University College London Hospitals NHS Foundation Trust

Management of Post ITU Psychosis

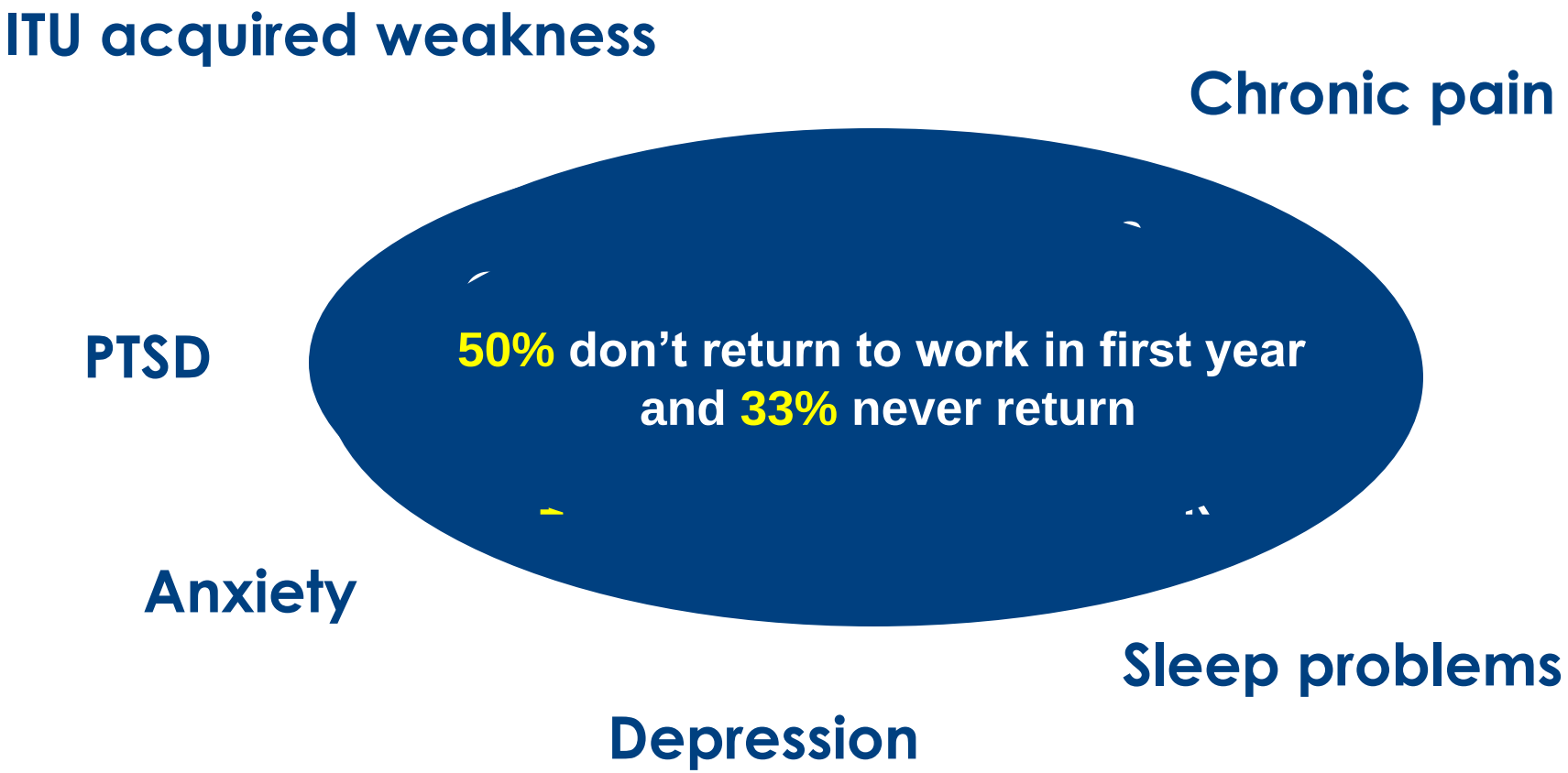
'Life after life-support'

How big a problem is it?

Is it an ITU problem?

Can we prevent / treat it?

How big a problem is it?



Is it an ITU problem?

PTSD

Treatment should be simple

Rest and sleep important components

Can we prevent / treat?

Physical morbidity

Pain
Muscle
Muscle we
Contra

Symptoms regarded as *'normal'* when faced with a critical illness

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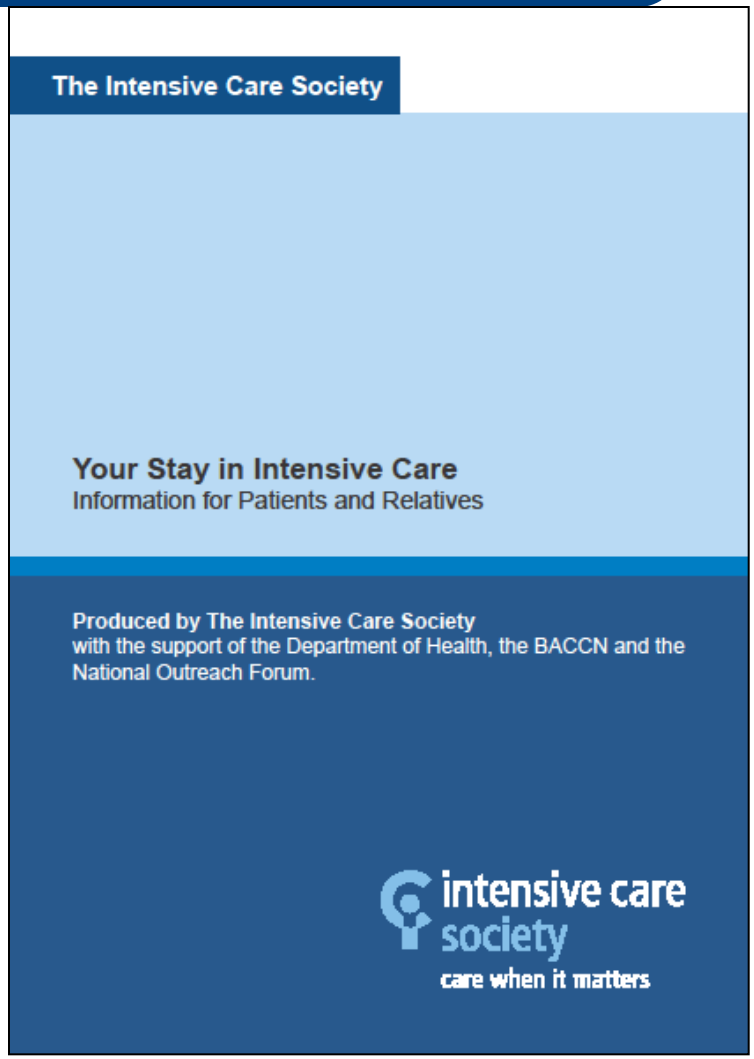
Post traumatic stress disorder (PTSD)
Anxiety
Depression
Sleep problems

Can we prevent / treat?

What to expect

What is ‘normal’



Can we prevent / treat?

Length of stay

Reduce risk factors

Time on ventilator

Address acute issues

Pain

Sleep

Can we prevent / treat?

Delirium

Agitation

Sympathetic ‘storming’

Management of Delirium, Agitation and Sympathetic 'Storming'

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After the acute phase of brain injury patients may experience either sympathetic storming or agitation

Agitation is seen in various neurological conditions, while sympathetic storming is seen predominantly after severe traumatic brain injury due to autonomic hyper-reflexia

Both make weaning from sedation and mechanical ventilation difficult

Sweating, **palpitations** and **tremors** in association with agitation may be seen in patients withdrawing from alcohol – if there is a history of alcohol abuse start **Chlordiazepoxide** as per UCLH formulary

DELIRIUM

In some patients agitation may be a manifestation of delirium - complete **RASS** and **CAM-ICU** if appropriate

Delirium risk factors
Dehydration
Hypoxaemia
Pain
Infection
Drugs
Prolonged ICU stay
Prolonged ventilation
Visual, hearing or cognitive impairment
Immobility
Advancing age

Prevention / Treatment
Environmental changes *where possible*

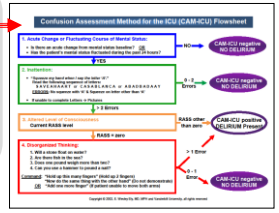
Pharmacology
For agitation:
Haloperidol
Risperidone
Clonidine
Olanzapine
Dexmedetomidine

Avoid *benzodiazepines*

For sleep:
Melatonin
Zopiclone
Chloral hydrate

Richmond Agitation Sedation Scale (RASS)

Score	Term
+4	Combative
+3	Very agitated
+2	Agitated
+1	Restless
0	Alert and calm
-1	Drowsy
-2	Light sedation
-3	Moderate sedation
-4	Deep sedation
-5	Unrousable



Environmental factors
Noise reduction
Day - ↑ exposure to natural light
Night - ↓ exposure to artificial light
Optimum ambient temperature
Improved communication
Repeat orientation to day, time, place

AGITATION

GCS > 8

Disturbed behaviour seen as an early symptom in patients with post-traumatic amnesia (PTA)

Resolves with return of ability to retrieve and store information

In longer term usually due to personality changes

Symptoms
Confusion
Restlessness and agitation
Limited awareness
Disturbed perception of environment
Inability to learn new tasks

Treatment
(Best practice based)

Acute / rapid control – lorazepam / haloperidol *see algorithm*

To facilitate weaning consider the following prior to ceasing sedation
Risperidone NG 0.5 - 2mg/tds **or**
Clonidine infusion 20-80mcg/hr *(see protocol) (introduce NG dose [0.1mg tablets] as needed)*

Avoid using sedation / analgesia to treat agitation *(but exclude pain as cause)*
Exclude other causes *(UTI / metabolic disturbance)*

Early mobilisation
Minimise sensory stimulation
Promote normal sleep pattern

SYMPATHETIC 'STORMING'

GCS < 8

Episodic and exaggerated response occurring spontaneously or to stimulus

Resolves over time but may take weeks

Should be managed in short term as symptoms can be severe and may exacerbate brain injury

Symptoms
Tachycardia
Tachypnoea
Diaphoresis
Hypertension
Abnormal movement of limbs
Arching of back *(severe cases)*

Treatment
(Best practice based)

Atenolol NG **or**
Clonidine infusion *(600mcg in 30ml normal saline)* titrated until symptom control *(20-80mcg/hr) (Observe for bradycardia and hypotension)*

Consider weaning clonidine after 24-48 hours free of 'storming' – stopping abruptly may cause 'hypertensive crisis' especially if patient has been on large dose or for > 1 week

Avoid over-stimulation
May require individual patient parameters to avoid over-treatment with sedation
Early mobilisation / tilt table

RAPID CONTROL OF ACUTE AGITATION

1 Implement behavioural interventions, structure environment and minimise sensory stimulation

Response → 2 Consider adding oral medication e.g. Risperidone 0.5-4mg / day, Carbamazepine 400-600mg twice daily

No response

3 **Give either**:
IV or IM Lorazepam 1-2 mg *Wait 10 minutes*
or
IM Haloperidol 2-10mg
IV Haloperidol 2.5-5mg *Wait 30 minutes*

Response → 4 Add oral medication as 2

No response

Response → Tail off over days or weeks

No response

5 **Repeat 3 to maximum:**
IM Haloperidol 18mg
IV Haloperidol 10mg
or
Lorazepam 4mg
Consider Neuropsychiatry referral

Response → 6 Add oral medication as 2

Response

No response

7 **Seek consultant advice**

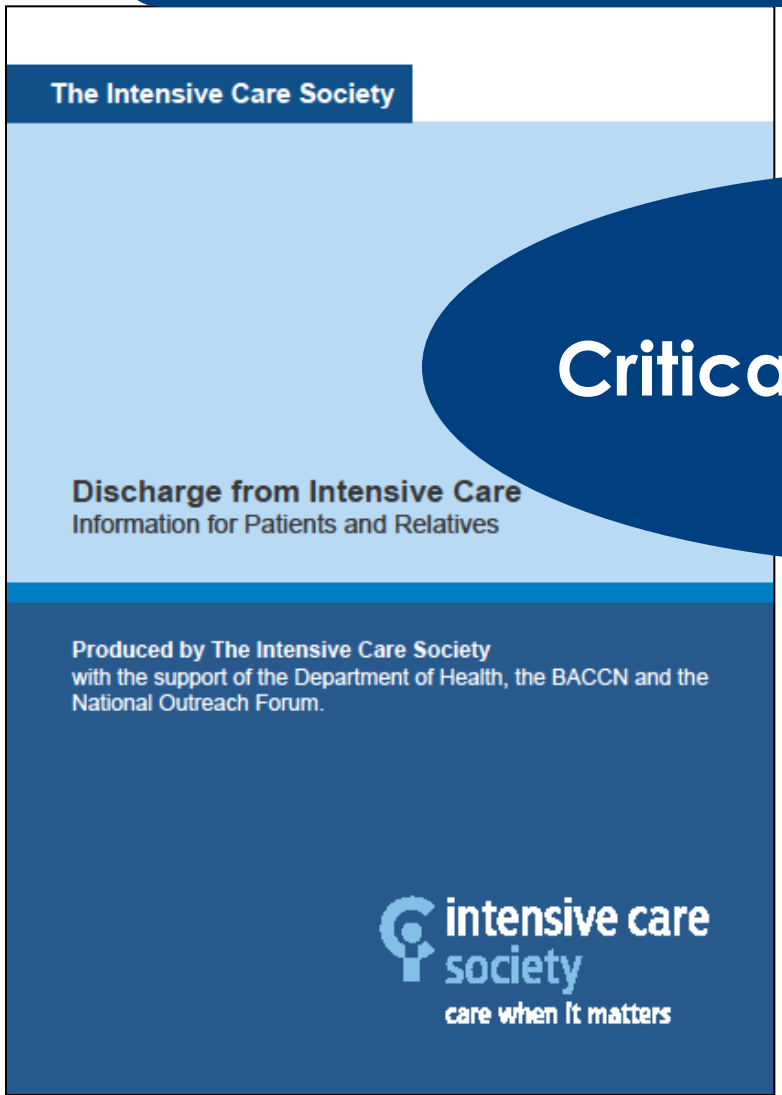
Monitor for side-effects of drugs
Cardiovascular:
QT prolongation
Hypotension

Neurological:
Extrapyramidal

- Guidelines are largely best practice based
- Exclude other causes of agitation e.g. urinary retention
- Give IV/IM drugs over 2-3 min - *never give Diazepam IM*
- In elderly, doses of 50% or less may be appropriate
- Guidelines do not apply to later maladaptive behaviour after brain injury

Transition from ITU to ward

Critical Care Outreach


The Intensive Care Society

Discharge from Intensive Care
Information for Patients and Relatives

Produced by The Intensive Care Society
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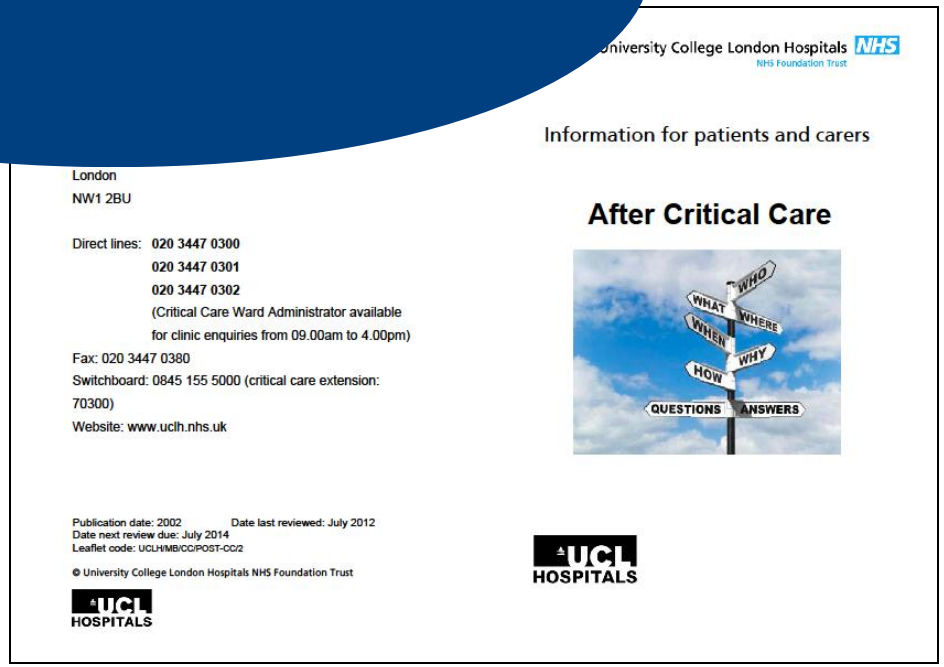
intensive care society
care when it matters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Information for patients and carers

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UCL HOSPITALS

After Critical Care

UCL HOSPITALS

Discharge home

Patient's GP

ITU follow-up clinic