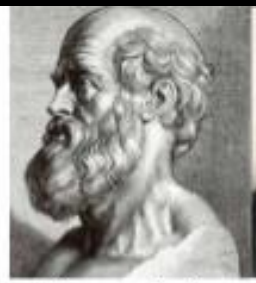
# Delirium

## Beyond Climbing the Walls

**Dr Suzanne Busch**

What is it ?
What does it look like ?
Who gets it ?
How to prevent it ?
How to manage it ?
Why is it important?

# DELIRIUM- A HISTORY



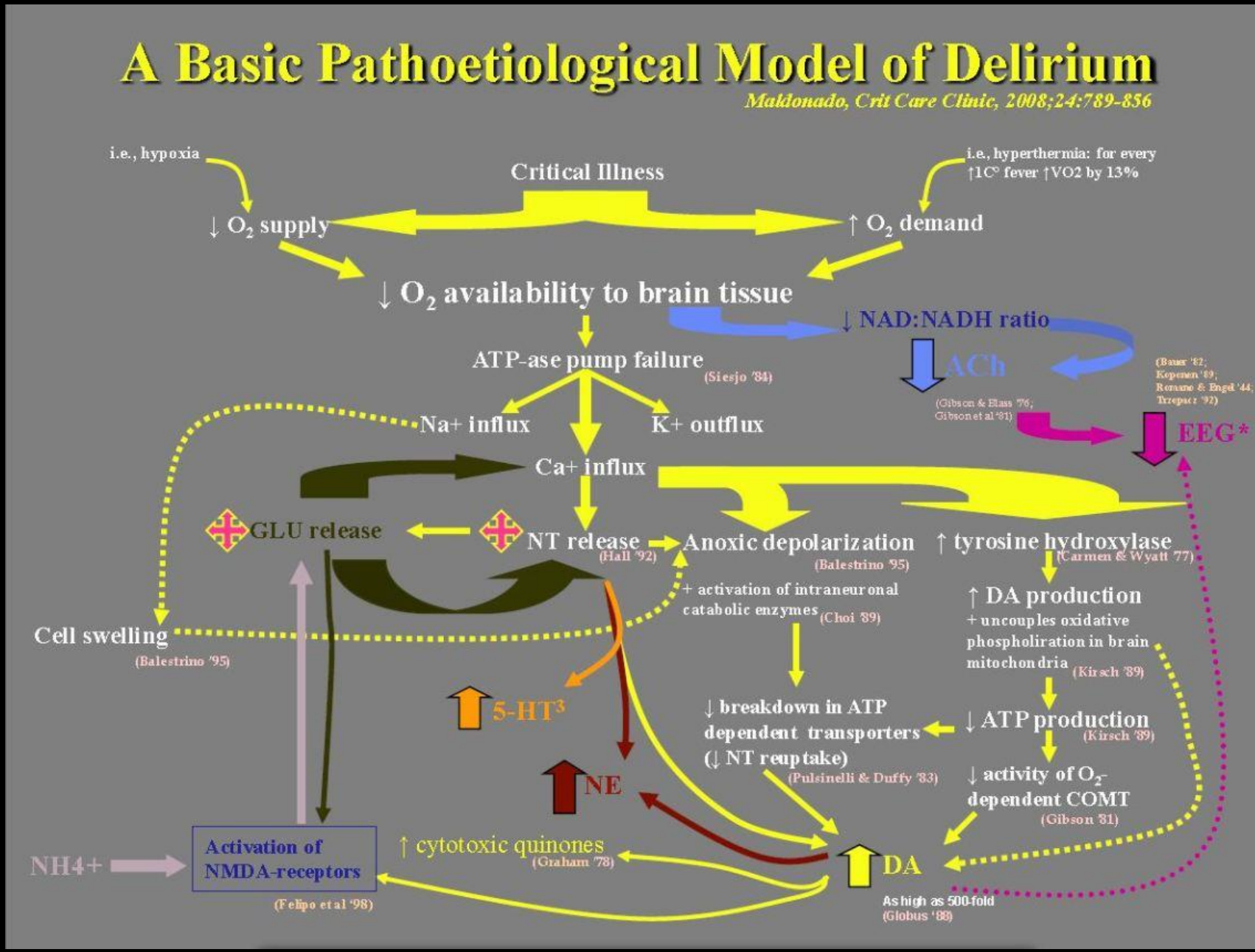
- Hippocrates referred to it as phrenitis, the origin of our word frenzy.
- Celsus introduced the term delirium, from the Latin meaning derailment of the mind
- Galen observed that delirium was often due to physical diseases that affected the mind "sympathetically."
- Gowers recognized that these patients could be either lethargic or hyperactive.
- Bonhoeffer established that delirium is associated with clouding of consciousness.
- Engel and Romano (1959) described alpha slowing with delta and theta intrusions on EEGs and correlated these changes with clinical severity. They noted that treating the medical cause resulted in reversal of both the clinical and EEG changes of delirium.



# What is it?

# A Basic Pathoetiological Model of Delirium

*Maldonado, Crit Care Clinic, 2008;24:789-856*



# What is it?

*"Disturbance of global cortical function"*

Failure of a vulnerable brain when insults occur

# What does it look like?

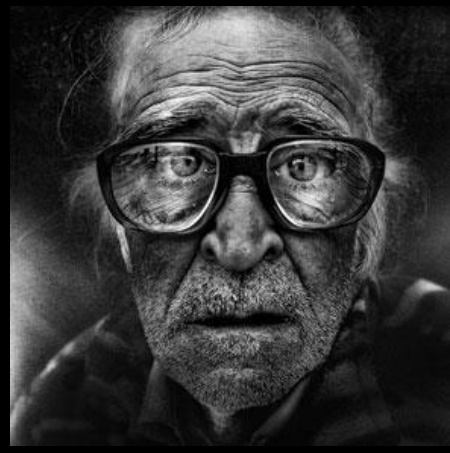
# What does it look like?

"They're just not quite right"

# What does it look like?

- Disturbance of attention
  - Reduced ability to
    - Direct attention
    - Focus attention
    - Sustain attention
    - Shift attention

# What does it look like?



Disturbance of awareness

- Vigilant(hyper alert)
- Lethargic(drowsy, easily roused)
- Stupor(difficult to rouse)
- Coma (unrousable)

# What does it look like?

- Confusion
  - Memory loss
  - Disorientation
  - Language loss
  - Visuospatial difficulties

# What does it look like?

Psychomotor behavioural disturbances

- Hyperactivity
- Hypo activity
- Poor sleep

# What does it look like?

Hallucinations

Floccillation

# What does it look like?

Emotional Disturbances

- Fear
- Depression
- Euphoria
- Paranoia

# What does it look like?

Develops over a short period of time

Hours – Days

Fluctuates during the course of the day

# Who gets it ?


# Who gets it ?

People with

- Pre existing dementia
  - 40% in hosp
- Age > 80
- Increasing severity of illness
- Functional disability
- Sensory deprivation


# Who gets it ?

People with

Multiple medications


# Who gets it ?

Acute medical ward – 30%

10% on arrival

20% during hospital stay

Post #NOF 60%

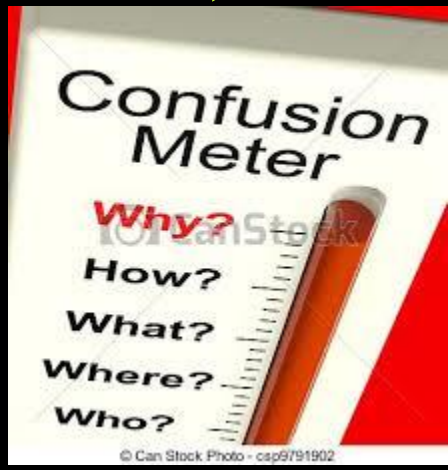
ICCU 70%

Hospice 40%

Post acute care setting

20%

# CAM (Confusion Assessment Method)
# 1&2 + 3a or 3b




1. Acute Onset and Fluctuating Course

   Evidence of an acute change in mental status from baseline

   Did the abnormal behaviour fluctuate during the day

2. Inattention

   Does the patient have difficulty focusing attention (eg easily distractible) or have difficulty keeping track of what is being said

3a. Disorganised Thinking

   Irrelevant or rambling conversation, unclear illogical flow of ideas, or unpredictable switching from subject to subject

3b. Altered Level of Consciousness

   Vigilant(hyper alert), Lethargic(drowsy, easily roused), Stupor(difficult to rouse) or Coma (unrousable)

# What causes it ?

# What causes it ?

Often more than one thing

# What causes it


- Infection
  - UTI
  - Respiratory
  - Skin
  - Intra abdominal

# What causes it


- Infection
- Metabolic Disorder
  - Hypoglycaemia
  - Hyperglycemias
  - Renal failure
  - Thyroid disease

# What causes it


Infection

Metabolic Disorders

Abnormal Electrolytes

- Hyponatremia
- Hypercalcemia
- Dehydration

# What causes it


Infection

Metabolic Disorders

Abnormal Electrolytes

Low Perfusion states/Organ System Dysfunction

- Heart Failure / MI / Stroke / Lung disease
- Shock

# What causes it


Infection

Metabolic Disorders

Abnormal Electrolytes

Low Perfusion states/Organ System Dysfunction

Drug or Alcohol Toxicity

Sedatives/Antidepressants/Analgesia

# What causes it


Infection

Metabolic Disorders

Abnormal Electrolytes

Low Perfusion states/Organ System Dysfunction

Drug or Alcohol Toxicity or Withdrawal

Sedatives/Antidepressants/Analgesia

# What causes it


Infection

Metabolic Disorders

Abnormal Electrolytes

Low Perfusion states/Organ System Dysfunction

Drug or Alcohol Toxicity or Withdrawal

Any other Illness/Trauma

- Post op / Fall

# What causes it

Constipation

Urinary retention

Dehydration

Pain

Unfamiliar environment

# Prevention in hospital

# Prevention in hospital

Identify those at risk

Quiet single room/avoid moving rooms/wards

Ensure glasses/hearing aids are worn

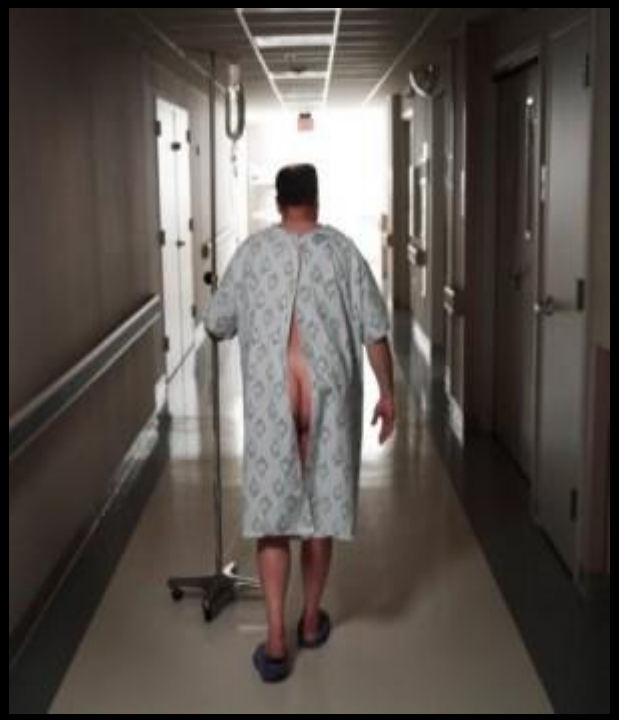
Orientation strategies

# Prevention in hospital

Maintain mobilisation and routine

Maximise sleep

- minimal disruptions for obs
- low level lighting



# Prevention in hospital

Ensure adequate hydration/nutrition

Avoid urinary catheters and IV lines

# Management

All the prevention stuff

# Management

Investigate and treat underlying causes

Often multi-factorial


Keep family and friends involved

# Management

Comfort not  Confront

Sedation

- Haloperidol
- Quetiapine
- Benzodiazepines

# Management in hospital

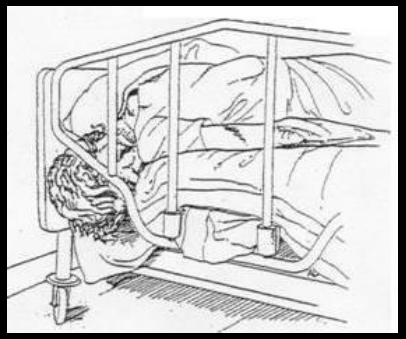
Low mattress

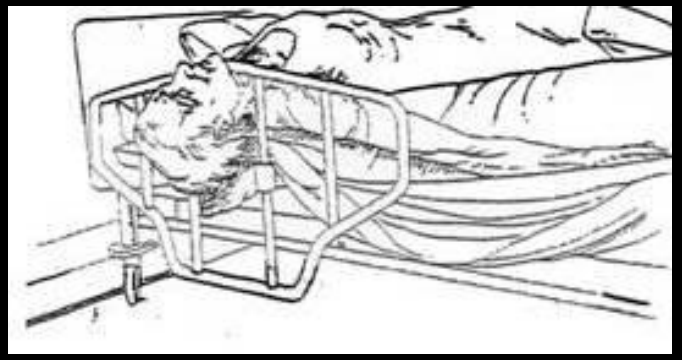
Sensor mat

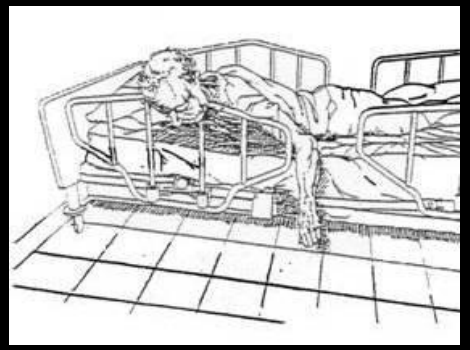
Watch

Minimise restraint

# Death from Bedrails







# Why is it important?

# Why is it important?

More likely to die

- Post op in hosp 8% vs 1%
- Post op 90 day mortality 11% vs 3%

Hospital patients 2x as likely to die within a year c/w otherwise similar with no delirium

# Why is it important?

More likely to die

Longer length of stay in hospital

- 12 days vs 7 days

# Why is it important?

More likely to die

Longer length of stay in hospital

More likely to be discharged to RH

16% vs 3%

# Why is it important?

More likely to die

Longer length of stay in hospital

More likely to be discharged to RH

Often unrecognised 1/3 – 2/3 missed

# Why is it important?

Duration of Delirium

- Can take 4-6 weeks to return to baseline
- Some never return to baseline
- Takes longer if not recognised or underlying condition not treated - Chronic delirium

# Why is it important?

Co-ordinated targeted prevention programmes

- Reduced incidence of delirium
- Reduced LOS
- Reduced Mortality

# Coordinated Targeted Prevention Programme

| Targeted risk factor | Strategy |
|---|---|
| Cognitive impairment | • Orientation protocols<br>• Provision of clocks and calendars |
| Functional impairment | • Early mobilization, including getting patient out of bed regularly and as tolerated starting on postoperative day 1<br>• Daily physiotherapy with occupational therapy as needed |
| Fluid and electrolyte imbalances | • Restoration of serum sodium, potassium and glucose levels to normal limits<br>• Detection and treatment of dehydration or fluid overload |
| High-risk medications | • Discontinuation or minimization of use of benzodiazepines, anticholinergics, antihistamines and meperidine<br>• Modification of dosage or discontinuation of drugs to minimize drug interactions and adverse effects |
| Pain | • Standing orders for acetaminophen use rather than use as needed<br>• Treatment of breakthrough pain starting with low-dose narcotics; avoidance of meperidine |
| Impaired vision and hearing | • Appropriate use of glasses, hearing aids and adaptive equipment |
| Malnutrition | • Ensurance of proper use of dentures, proper positioning, assistance with eating if required and use of supplements if required |
| Iatrogenic complications | • Removal of urinary catheter by postoperative day 2, with screening for urinary retention and incontinence<br>• Implementation of a skin-care program<br>• Bowel regimen to ensure bowel movements by postoperative day 2 then every 48 hours<br>• Chest physiotherapy and supplemental oxygen if indicated<br>• Appropriate anticoagulation therapy<br>• Screening and treatment of urinary tract infection |
| Sleep deprivation | • Unit-wide strategies to reduce noise<br>• Scheduling of medications and procedures to allow for proper sleep<br>• Use of nonpharmacologic measures to promote sleep |

# What is it like to be Delirious ?

*"I cant remember"*

*"Disconnected"*

*"Trying to get it straight" – Dreaming vs awake*

*"Fear and safety concerns"*

# What is it like to be Delirious ?

***Disconnected***

*“ It felt like I was living in a bubble; I couldn’t move my arms or legs. And people all around me but no one answering me…. I would be calling out but no one would even look at me’*

# What is it like to be Delirious ?

## *Fear and safety concerns*

*"the one that was most upsetting was the monkeys… up in the lights…. You could hear them jumping up and down, and they were bawling like they were trying to get at me. They were on all the lights, not just the one that was at my bed but all around the room… They were savages…. I didn't know …if they wanted to get out our get at me….. I'm still afraid to look up at the lights…..and I always….whisper because I 'm afraid they will hear me"*

# Take home message

Look for it especially in those who are vulnerable

Beware the quiet/drowsy elderly patient