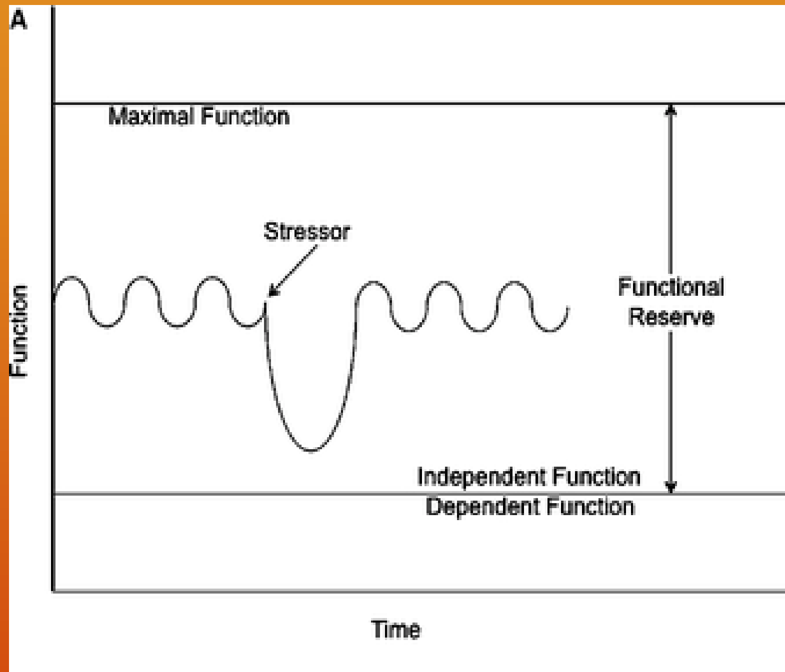
Frailty: an example

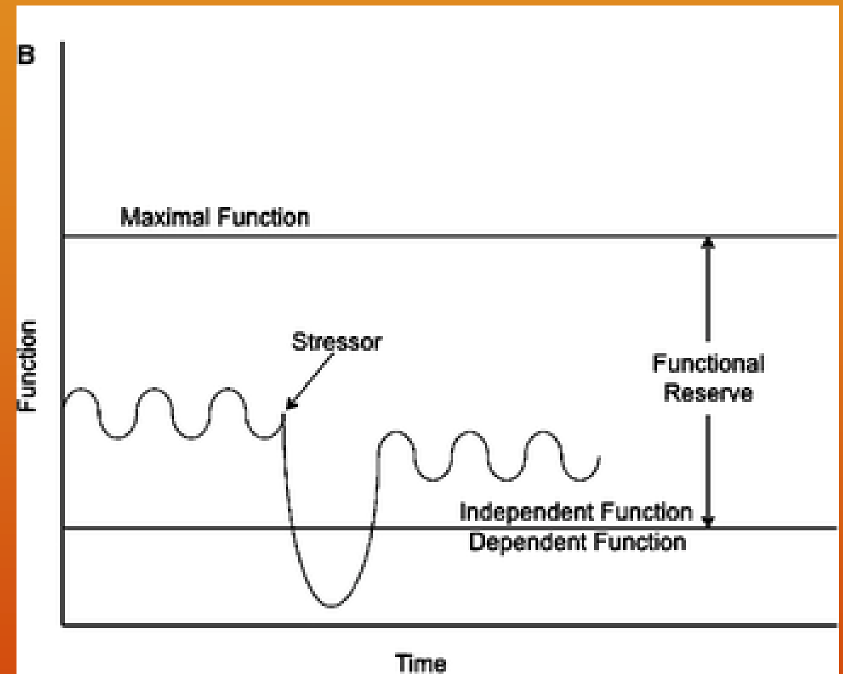
- 75-year-old male
- OA, CCF, HTN
- Elective admission for TKR
- Walked 2 miles every day prior to admission
- Discharged d3 for home PT
- Regained full independence

- 75-year-old male
- OA, CCF, HTN
- Elective admission for TKR
- Fatigue, weight loss, poor exercise tolerance prior to admission
- Post-op delirium on d1 due to opiates
- Fall on d2 and urinary incontinence
- Transferred to rehab unit on d5
- Discharged to RH after 1m
- Died from pneumonia 3m later

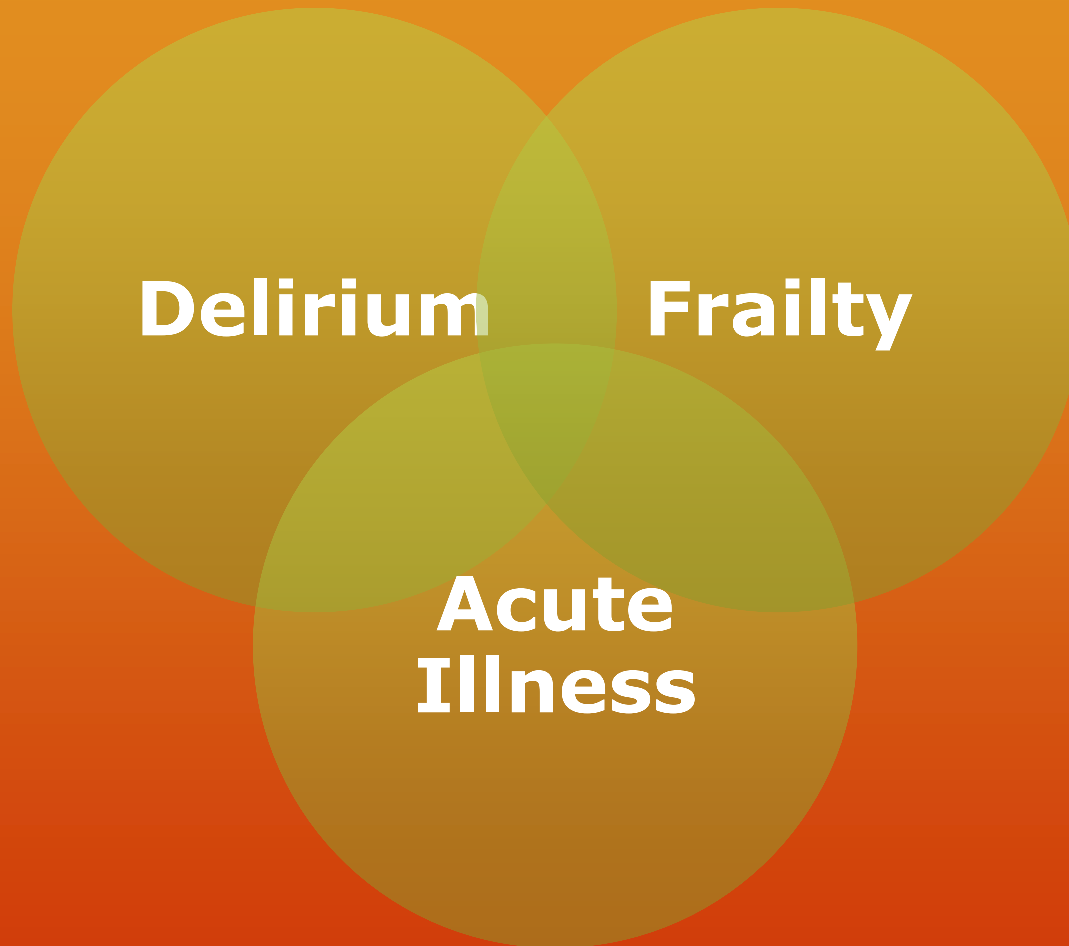
Response to and recovery from acute illness in a healthy older person

Response to and recovery from acute illness in a frail older person

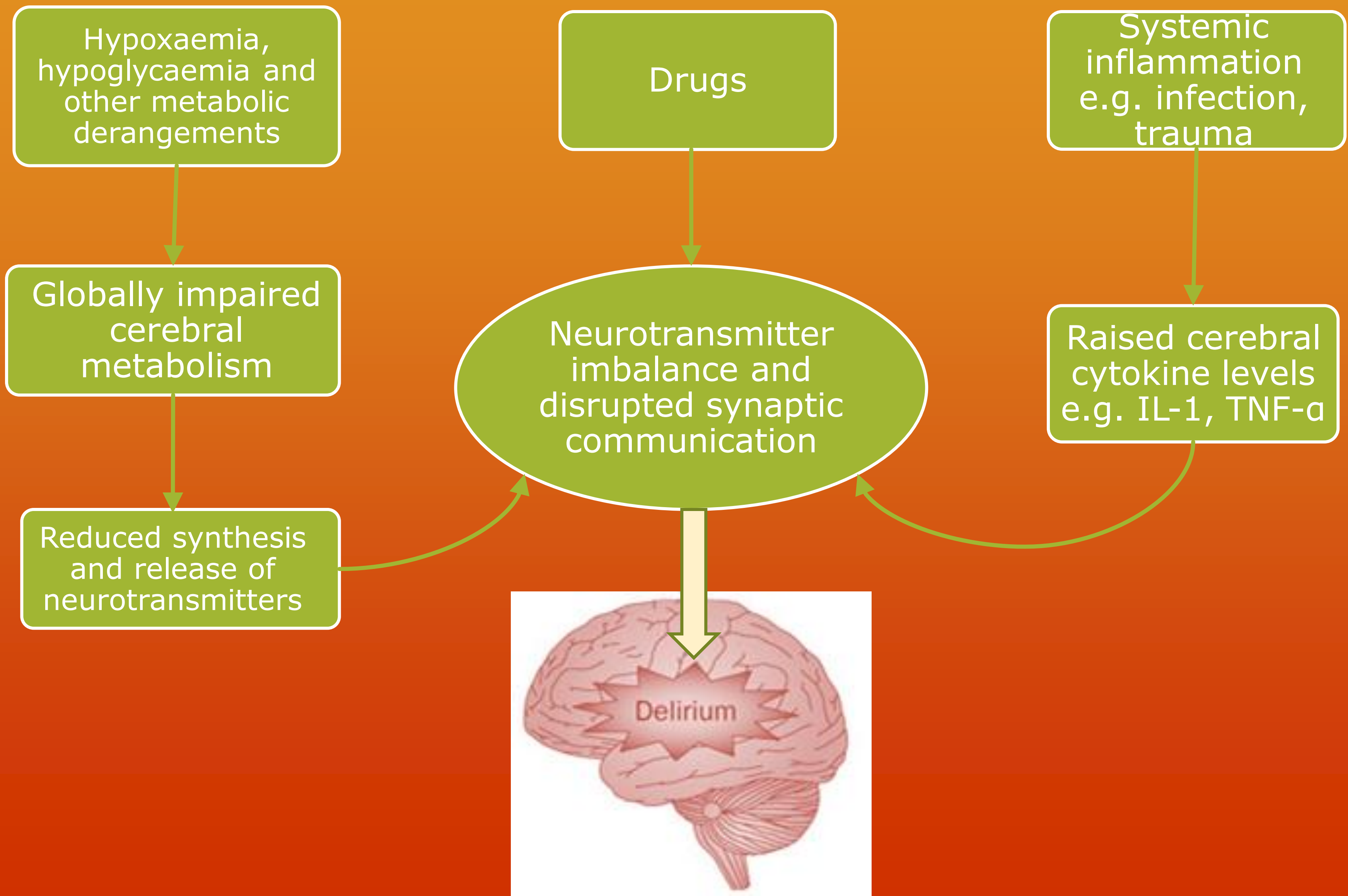




Delirium: a cognitive manifestation of frailty?



What is the pathophysiology behind delirium?

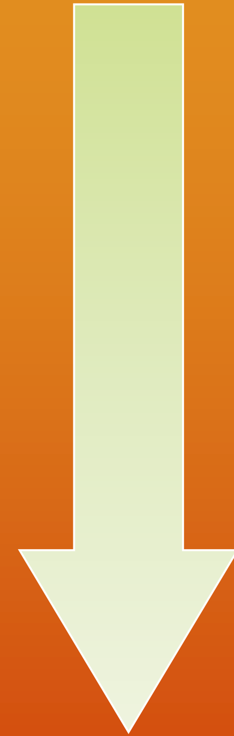


What are the CAUSES of Ethel's delirium?

- **Intercurrent illness** (especially infection)
- Trauma/surgery
- **Pain**
- **Hypoxia/hypercapnia**
- Hypoglycaemia
- Other metabolic disturbances e.g. **hyponatraemia**, hypercalcaemia, hypothyroidism
- Acute neurological disease e.g. stroke, SDH, encephalitis
- Drug/alcohol intoxication/withdrawal
- **Prescribed medications**
- **Nutritional deficiency**
- **Dehydration**
- **Constipation**
- Urinary catheterization
- Environmental
- Immobility, sensory deprivation and physical restraint
- Sleep disturbance

Which drugs are associated with delirium?

- Alcohol or substance intoxication/withdrawal
- **Opiates**
- **Anticholinergics**
- Sedative hypnotics
- Antiparkinsonian drugs
- Antidepressants
- Anticonvulsants
- **Corticosteroids**
- Antihistamines
- **CCBs,** β-blockers, digoxin
- NSAIDs

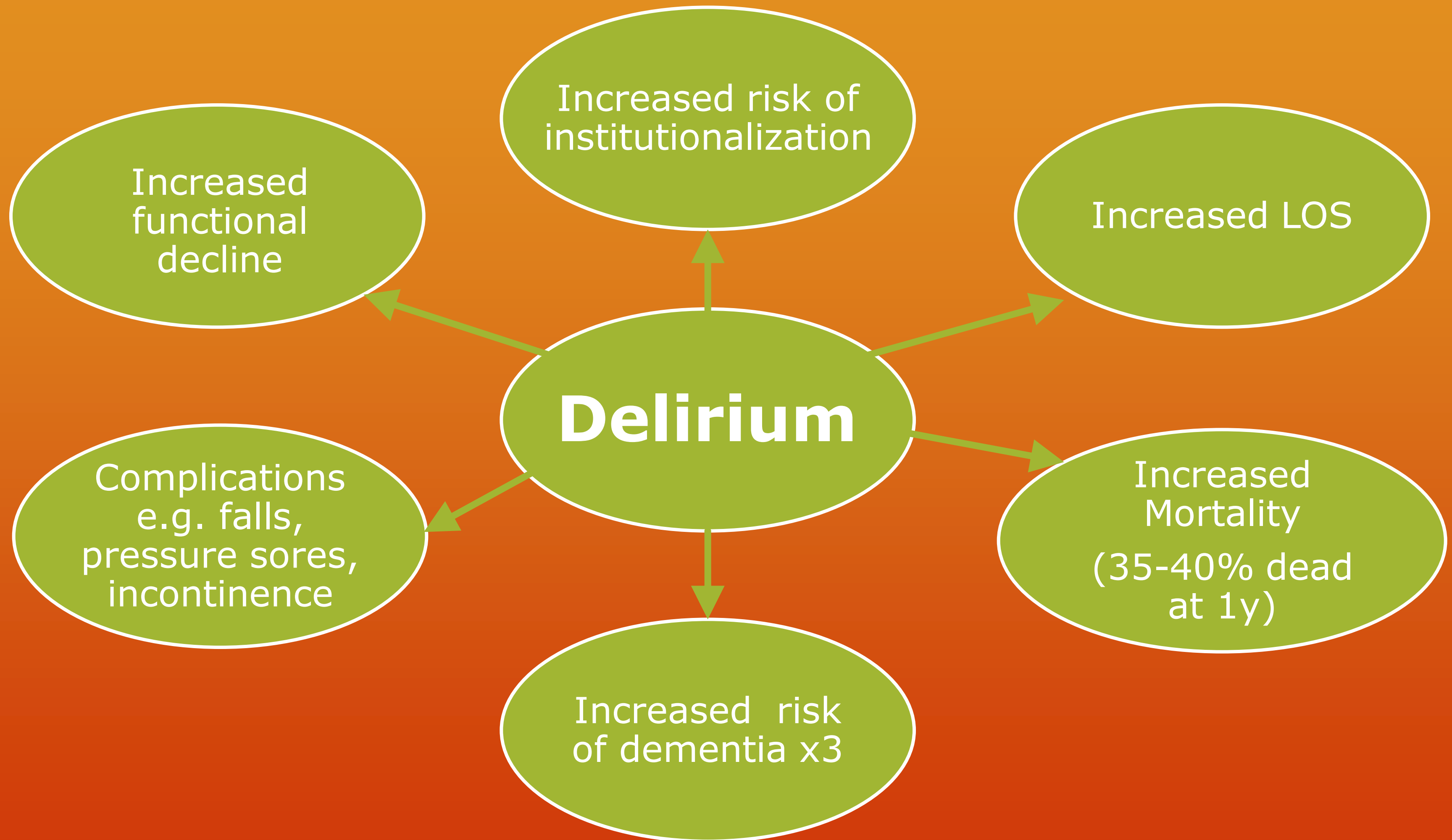


Decreasing Risk

How should Ethel's delirium be treated?

- **PREVENTION** is key once risk of delirium is identified
- **DIAGNOSE AND TREAT UNDERLYING CAUSE**
- **NURSING** e.g. quiet setting, reorientation/reassurance, avoid confrontation, family input, sleep hygiene, low-level lighting at night, optimize sensory impairment, minimize staff changes and patient transfers, monitor for pain and constipation
- **AVOID SEDATION** if possible
  - Low dose haloperidol 0.5-1.0mg 2h PO/IM/IV (max 5mg/d) or olanzapine 2.5-10mg OD
  - Lorazepam 0.5-1.0mg 4h PO/IM/IV (max 4mg/d)
    - Rapid tranquilization required
    - Seizures or drug/alcohol withdrawal/intoxication
    - Antipsychotics CI e.g. Parkinson's/DLB/NLMS/QTc prolongation
- **PREVENT COMPLICATIONS** e.g. falls, pressure sores, dehydration, malnutrition, functional decline, incontinence, constipation, over-sedation

What are the prognostic implications of her delirium?



Clinical Case Continued

- Ethel is treated for pneumonia and dehydration with a reasonable recovery
- Discharged to her own home after PT/OT with POC
- Readmitted 4 weeks later through ED
- ‘social admission’, family not coping
- Confused AMTS 4/10
- Daughter states ‘not right since discharge, dementia getting worse, poor mobility, not eating/drinking well’

What is the diagnosis?

Delirium is an acute, transient and reversible illness

Chronic (persistent or subsyndromal) delirium

- 45% still meet DSM-IV diagnostic criteria at time of discharge
- 33% at 1m post-discharge and 21% at 6m post-discharge
- Chronic illness/inflammation vs. irreversible neuronal injury?
- More common in those with pre-existing dementia
- Accelerated cognitive decline, worse outcomes than transient delirium
- May account for a lot of the poor prognosis

Key Points

- Delirium is common and can be prevented
- DIAGNOSE IT (CAM)
- DOCUMENT IT (in medical notes AND on TTO)
- TREAT IT (look for and treat underlying causes)
- Delirium carries a poor prognosis
- There is considerable overlap with FRAILTY
- Delirium can be a chronic disease