

Rapid Response Report NPSA/2008/RRR010: Resuscitation in Mental Health and Learning Disability settings

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Supporting Information

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Background

Patients in mental health (MH) and learning disability (LD) inpatient settings can be vulnerable to cardiac or respiratory arrest through coexisting physical illness, through self-harm, and through the effects of medication, including rapid tranquilisation, physical intervention, or seclusion in the short term management of disturbed or violent behaviour. Patients in MH & LD inpatient settings are also vulnerable to choking, through dysphagia associated with illnesses like dementia, behaviour such as food bolting, pica (attempting to eat non-food items) or intentional self-harm.

The Resuscitation Council (UK) requires all healthcare staff to have ongoing training in basic life support, and additionally suggests that Automated External Defibrillators (AEDs) should be provided in any healthcare setting that might reasonably expect to use them at least once every five years.ⁱ AEDs are now commonly provided in settings such as railway stations, supermarkets and leisure centres, and are estimated to have saved 132 lives in public places between 1999-2006.ⁱⁱ

Whilst staff can defuse many potentially violent situations with appropriate training, most acute admission and forensic mental health wards might expect to at least occasionally encounter situations where rapid tranquilisation is required. NICE Guideline 25ⁱⁱⁱ requires that any setting where rapid tranquilisation, physical intervention, or seclusion may be used can access staff trained to immediate life support (ILS) standards, and access appropriate equipment for ILS (including AEDs).

In any MH & LD setting where rapid tranquilisation, physical intervention, or seclusion is never used and a cardiac arrest even once every five years is unlikely, it is important that staff still have the skills to provide basic life support (BLS) and the equipment they need to do this without risk to themselves (e.g. self-inflating bag-mask devices, bag valve masks, or mouth-to-mask devices).

Terminology

Levels of life support are defined in the Resuscitation Council (UK) Resuscitation Guidelines 2005 and can be briefly summarised in the context of MH & LD settings as:

Basic Life Support (BLS)

BLS implies that no equipment is required to give cardio-respiratory resuscitation, other than a protective device to allow the responder to give ventilations without risk of infection transmission

Automated External Defibrillators (AEDs)*

For healthcare professionals, the Resuscitation Council (UK) considers the use of an AED to be an integral component of basic life support.

Immediate Life Support (ILS)

NICE Guideline 25 requires that where rapid tranquilisation, physical intervention or seclusion are used, there should be access within 3 minutes to appropriately trained personnel and equipment including an AED, bag valve mask, oxygen, cannulas, fluids, suction and first-line medications.^{iv}

Advanced Life Support (ALS)

ALS is the effective management of cardio-respiratory arrest or peri-arrest situations by senior members of a critical care multidisciplinary team until transfer to a critical care area is possible. It is unlikely to be provided outside acute general hospitals, but may be available where MH or LD units are located within an acute hospital site.

* Note that in certain settings alternative models of defibrillator may be appropriate; for example where MH units are located within an acute hospital and access an emergency team trained to ALS standards. Defibrillators used in child and adolescent units need to be appropriate to the ages of their patients.

Review of evidence of harm

The NPSA's Reporting and Learning System (RLS) was established to provide a national database of incidents relating to patient risks and harm. Interpretation of data from the RLS should be undertaken with caution. As with any voluntary reporting system, the data are subject to bias. Many incidents are not reported, and those which are reported may be incomplete having been reported immediately and before the patient outcome is known.

Following a trigger incident reported as a serious untoward incident of a patient death on a ward area where staff were unable to clear vomit from the patient's airway and so gave only cardiac massage for twenty minutes, the RLS was searched for similar incidents. The search strategy used keywords related to cardiac or respiratory arrest situations or choking occurring within mental health or learning disability care settings between 1st January 2006 and 31st March 2008, if reported to the RLS by 11th September 2008. This period began 10 months after the issue of NICE Guideline 25.¹

The search returned 599 incidents resulting in moderate harm, severe harm or death; all of these were reviewed individually by a clinical reviewer. The search also returned 1391 incidents which resulted in no or low harm to the patient; a sample of 100 of these incidents were also reviewed. Using these incidents, analysis of two major topics is outlined below: resuscitation attempts following cardiac arrest and choking episodes (both within the MH & LD setting).

RLS data on resuscitation attempts in MH & LD

Reviewing 599 incidents reported as causing at least moderate harm within the search above, we identified wide variations in apparently normal practice, ranging from appropriate immediate level life support (and indeed very good practice), whilst other reports from inpatient ward areas indicated that only a basic level of life support was available:

.....I responded to my name being shouted from female dormitory and ran to area to discover patient collapsed on floor next to bed requested [staff nurse 1] to call 999 and bleep SHO..... commenced CPR with assistance of [nursing assistant 1]. We continued this until paramedics arrived and they took over

Twenty-six of these incidents were related to apparently avoidable problems during resuscitation. The incidents covered all age ranges, with over half of those with age recorded aged under 65 years. Most of the 26 incidents were reported from inpatient ward areas, with three of the incidents occurring in secure units. None of the 26 incidents appeared to be directly related to sedation, and descriptions suggest physical illness or self-harm were the apparent causes.

In 18 cases resuscitation proved unsuccessful, but it is impossible to say how many of these patients might have survived had they received optimum resuscitation. In eight cases the outcome for the patient was unclear (e.g. they were in ITU in a neighbouring acute general hospital at the time of reporting).

Key themes emerged from analysis of these 26 events (Table 1).

Table 1: Incidents where an avoidable problem occurred during resuscitation; key themes within problems during resuscitation, by the outcome of incident, January 2006 to March 2008

Base: All incidents occurring in MH & LD settings between January 2006 and March 2008, where the incident involved an avoidable problem during resuscitation, and reported severity was moderate harm, severe harm, or death

Theme of resuscitation problem	Outcome		Total
	Patient death	Unclear	
Lack of staff knowledge or skills	6	2	8
Availability/use of resuscitation equipment	5	2	7
Unnecessary transfer	4	2	6
Other reasons	3	2	5
Total	18	8	26

Note: Outcome is defined by the NPSA, not the reporter

(i) Lack of staff knowledge or skills

Examples of problems related to staff knowledge and skills include staff who spent time trying to obtain a blood pressure reading despite noting no respiratory effort, and staff who need to be talked through basic CPR by the 999 call centre staff, or uncertainty on how to combine ventilation with chest compressions, for example:

..... Chest compressions were being performed by ward staff. Oxygen, bag and mask were in situ, but not being used, informed staff to use bag and mask at a ratio of 30:2

(ii) Availability/use of resuscitation equipment

Examples of delay in commencing CPR related to problems locating or using resuscitation equipment, for example:

Crash team were called, unable to gain access to the unit due to locked door on the third floor Patient had regurgitated, hence large amounts of vomit was in the airway. Suction unit provided was inadequate - it would not suck vomit up. Ward staff were unfamiliar with the equipment in resuscitation bags. There was confusion regarding availability of equipment for the resuscitation

.....Ward staff had not attempted to set up the defibrillator as it was not the model they had been trained to use. The medics attending were also not familiar with the equipment and it resulted in approx 10 minute delay prior to initial shock.

(iii) Unnecessary transfer of patient

In six cases CPR was delayed whilst patient was transferred from the scene of collapse to their own bedroom, for example:

Two staff members transferred client into a wheelchair, he appeared to have stopped breathing. His complexion was waxy and skin was clammy. He was taken to his bedroom and the defibrillator was taken down

The sooner resuscitation is commenced the more likely it is to be successful, so the time spent transferring a patient to another room can be critical, and dignity can usually be protected in other ways (for example movable screens, or asking the patients who have not collapsed to move to another room). Although there may be some circumstances where the other patients may be too

disruptive to resuscitation efforts and moving the collapsed patient may be the only alternative, moving them to the nearest safe space rather than their own bedroom would reduce delays in resuscitation.

Additional findings - deterioration and missed physical symptoms

In acute care settings there has been a major focus on acting on signs of deterioration before the patient's condition progresses to cardiac arrest.^v The current review identified examples where the patient was showing clear signs of deterioration, for example:

At approximately 10.10 staff helped service user into the bath, because he was visibly anxious and sweating profusely. At approximately 10:25 staff tried to assist service user to get out of the bath. It was at this point that service user became very rigid and his breathing started getting very laboured. Staff obtained a pulse reading of 148 BPM and an oxygen sats reading of 89%.....

There was also a suggestion in some reports that physical symptoms were misinterpreted as psychiatric symptoms, e.g. patients described as 'hyperventilating' or 'having a panic attack' prior to cardiac arrest.

Additional findings - mental health units in buildings providing acute care

The current review identified examples where mental health units were located within acute hospital buildings and there was either a policy that the mental health unit could *not* access the acute crash team or confusion over whether they could do so. Cross-organisational agreements in these situations should always be aimed at ensuring access to the best possible standard of resuscitation for MH & LD patients.

Additional findings – alcohol related collapses

The current review identified examples of incidents where arrests were alcohol related, for example;

[PATIENT] engagement levels had been reduced to level 3 within the grounds. She had been off the ward for nearly 2 hours, on return had been found to have consumed a large amount of alcohol, due to her level of intoxication nursed on a 1:1 basis till 16.30 whereby she was able to walk and used the toilet. She then returned to bed and placed on her side, was then nursed on level 2 supported checking at least every 15mins. On checking at 18.35 by SN, noted change in her breathing and called other staff. [PATIENT] had vomited and been incontinent of urine. Attempted to wake [PATIENT] by shouting her name and shaking her, no response. Rolled her on her back, checked for pulse, none found, CPR started, medical emergency called, response pressed, 999 called. Duty Dr attended and paramedics shortly afterwards. CPR continued until 19.25. Equipment used from yellow grab bag although ambubag kept coming apart during CPR.....

Close observation of intoxicated patients is essential to prevent unobserved choking or respiratory and cardiac arrest. Each organisation should have local training and clear procedures in place to ensure intoxicated patients or those abusing other substances are appropriately observed and monitored. This is a vital part of preventing their condition deteriorating into a cardiac arrest.

RLS data on choking incidents in MH & LD

Through a review of the 599 incidents reported as causing at least moderate harm within the search above, we identified that 25 of these incidents were related to patients choking (Table 2).

<http://www.npsa.nhs.uk/patientsafety/alerts-and-directives>

Table 2: Incidents involving a patient choking; outcome of incident, January 2006 to March 2008

Base: All incidents occurring in MH & LD settings between January 2006 and March 2008, where the incident involved a patient choking, and reported severity was moderate harm, severe harm, or death

Outcome	Number of reports
Choking related death	3
Emergency transfer to A&E after choking	13
Successful treatment after choking	6
Choking incident with outcome unclear	3
Total	25

Note: Outcome is as defined by the NPSA in review of incidents, not as reported.

Thirteen choking incidents were at least serious enough to need transfer to acute general hospital care by 999 ambulance, and three incidents appear to be deaths directly related to choking on food:

..... observed foaming profusely from her mouth, staff nurse attended to the patient. The emergency medical team were called and 999 dialled. There was evidence of several pieces of apple in her mouth and the staff on duty had removed these pieces before the emergency team arrived. There are no recorded or verbal evidence of any difficulties with swallowing. Patient was transferred to [acute hospital] and died at [time]. It is believed that some particles of the raw apple may have been aspirated into the lungs.

Eighteen of the reports described choking on solid food – for example, fruit, sandwiches, pies, or sweets – whilst one report was apparent choking through intentional self harm, two reports related to choking on vomit, and three reports were unclear. No patient appeared to have a history of recognised swallowing difficulties. Patients’ ages ranged from 36 years to over 85 years.

However, as in the resuscitation reports discussed above, there again appeared to be a contrast between wards where staff had clearly had training to manage choking episodes, and areas where staff were unsure what to do; this contrasting picture is seen in the following two examples:

Staff nurse approached client when she looked distressed and quickly ascertained that client was choking. Staff nurse administered three sharp slaps to clients back and called for assistance abdominal thrusts were given

Patient was having a cheese and onion roll which became lodged in her throat and patient began to choke and had difficulty breathing. After trying to dislodge it by hitting the patient on the back, which did not work, staff took patient into main reception for assistance, patient then began to fit and fell to the floor. and patient became very cyanosed and lost consciousness. Patient given oxygen and put on a bed, where the mass came loose from her mouth. Patient taken to resuscitation in A&E and received further treatment.

Scrutiny of a sample of 100 incidents drawn from 1391 incidents causing low or no harm identified 37 incidents where patients had needed intervention from staff when choking on food; applied to the whole sample this would suggest around 500 choking incidents (95% confidence level, between 381 and 651) were reported over the two year period. This sample included further

reports of choking on non-food items through apparently intentional self-harm (e.g. tissue paper forced into the back of the patient's throat).

Overview of harm from the literature

People with poorer mental health, particularly those with severe mental illness, have higher rates of physical disease than the general population, resulting in increased rates of morbidity and mortality. They are at an increased risk of a whole range of physical conditions including coronary heart disease, diabetes, and respiratory diseases. This association has been widely reported by researchers for decades.^{vi} Antipsychotic medications have also been implicated in sudden cardiac deaths.^{vii viii}

People with learning disabilities are at a higher risk of additional health problems than the general population. These additional health problems include increased respiratory difficulties, poor nutrition and hydration, and choking.^{ix}

A high incidence of tachyphagia (rapid eating or bolting of food and abnormalities in swallowing mechanisms)^x is recorded among patients with schizophrenia, thus predisposing them to choking. A further study identified 70 choking deaths occurring between 1989 and 1995 in Victoria, Australia.^{xi} Twenty-five (25) of these had prior contact with public sector mental health services; 10 of them had received a principal diagnosis of schizophrenia, 8 of them had an organic psychiatric disorder. Sixteen of the 25 people who had prior contact with mental health services died by the non-aspiration form of choking, a rate 30 times higher than the general population.

In another study^{xii} to determine the rate of choking incidents among the psychiatric population in Italian in-patient facilities, 31 incidents were identified. The majority of the incidents were due to bradykinetic dysphagia and rapid eating. One patient died from aspiration pneumonia after the incident and five others required resuscitation. Over 60 serious injury reports and more than 60 death reports in which choking was a factor was reported to affect people with mental health disorders or developmental disabilities in Minnesota between 2004 and 2007.^{xiii} Four patients died from asphyxia related to choking within 1 year in a 400 bed Massachusetts psychiatric hospital.^{xiv} Five other cases of bolus aspiration were reported, one of them fatal in a 48 year old female.^{xv}

National standards and best practice

In the UK standards for clinical practice and training in cardiopulmonary resuscitation are set by the Resuscitation Council (UK)^{xvi} in collaboration with the Royal College of Anaesthetists, The Royal College of Physicians, and the Intensive Care Society, and based on expert review of the evidence base. Whilst the highest levels of resuscitation are only practical in acute general hospital settings, Resuscitation Council (UK) standards contains principles that can be adapted to the particular risks and challenges of all health care settings, and recommends that AEDs are provided in any healthcare setting where they might reasonably be expected to be used at least once every five years.^{xvii}

The Resuscitation guidelines for basic life support include an element on the management of choking^{xviii}. This guideline provides information on recognition of choking and the signs for mild and severe airway obstruction. An adult choking sequence is also provided. NICE guidance 25 draws on the standards issued by the Resuscitation Council to specify the staff skills and equipment that MH&LD units should be able to provide to any patients receiving rapid tranquilisation.⁴

A range of guidance on the prevention of choking and better management of swallowing problems exists; key resources are linked on page 11 of this supporting information.

Survey of current practice

The NPSA surveyed MH&LD organisations in July 2008 on current policy and practice on resuscitation. Twenty six out of 69 organisations providing MH&LD inpatient care in England and Wales responded. Their responses suggested that many of these organisations have introduced practical strategies that ensure all inpatients in admission wards can access the trained staff and appropriate equipment needed to deliver immediate level life support, either through staff training and equipment based on all relevant wards, or through emergency response teams working across sites and defibrillators shared between neighbouring wards. However, some policies suggested a restrictive interpretation of NICE Guideline 25, where staff and equipment for immediate life support was only available on units where rapid tranquilisation was often used (e.g. intensive care units). The policies returned are likely to be a skewed sample, with organisations who have a policy they are proud of being more likely to volunteer to share it. However, it indicates a general picture of different practice and interpretation of current standards.

Discussion with staff working in resuscitation in MH&LD organisations indicated there needs to be clear expert leadership within each organisation to ensure effective policies and practice; in organisations where staff training is provided by neighbouring acute trusts under a service level agreement, there is a risk of no allocated leader with the appropriate expertise to cover resuscitation issues outside training.

Cost implications

Where organisations are already compliant with the requirements for ILS within NICE Guidance 25 issued in 2005 and the Resuscitation Council (UK) Standards for Clinical Practice issued in 2004 and have an NHS Litigation Authority or Welsh Risk Pool compliant policy on BLS in place, the actions in this Rapid Response Report are unlikely to involve any additional costs.

Where organisations are not fully compliant with these, costs could be calculated by comparing the shortfall between the equipment and training these guidance and standards require, and the equipment and training the organisation currently has in place.

Conclusion

The NPSA has received 599 reports of at least moderate harm relating to cardiac or respiratory arrest or choking in mental health and learning disability settings over a two year period, and these indicated a wide variation in standards of resuscitation. These incidents also highlighted problems in failure to act on deterioration of patients, missed physical symptoms, and variations in the standard of resuscitation support provided. Twenty six of these reports described substantial problems with staff knowledge or skills and availability or use of equipment. In addition three reports of patient deaths after choking on food were reported from these settings.

In view of the vulnerability of people with mental health problems and learning disabilities to choking and to cardiac or respiratory arrest due to coexisting physical illnesses, to the effects of medication, and to self harm, adequate resuscitation equipment and access to skilled staff is essential in inpatient MH&LD settings in order to reduce the varied standards of resuscitation which currently exist. The NPSA has highlighted these concerns and reinforced actions (based on NICE guidance and Resuscitation Council (UK) standards) in the Rapid Response Report which this information supports.

<http://www.npsa.nhs.uk/patientsafety/alerts-and-directives>

Appendix 1: Summary of rationale for recommended actions

This table provides a summary of how the incident reports, local policy review, and literature explored above informed our recommended actions.

Action	Summary of rationale
1. Their rolling programme of basic life support (BLS) training for all staff is based on Resuscitation Council (UK) standards which include the management of choking.	<p>The high risk of choking episodes in MH&LD, including fatalities, identified in published literature described above.</p> <p>The numbers of choking incidents, including fatalities, reported to the NPSA and described above.</p>
2. All patient areas have immediate access to appropriate BLS equipment (e.g. self-inflating bag-mask devices, or mouth-to-mask devices).	Reported incidents where staff were unable to give respiratory support in respiratory arrest because they had no access to basic equipment that would enable them to do so without exposing themselves to risks of infection.
3. All patient areas where a cardiac arrest might be expected at least once every five years should have access to Automated External Defibrillators (AEDs) within three minutes.	<p>Reported incidents suggesting equipment had to be shared across unrealistically large areas (e.g. an organisation's shared defibrillator arriving at the arrest after the ambulance).</p> <p>Published evidence indicating the key role of access to defibrillation when appropriate in improving the chances of survival after cardiac arrest, and the Resuscitation Council standard of access within 3 minutes.</p> <p>A reasonable public expectation that if AEDs are available in railway stations and supermarkets, they should also be available where appropriate in hospital settings.</p>
4. All inpatient units where rapid tranquilisation, physical intervention, or seclusion may be used have access to staff trained in immediate life support (ILS) and to all equipment specified in NICE Guideline 25 (including AEDs).	<p>Reported incidents indicating organisations with large acute MH hospital sites offered only basic life support.</p> <p>Policies indicating a narrow interpretation of the NICE Guideline, where access to ILS trained staff and to ILS equipment was restricted to areas where rapid tranquilisation was frequently used, rather than wherever it was used.</p>
5. Wherever feasible, their training includes regular practices or drills in addition to classroom teaching.	Reported incidents indicating staff sometimes struggled to implement their learning in practice, including the basics of finding and assembling equipment, making calls for emergency support, using models of equipment which differed from models used in teaching, etc.
6. A leadership role for resuscitation issues is identified (including within organisations whose resuscitation training is contracted out) and levels of attendance at life support training are routinely audited, reported to a senior level of the organisation, and any lapses acted on.	Maintaining high levels of training and competency despite staff turnover, appropriate equipment levels, and active learning from resuscitation incidents is an ongoing challenge that needs leadership, formal monitoring, and support from senior levels of the organisation.

Appendix 2: Suggested compliance checklist

The table below gives suggested evidence that organisations may wish to use locally as assurance of compliance with this Rapid Response Report.

Action	Suggested assurance of compliance
1. Their rolling programme of basic life support (BLS) training for all staff is based on Resuscitation Council standards which include the management of choking.	Documentation of local BLS training content (e.g. lesson plans, competencies) with management of choking content included. A training plan with updates at intervals recommended by the Resuscitation Council (UK) and incorporating induction of new staff and temporary staff.
2. All patient areas have immediate access to appropriate BLS equipment (e.g. self-inflating bag-mask devices, or mouth-to-mask devices).	Record of BLS equipment provided in each ward or department and audit or equipment maintenance records demonstrating BLS equipment remains available and in good working order.
3. All patient areas where a cardiac arrest might be expected at least once every five years should have access to Automated External Defibrillators within three minutes.	Where defibrillators are shared between wards, evidence that they can reach all patient areas within the three minute timescale recommended by the Resuscitation Council (UK) ^{xix} (e.g. timed practice runs). Where any patient area is deemed not to require access to a defibrillator, clear justification for this (based on risk assessment of the patient group, not solely on the basis of previous cardiac arrests).
4. All inpatient units where rapid tranquilisation, physical intervention, or seclusion may be used have access to staff trained in immediate life support (ILS) and to all equipment specified in NICE Guideline 25 (including AEDs).	Policy or training plan for identifying staff requiring ILS equivalent training to provide 24/7 access. Where ILS trained staff are provided through a central team and/or ILS equipment is shared between wards, evidence that they can reach all inpatient areas within appropriate timescales (e.g. timed practice runs). Record of ILS equipment provided in each ward or department and audit or equipment maintenance records demonstrating ILS equipment remains available and in good working order.
5. Wherever feasible, their training includes regular practices or drills in addition to classroom teaching.	Planned programme of basic practice runs carried out by ward staff (e.g. covering coordination of calling for help, starting resuscitation, fetching equipment, supervising other patients etc.) Planned programme of practices or drills overseen by resuscitation trainers (or where drills and practices are believed to be unfeasible in any area for clinical care or security reasons, justification of this). [†]
6. A leadership role for resuscitation issues is identified (including within organisations whose resuscitation training is contracted out) and levels of attendance at life support training are routinely audited, reported to a senior level of the organisation, and any lapses acted on.	Job description of the person with an operational leadership role for resuscitation issues (not solely a training lead). A nominated Clinical or Executive Director providing strategic leadership for resuscitation issues. Notes from a committee with at least one Director level member that include a review of current levels of attendance, actions to address any identified lapses, and plans to regularly review future levels of attendance.

[†] Note that some organisations have successfully introduced unannounced practices and drills even in secure and psychiatric intensive care units, so that staff have an opportunity to rehearse combining resuscitation for one patient with managing security issues and the care of other patients.

Appendix 3 Resources and further reading

The Resuscitation Council (UK) website

www.resus.org.uk/siteindx.htm

NICE guidance 25 The short-term management of disturbed/violent behaviour in in-patient psychiatric settings and emergency departments.

<http://www.nice.org.uk/guidance/index.jsp?action=download&o=29716>

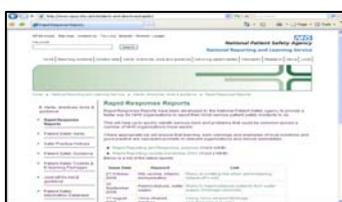
Independent Inquiry into the death of David Bennett

http://www.nscsha.nhs.uk/resources/pdf/review_inquiry/david_bennett_inquiry/david_bennett_inquiry_report_2003.pdf

Risk factors during restraint

<http://www3.interscience.wiley.com/journal/118850703/abstract>

NPSA HOSTED WEB BASED DISCUSSION FORUM



Do you need expert clarification or help in implementing this RRR?

Do you have a question about this RRR you think others may also be asking?

Do you have experience relevant to this RRR you want to share?

Join our web forum at: www.npsa.nhs.uk/nrls/alerts-and-directives/rapidrr

The NPSA is providing the web-based forum to assist with local implementation of this RRR. As well as providing a forum for discussion, the NPSA has asked a select group of mental health and resuscitation specialists to provide answers to questions posed by you. We hope to help you implement the RRR recommendations successfully and reduce the potential for future resuscitation related patient safety incidents in mental health and learning disability settings.

We are piloting ways in which we can make RRRs more implementation-ready and if successful we may make web-forums a regular feature of RRR launches.

Please note all forum posts will be moderated before going live on the NPSA website.

NPSA dysphagia resources

<http://www.npsa.nhs.uk/nrls/alerts-and-directives/directives-guidance/dysphagia/>

Resources that give advice on recognising and acting on early signs of deterioration before cardiac arrest occurs

Safer Care for the Acutely Ill Patient

<http://www.npsa.nhs.uk/nrls/alerts-and-directives/directives-guidance/acutely-ill-patient/>

Recognising and responding appropriately to early signs of deterioration in hospitalised patients

<http://www.npsa.nhs.uk/EasySiteWeb/GatewayLink.aspx?allId=6240>

NICE guideline, Acutely ill patients in hospital: Recognition of and response to, acute illness in hospitalised adults, <http://www.nice.org.uk/CG50>

Patient Safety First Campaign (England)

www.npsa.nhs.uk/nrls/improvingpatientsafety/nhs-patient-safety-campaign/

Wales 1000 lives campaign Ymggyrch 1000 O Fywydau

www.wales.nhs.uk/sites3/home.cfm?orgid=781

<http://www.npsa.nhs.uk/patientsafety/alerts-and-directives>

References

- ⁱ Cardiopulmonary Resuscitation: standards for clinical practice and training Resuscitation Council (UK) 2004 – page 10
- ⁱⁱ Colquhoun M et al. Defibrillators in public places: the introduction of a national scheme for public access defibrillation in England. *Resuscitation* , Volume 52 , Issue 1 , Pages 13 - 21
- ⁱⁱⁱ NICE Clinical Guideline 25 The short-term management of disturbed/violent behaviour February 2005
- ^{iv} NICE Clinical Guideline 25 The short-term management of disturbed/violent behaviour February 2005 - page 14
- ^v NPSA 2007 *Safer Care for the acutely ill patient* NPSA: London
- ^{vi} Harris EC and Barraclough B. (1998) Excess mortality of mental disorder. *British Journal of Psychiatry*, 173, 11 -53
- ^{vii} Mehtonen OP, Aranko K, Malkonen L et al. Survey of sudden death associated with the use of antipsychotic or antidepressant drugs: 49 cases in Finland. *Acta Psychiatr Scand* 1991, 81:372-377.
- ^{viii} Reily JG, Ayis SA, Ferrier IM et al. Thioridazine and sudden unexplained death in psychiatric in-patients. *Br J Psychiatry* 2002, 180:512-522.
- ^{ix} Aziz SJ, Campbell-Taylor I. Neglect and abuse associated with under nutrition in long-term care in North America: Causes and solutions. *J Elder Abuse Negl* 1999; 10:91-117.
- ^x Simpson GM, Davis JM, Jefferson JW et al. Sudden deaths in psychiatric patients: The role of neuroleptic drugs. *American Psychiatric Association Task Force Report 27*. 1987 Washington, DC: APA.
- ^{xi} Ruschena D, Mullen PE, Palmer P et al. Choking deaths: the role of antipsychotic medication. *Br J Psychiatry* 2003; 183:446-450
- ^{xii} Fioritti A, Giaccotto L, Melega V. Choking incidents among psychiatric patients: retrospective analysis of thirty-one cases from the west Bologna psychiatric wards. *Can J Psychiatry* 1997; 42(5):515-20.
- ^{xiii} Office of the Ombudsman for Mental Health and Developmental Disabilities. Choking Alert. November 2007. available at <http://www.ombudmhdd.state.mn.us/alerts/chokingalert.pdf>
- ^{xiv} Bazemore PH, Tonkonogy J, Ananth R. Dysphagia in psychiatric patients: clinical and videofluoroscopic study. *Dysphagia* 6 (1):2-5.
- ^{xv} Schmitt MF, Hewer W. life threatening situations caused by bolus aspiration in psychiatric inpatients-clinical aspects, risk factors, prevention, therapy. *Fortschr Neurol Psychiatr*. 1993; 61:313-8.
- ^{xvi} Resuscitation Council (UK) *Resuscitation guidelines 2005*
- ^{xvii} Cardiopulmonary Resuscitation: standards for clinical practice and training Resuscitation Council (UK) 2004 – page 10
- ^{xviii} Resuscitation Council (UK) *Resuscitation guidelines 2005* page 14
- ¹⁹ Resuscitation Council (UK) *Resuscitation guidelines 2005* page 25