DELIRIUM PREVENTION.. A NON-PHARMACOLOGICAL APPROACH
THE SOUTH WEST CRITICAL CARE NETWORK CARE BUNDLE
Declaration

• Neither myself or the delirium project group have any ongoing monetary or financial benefit from any of the products or recommendations made in this presentation

• Orion Pharmaceuticals funded in 2016-2017 a QI project to investigate the use of psychiatry liaison team to support critical care practice and aid in follow-up of delirium- this funding ended in 2017
Acknowledgement

- Colleagues at University Hospitals Bristol

- Dr Nicola Taylor Consultant Psychiatrist
- Thomas Hulme CNS Psych liaison service
- Louise Sherratt- SSN- music therapy
- Sam Heaton- SSN- light therapy
- Lucy Alford- ICU diaries and “this is me”
- Bex Russell- TV’s, tablets, “this is me”, relatives rooms
- Dr Kieron Rooney: Consultant in ICM- universal treatment and sedation practice, camscoring, audit
- Dr Sanjoy Shah: Consultant in ICM- sedation practice + link with industry
- Dr Qiao Zhuo (RN ICU and now SPR COE)
- John Warburton ICU pharmacist
- PSYCHIATRY LIAISON TEAM
- Delirium project group
- Patient experience group
- CIS team
- Plymouth University Hospital ICU- Kate Tantam
- SWCCN
Objectives

• Outline PAD guidelines and tools available
• Sedation practice including evidence-base for Dexdor
• Outline significance of delirium
• CAM-ICU and how to do
• Non-Pharmacological approaches to prevention/treatment
• Multi-modal approach
• Ideas for follow-up
• Future work
• Universal treatment algorithm
• Some of my colleagues- next slide
Delirium Clinical manifestations

• Acute /sub-acute presentation

• Fluctuating course (4.7 days +/- 1.7 days)

• Inattention

• Disorientation, hallucinations (visual/ auditory),

• Agitation

• Poor concentration, abnormal sleep/wake cycle
3 major subtypes
Hyperactive delirium

- Agitation
- Delusions and
- Disorientation
Hypoactive delirium

• Apathy/ withdrawn
• Quiet confusion (easily missed !)
• Growing evidence this is most common type of delirium
• Highest risk of mortality as not detected or treated- day 6-7 peak incidence
Mixed subtype delirium

• Vary from hypoactive to hyperactive.
Causes and risk factors
Causes and risk factors

Four domains of risk factors for intensive care delirium. TISS 28 = The therapeutic intervention scoring system-28.
Why is Delirium important? The most important organ failure?
Delirium associated with increased risk of death

Kaplan-Meier Curve for ICU Patients

Ely et al. JAMA, 2004
Increasing age and severity of illness increases the probability of progression to delirium
Days of Delirium Are Associated with 1-Year Mortality in an Older Intensive Care Unit Population

Margaret A. Pisani¹, So Yeon Joyce Kong², Stanislav V. Kasl², Terrence E. Murphy³, Katy L. B. Araujo³, and Peter H. Van Ness²,³

Figure 2. Kaplan-Meier survival curve for 1-year mortality post-intensive care unit (ICU) admission (ICU delirium days predictor). Log-rank chi-square statistic = 28.3; degrees of freedom = 3; P < 001.
Morbidity & Mortality of delirium

**Short Term**
- Self-extubation
- Reintubation
- VAP
- Increased duration of MV
- Increased ICU LOS (+4.8 days @ £1500 per night)
- Increased hospital LOS
- Increased costs - 5 year NHS plan critical care’s contribution to £22 billion NHS wide efficiency savings.
- **Increased mortality** - 5+ days to +10 days = near 100% (CASE NOTE REVIEW)

**Long Term**
- Acquired Long-term cognitive impairment (£32,500/annum)
- PTSD (under detected/treated)
- Failure to return to work
- **3x increased mortality @ 6/12 FOR DELIRIUM + 5 DAYS**
Long-Term Cognitive Impairment after Critical Illness

The graph shows box plots comparing RBANS Global Cognition Scores at 3 months and 12 months post-critical illness across different age groups: 

- 3 Mo (N=97) 
- 12 Mo (N=89) 
- 3 Mo (N=147) 
- 12 Mo (N=138) 
- 3 Mo (N=130) 
- 12 Mo (N=98)

Age groups are divided into:

- ≤49 Yr
- 50–64 Yr
- ≥65 Yr

The plots indicate the range of scores and any outliers, showing how cognition levels vary with age and time post-illness.
Four hundred thirteen patients were tested an average of 11 (3–18) months after discharge. Fifty-five (13.3%) patients included in the follow-up cohort had delirium. Cognitive impairment was identified in 206 (49.9%) patients, 120 (29.1%) patients had mild or moderate cognitive impairment, and 86 (20%) patients had severe cognitive dysfunction.

100% cognitive impairment rate for all ICU survivors!

pro's: large numbers- 413- icu survivors, well run and completed study
cons: single centre but good mix of patient types across most specialities
Or put it this way

% of cognitive impairment - ICU survivors

55/413 patients
23% had delirium - ?
Frequency of CAMICU scoring in this study?
Investigation & Diagnosis of delirium
Diagnosis of delirium

- **End of bed-o-gram**  
  - 29% pickup rate only

- **Blood Tests**  
  - S-100b, SAA linked to POCD & delirium

- **EEG or BIS**  
  - Slow wave activity, looks like sedation

- **Imaging**  
  - Unreliable and inconsistent

- **Screening Tools**  
  - CAM-ICU or ICDSC
CAM ICU features

- C = Change in mental status
- A = Attention is impaired
- A = Altered level of consciousness
- M = Muddled (disorganised) thinking

Both required

One required
Pre CAMICU questions- British experience

• How are you? Is there anything disturbing you today/ this morning?
• Are you seeing anything that is troubling you?
• Are you hearing anything that is troubling you?
• Reflect back to patient
**Confusion Assessment Method for the ICU (CAM-ICU)**

**STEP 2: DELIRIUM ASSESSMENT**

1. Acute Change or Fluctuating Course of Mental Status:
   - Is there an acute change from mental status baseline? OR
   - Has the patient’s mental status fluctuated during the past 24 hours?
   
   **NO**
   - CAM-ICU negative
   - NO DELIRIUM

   **YES**

2. Inattention:
   - “Squeeze my hand when I say the letter ‘A’.”
   - Read the following sequence of letters: SAVE A HA ART
   - ERRORS: No squeeze with ‘A’ & Squeeze on letter other than ‘A’
   - If unable to complete Letters → Pictures

   **0 - 2 Errors**
   - CAM-ICU negative
   - NO DELIRIUM

   **> 2 Errors**

3. Altered Level of Consciousness
   - Current RASS level (think back to sedation assessment in Step 1)
   - RASS = zero

   **RASS other than zero**
   - CAM-ICU positive
   - DELIRIUM Present

4. Disorganized Thinking:
   1. Will a stone float on water?
   2. Are there fish in the sea?
   3. Does one pound weigh more than two?
   4. Can you use a hammer to pound a nail?

   **Command:** “Hold up this many fingers” (Hold up 2 fingers)
   - “Now do the same thing with the other hand” (Do not demonstrate)
   - OR “Add one more finger” (If patient unable to move both arms)

   **> 1 Error**
   - CAM-ICU negative
   - NO DELIRIUM

   **0 - 1 Error**
   - CAM-ICU negative
   - NO DELIRIUM
Management
Aim for small change big impact
Since 2012..Multimodal & Multi-disciplinary...incremental gains.....

Delirium—can you get to 12 - 16%??
Delirium risk factors/ case note review 2013 dataset 268 PATIENTS (23%)
Do the basics very well (NURSING ART)
Pain control

VAS/ABBHEY
Prevent dehydration
Treat constipation
Noise reduction
THE NOCTURNAL NOISE POLICE
Day Night reorientation
USE OF SAD LIGHTS 10,000 LUX
Lumie VitLPro
Delirium specific bed space?

light intensity 1500-2000 lux
Is your ICU dark/ no windows/ limited windows?

light intensity 3000-4000 lux
Delirium experiences are real to the patient

- If a patient says they are travelling along a river with elves/angels standing by the side
- Or they see terrorists trying to kill them
- Pass CAMICU scoring but then say- thank you for that now can you ask those penguins to stop walking past my bed- that is all real to the patient
Multi-modal approach
Non- pharmacologically- other issues

- “All About Me”- leaflets and boards- incorporated into ICU diaries since Jan 2018
- Pre-op visitation
- LTCI screening on admission- national dementia CEQUIN- single question- any new change in memory function within the last year that is affecting your loved ones life?
- Behavioural intervention (POPPI, CBT etc), psychiatric liaison interventional therapy in ICU
- Psych follow-up post ICU discharge on wards and invitation to attend outpatient’s.
- Visitation periods open 11am-8pm

Delirium prevention care bundle SPBED
Early mobilisation

- EM is the intensification and early application (within the first 2 to 5 days of critical illness) of the physical therapy that is administered to critically ill patients (Hodgson et al 2013)

- EM is feasible only if the patient is awake and cooperative [Hopkins et al 2009] and therefore the use of sedation needs to be minimized to facilitate EM [Vasilevskis et al 2010]. The importance of interactions between the degree of sedation and the ability to apply EM has been highlighted in several publications. Other key factors that appear to be associated with successful EM include adequate pain management and early recognition and management of delirium
Early mobilisation
EM- 4 stage approach

1. Daily dangle- sit up on edge of bed (2-3 staff)
2. A daily stand or march on the spot (2-4 staff)
3. A walk defined as therapeutic if + 100 FEET/50M per day 1-2 staff to assist
4. Up and sitting out of bed (OD vs BD- 1-2hrs a time or more) 1-2 staff to assist

Achieved by: safety briefing, daily plans, ward round checklists and prompts, MDT reviews/briefings- new June 2016 MDT rehab care-pathway
Figure 4 Survival to day 90 in patients who survived to ICU discharge and were diagnosed with ICU-acquired weakness compared with patients without ICU-acquired weakness. ICUAW, ICU-acquired weakness.
Daytime mobilisation achieved (minutes per day) in our ICU 8am-10pm
Investment in chairs...helping to get the patient out of bed (comfortably)

- Beaver medical Tucson- x9 in use= £12k
- Careflex neuro rehab-  
  x5 now in use-= £20K
- Removal of older “bedside chairs”
Delirium prevention care bundle 2014 onwards

Targets Intensive Therapy Unit environmental issues!

5 components

- Noise levels/ LIGHT LEVELS (including sleep/wake cycles, SLEEP HYGIENE) (1C)
- Music therapy (MT) (Cochrane review)
- Reorientation therapy- know your patient- “this is me”
- Screen for delirium (1B)
- Early mobilisation (2C)
**Delirium prevention care bundle**

**THINK SPBED**

1. **Screen** for delirium (1B) - CAMICU on safety checks + as indicated with any change in cognitive function, use RASS (Richmond Agitation and Sedation score) and Abbey pain scores +/- VAS for awake cognitively intact patients

2. **Prescribing** - avoidance of Benzodiazepines (2B), consider Quetiapine 100mg TDS, Haloperidol 2.5mg iv prn or regular up to max 18mg/24 hours- daily sedation pause OD/BD? Or consider awake sedation aiming for RASS 0 to -1/-2- Alpha agonists- clonidine and/or dexmetomidine useful adjunct agents

3. **Bed-Space** - reorientation therapy (Who, what, why, intention) - “this is me” (2A), use of diaries (1B), access to own hearing aid, glasses, own clothing, dentures, false teeth, (2A) Early mobilisation (2C) - new rehab plan coming

4. **Environment** - Music therapy (MT) (Cochrane review), Bright light/ daylight therapy- ICUVitL with SOP for use, Noise levels/ LIGHT LEVELS (including sleep/wake cycles) (1C) - use sleep hygiene bundle, use SAD lights (SOP) during the daytime to maintain day/night, Use sound ears, soft close bins,

5. **Day routine** - Reorientation therapy- WWWWi principles- who they are, where they are, why they are in hospital, what the date/time is, Intention- plan of care. Early rehab and mobilisation, lighting and socialising, open visitation 11am-8pm
The Music Playlist

- Bach - Goldberg variations
- Debussy - premiere arabegque
- Jeansibelius - “Valse Triste” orchestra
- Vivaldi - “winter” largo and the four seasons 2
- Bach - orchestra 1 and orchestral suite no 3
- Piano - Chopin nocturnes 1,2,8,10,14,19,21 (several parts of this are really good)
- Liszt – leibstrauem 1,2+3
Results: State Anxiety (STAI, VAS)

• Low-quality evidence suggested that the mean state anxiety in the intervention groups was 1.11 standard deviations lower (1.75 to 0.47 lower; 5 trials, 288 participants).

• A standardized mean difference of 1.11 is considered to represent a large, clinically significant effect according to interpretation guidelines put forth by Cohen (Cohen 1988). Cohen suggested that an effect size of 0.2 should be considered a small effect, an effect size of 0.5 medium, and an effect size of 0.8 large.
Results: Sedation/Analgesic use

- One RCT with 176 participants analysed for this outcome reported that an average usual care group participant received five doses of any one of the eight commonly administered sedative and analgesic medications whereas an equivalent music group participant received just three doses. There were also statistically significant differences in the sedation intensity score ($P = 0.05$) and in the sedation frequency score ($P = 0.01$) between groups.

- A second RCT with 49 participants analyzed for this outcome reported that patients listening to music used less daily fentanyl (mean $1597 \mu g$ pre- and $1343\mu g$ post-music vs. $1593 \mu g$ pre- and $1715 \mu g$ post-standard care), although the difference between the two groups was not statistically significant ($P = 0.06$). There was no statistically significant difference between the groups for the intake of propofol or benzodiazepines.

- A third RCT with 10 participants analysed for this outcome reported that “patients in the music group did not require additional sedation by propofol, whereas among patients in the control group, propofol was occasionally necessary to allow sufficient patient-ventilator coordination”.

Conclusions

• Music listening seems to have a beneficial effect on state anxiety in mechanically ventilated patients in critical care units but the evidence is low quality.
• Music listening may reduce respiratory rate and systolic blood pressure, suggesting a relaxation response but the evidence is very-low quality.
• A limitation of the data is that key outcomes such as quality of life, patient satisfaction, and adverse effects were not assessed.
• Since music listening is an easy intervention to implement, the review authors recommend that music listening be offered as a stress management intervention to these critically ill patients.
How we developed play list

• “BRI music therapy playlist”
• 100+ classical pieces of music compared-these are chosen “best selection”
• Need for RCA on music selection using BIS/RASS ideally... EEG recording....???
Timeline 1 2011-

- **2011**
  - start using CAMICU (reactive approach)
  - first large scale use of patient diaries- 200+/ year

- **2012**
  - delirium project group,
  - nursing scholarship- investigating MT,
  - CAMICU scoring goes live all patients BD and as indicated,

- **2013**
  - project work on hearing & visual aids, dentures

- **2014**
  - treatment algorithm adopted
  - CAMICU screening permanent addition to our departmental safety brief and ward round checklists

- **Feb 2015** (move to new unit)
  - Long-term cognitive and psychiatric follow-up being investigated for delirium survivors

  **June 2015**
  - SAD lights and protocol, VISITATION TIMES CHANGED TO 11:30-8PM (DISCRETIONARY OF NURSES/MEDICAL STAFF)

  **JUNE 2016**
  - Psychiatry input onto the unit
  - CBT
  - DELIRLIUM REVIEW/ Audit yearly
  - ISSUE of the month – cyclic nature- 3 cycles per annum
  - FOLLOW-UP- universal and all patients
Timeline 2 2016 onwards

- May 2017- completion of trial on psych liaison and cbt- journal reports and posters to RCP- well received
- Business case for permanent psych liaison input- still work in progress
- SAD light design work starts with Lumie
- Fine tuning bundle+ universal treatment algorithm
- Sleep hygiene bundle work 2017 roll out of bundle in October 2017
- Reporting systems and audit – delirium weekly report via CAM scoring, Sleep hygiene daily
- ICU diaries for all patients since October 2017- simplified Diaries process- aiming for 800+ diaries per annum
- SWCCN May 2017 onwards integrated work with colleagues at Plymouth and around region- exciting times- no-one else in the world is doing this level of integrated work as a governance/ QI project.
- Work with industry to develop new tools-SAD lights specific to ICU needs and hospital needs for delirium prevention- VitLPro
- Music therapy playlist in every ICU bed space on desktop Feb 2018
- Regional bundle and educational guideline- evidence-based
- Team work inter hospital/ regional linking primary and secondary care+ bringing in the experts
- Maintenance of improvements- hard and continuous- rewards are out there
Impact of delirium bundle UHB data 2012-2017
Outcome data

Pros
- Low rates of delirium since 2014 onwards - reduced from 23% to around 16%
- Great MDT team work
- Reward = patient reduced costs of treatment
- Improved long term mortality/morbidity related to delirium
- Reduced ICU associated costs of circa £300-500K per annum burden of delirium on our unit (£1500/ bed day) 200-250 bed days

Cons
- Compliance of CAMICU screening is poor and needs constant work - variable between 50% and 90%
- Required mandated data entry
- Whole systems approach - safety brief, teaching topic of the month, online resources, attendance at seminar and conferences
## Care bundle vs no bundle

### the pharmaceutical treatment costs

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<tbody>
<tr>
<td>Propofol (mean mg/hr)</td>
<td>110</td>
<td>150</td>
<td>125</td>
<td>160</td>
<td>£3500</td>
</tr>
<tr>
<td>Alfentanil (mean mcg/hr)</td>
<td>1000</td>
<td>1700</td>
<td>1100</td>
<td>1650</td>
<td>£2200</td>
</tr>
<tr>
<td>Remifentanil mcg/kg/min</td>
<td>0.15-0.2</td>
<td>0.2-0.25</td>
<td>0.1-0.15</td>
<td>0.3-0.4</td>
<td>£-1750</td>
</tr>
<tr>
<td>Haloperidol boluses Mean total mg’s delivered</td>
<td>0.1mg</td>
<td>0.5mg</td>
<td>0.3mg</td>
<td>0.6mg</td>
<td>£450</td>
</tr>
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</table>
| Total savings pharmacy costs of delirium care bundle | | | | | £4400 per annum- 2014-2015 vs 2013-2014  
£5100- 2015-2016  
£5400- 2016-2017  
£5500- 2017-2018 |
.. maybe we should try to think out of the box?
Pre-operative assessment of patients at risk of delirium

POAC clinic:

• Dementia screening
• Alcohol and smoking assessment
• Smoking cessation
• Pre-operative ICU visitation (Wd clerk, POAC, NIC/DNIC/ B7OTW)
• Alcohol and drug support service
  • Hospital based
  • Community support
Behavioural interventions

Provision Of Psychological support to People in Intensive care
At time of discharge do you do this?
Or do you offer this?
Psychiatrist only follow-up- BRI experience

- Offered as part of huge follow-up package in Australia
- 2016- cohort of 36 patients- unit survivors with any episode of delirium- awaiting results- 9 replied to invite- 2 attended- both with significant stress, anxiety, cognition (memory problems) and sexual dysfunction+ unable to return to work
- 2016 data set- universal follow-up for all patients June 2016 onwards- 9 patients PTSD, 3 other PICU syndrome +ve,
The future as we see it in Bristol

- **Patient and relative related**
  - Long term outcomes
  - More meaning for outcomes
  - Improve healthcare provision for these patients

- **Clinical**
  - Greater compliance with ventilator, sleep hygiene, delirium prevention and sedation bundles
  - Multi-disciplinary working (governance groups and project groups)

- **Research**
  - Biomarkers for the diagnosis
  - Pharmacological & non-pharmacological interventions
  - Sleep studies research- melatonin levels
  - Use of SAD lights (work with industry to develop ICU design) VitLPro
  - RCA for music therapy selection
  - Nursing education study into awake sedation- UK launches in September 2017- 26 ICU’s- aim for 3500+ patients- advisory panel member
  - “Regional Delirium HUB”- CCN led effort- launch event in May 2017, revisit March 2018 (launch regional SPBEd care bundle and universal treatment algorithm) Educational package (pending)
  - Follow-up and psych interventional bid- UHB as centre- write up psych liaison input trial outcome- completed Feb 2018
PSYCH LIAISON AND GICU INTEGRATED SERVICE

- ICU IDENTIFICATION OF DELIRIUM/ HIGH RISK PATIENTS- ANYONE HAVING A TRAUMATIC EXPERIENCE?
- CBT ON ICU
- CAMICU REPORT FOR THE WEEK- SENT TO PSYCH, MYSELF, ICU CONSULTANTS IN DELIRIUM GROUP
- IDENTIFICATION VIA SAFETY BRIEF AND HANDOVER,
- BLACK DOTS ON SAFETY BOARD
- INTEGRATION BETWEEN DELIRIUM AND FALLS RISKS
- “ALL ABOUT ME” PROCESS
- PREVENTION CARE BUNDLE (UNIVERSAL APPLICATION TO ALL PATIENTS)
- FOLLOW-UP ON WARDS HIGH RISK IDENTIFIED PATIENTS AND THOSE IDENTIFIED- WARD SISTERS AND ICU RESEARCH TEAM
- POST HOSPITAL DISCHARGE LETTERS TO GP AND PATIENT, IMPACT OF EVENT SCALE AND IF PTSD- EMDR THERAPY
<table>
<thead>
<tr>
<th></th>
<th>IMPACT OF EVENT SCALE</th>
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<tbody>
<tr>
<td>1</td>
<td>Any reminder brought back feelings about it</td>
</tr>
<tr>
<td>2</td>
<td>I had trouble staying asleep</td>
</tr>
<tr>
<td>3</td>
<td>Other things kept making me think about it</td>
</tr>
<tr>
<td>4</td>
<td>I felt irritable and angry</td>
</tr>
<tr>
<td>5</td>
<td>I avoided letting myself get upset when I thought about it or was reminded of it</td>
</tr>
<tr>
<td>6</td>
<td>I thought about it when I didn’t mean to</td>
</tr>
<tr>
<td>7</td>
<td>I felt as if it hadn’t happened or wasn’t real</td>
</tr>
<tr>
<td>8</td>
<td>I stayed away from reminders about it</td>
</tr>
<tr>
<td>9</td>
<td>Pictures about it popped into my mind</td>
</tr>
<tr>
<td>10</td>
<td>I was jumpy and easily startled</td>
</tr>
<tr>
<td>11</td>
<td>I tried not to think about it</td>
</tr>
<tr>
<td>12</td>
<td>I was aware that I still had a lot of feelings about it, but I didn’t deal with them</td>
</tr>
<tr>
<td>13</td>
<td>My feelings about it were kind of numb</td>
</tr>
<tr>
<td>14</td>
<td>I found myself acting or feeling as though I was back at that time</td>
</tr>
<tr>
<td>15</td>
<td>I had trouble falling asleep</td>
</tr>
<tr>
<td>16</td>
<td>I had waves of strong feelings about it</td>
</tr>
<tr>
<td>17</td>
<td>I tried to remove it from my memory</td>
</tr>
<tr>
<td>18</td>
<td>I had trouble concentrating</td>
</tr>
<tr>
<td>19</td>
<td>Reminders of it caused me to have physical reactions, such as sweating, trouble breathing, nausea, or a pounding heart</td>
</tr>
<tr>
<td>20</td>
<td>I had dreams about it</td>
</tr>
<tr>
<td>21</td>
<td>I felt watchful or on-guard</td>
</tr>
<tr>
<td>22</td>
<td>I tried not to talk about it</td>
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</table>
Eye Movement Desensitisation & Reprocessing (EMDR).

- INVITE TO ATTEND SENT TO PATIENT AND GP
- ADVICE TO GP TO ENCOURAGE REFERRAL BACK INTO PSYCH LIAISON SERVICE IF ANY ISSUES IDENTIFIED OR PATIENT PRESENTS
- OPEN LETTER TO ATTEND
Conclusion

• Understanding risk factors

• Early identification

• Prevention

• Specific management

• The Bristol Royal Infirmary Pathway

• COMPREHENSIVE INTEGRATION WITH PSYCHIATRY TEAM SUPPORTING ICU, POST ICU AND POST HOSPITAL DISCHARGE
UHB 2018 MANAGEMENT OF DELIRIOUS PATIENT ON INTENSIVE CARE

CAM-ICU positive (delirious)

1. REVERSIBLE FACTORS

Physiology:
- Hypoxia, hypotension, pyrexia, constipation

Pain:
- Assess pain & optimize analgesia
- Use Abbey and VAS

Pharmacology:
- Review drug chart

Patient:
- SPBEd bundle
  1. Screening for delirium- CAMICU once a shift +4/6 hourly if +ve, use RASS
  2. Prescribing - see treatment options step 3
  3. Belongings
     - Hearing aids, glasses, dentures, own clothing etc
  4. Environment
     - Review surroundings, this is me, white boards, diaries
  5. Day routine
     - Orientation, early rehab, early mobilization, weaning plans, bright light therapy as per SOP, Music therapy, access to TV/Radio

TREATMENT OPTIONS

2. MODIFIABLE FACTORS

Withdrawal
- (significant etoh, smoking or drug history)

NICOTINE ➔ Nicotine patch
ALCOHOL ➔ (i) Pabrinex I & II IV for 3/7,
             (ii) Chlordiazepoxide 20mg qds po/ng + PRN
             (iii) Clonidine infusion
OPIATES ➔ (i) Methadone po/ng
           (ii) Alfentanil infusion
           (iii) Clonidine / Dexmedetomidine infusion

3. TREATMENT OPTIONS

Hyperactive delirium (RASS > 0)
- 1) QUIETIAPINE
   - controlled)
   - 25mg bd po/ng (increase up to 200mg bd until symptoms
- 2) HALOPERIDOL regularly
   - 2-10mg IV over 30 mins to gain control, then give total dose in 4 divided doses over 24 hours (max 18mg/24
- 3) CLONIDINE
   - Infusion as per protocol

Hypoactive delirium (RASS < 0)

NO SPECIFIC TREATMENT OPTIONS
- review reversible & modifiable factors

Version 1.0, Author – K Rooney, October 2014
ANY

QUESTIONS?
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