

British Association of Critical Care Nurses

Position Statement On The Use of Restraint In Adult Critical Care Units

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SUMMARY

- Critical Care nurses in the United Kingdom have become increasingly concerned about the use, potential abuse, and risks associated with physically restraining patients.
- Restraint in critical care is not only confined to physical restraint but can also encompass chemical and psychological methods
- There are concerns regarding the legal and ethical issues relating to the (ab)use of physical restraint techniques in critical care
- The aim of this paper is to present the British Association of Critical Care Nurses (BACCN) position statement on the use of restraint in adult critical care units, and to provide supporting evidence to assist clinical staff in managing this process.

Key words: Chemical, Critical Care, Ethical, Evidence, Legal, Physical, Restraint

BACCN Position:

- The purpose of restraint is to facilitate optimal care of the patient
- Use of restraint must not be an alternative to inadequate human or environmental resources.
- Restraint should only be used when alternative therapeutic measures have proved ineffective to obtain the desired outcome.
- Decisions regarding use or non-use of restraint must be made following a detailed patient assessment, by the inter-disciplinary team.
- Critical care areas must develop and implement protocol /guidelines in order to assist nurses and others in this process.
- Whatever form of restraint is used there must be appropriate, continual assessment tools used, and the findings acted upon.
- Clear, concise documentation of decisions, plans and treatment must be held within the patients' record.
- The patient and their family should be engaged within discussions to inform them of the reason for choice of the restraint method.
- Education for all staff regarding chemical, physical and psychological restraint must encompass training and competency programmes in critical care units.

BACKGROUND AND INTRODUCTION

The BACCN as one of the main national organisations for critical care nurses in the United Kingdom (UK), with over 3,600 members, considers that, it is the association's responsibility to provide support to the membership through the formulation of various position statements. Increasingly, BACCN members have been voicing their concern over the increased use of physical restraints in practice. This was noted through a growing number of requests for professional advice on this subject. The use of physical restraint in critical care is not normally accepted in the care or management of critically ill patients.

When examining the subject of restraint in healthcare, chemical, physical and psychological aspects are always included. In the UK physical restraint is neither widely accepted nor widely used, whereas in the United States of America (USA), Australia, and mainland Europe it is a more conventional practice. In the UK it is argued chemical restraint is used as a more accepted alternative. (Maccioli et al 2003, Van Norman and Palmer 2001, RCN 2004)

A group of experienced critical care nurses with an interest and expertise in the area of restraint were invited via BACCN regions to form a working party, led by Kate Bray and Karen Hill. The information included in this statement refers only to adult patients, and implications for paediatrics has not been addressed.

METHODOLOGY

A wide range of available databases was searched to gather evidence, and facilitate the evolution and development of the position statement. The databases searched included: Medline, CINAHL, Cochrane database, Department of Health, and the National Research Register. Prior to conducting a comprehensive search of the literature, the following terms were used: restraint, physical, chemical, critical care, intensive care, education, relatives, agitation, sedation, delirium, complementary therapies, alternative therapies, legal, ethical, and outcomes. Parameters included English Language, articles relating to human subjects, and papers restricted to the last 15 years. The literature was then reviewed through the following categories:

- Legal and ethical issues
- Alternative therapies
- Chemical restraint
- Physical restraint
- Risk management issues
- Educational issues
- Department of Health: Policy and other professional documents
- Views of patients and their families

With regard to 'restraint in critical care' the only available literature emanated from the United States of America (USA) and Australia, with few examples from the UK, and is mainly focused on physical restraint. Similar to other guidelines regarding

restraint (Maccioli et al 2003, Evans et al 2002) the working group found the available evidence, to be focused around individual cohort studies, case series, and qualitative studies. The group set out to construct a document as a resource for critical care staff, based on the best current available evidence, to qualify the points of the position statement, and act as a resource for critical care staff when considering restraining therapies in any form.

LEGAL AND ETHICAL CONSIDERATIONS

Critically ill patients depend upon nursing staff to attend to all their basic and complex needs (Reigle 1996). During confusional or delirious states patients may inadvertently remove their endotracheal or tracheostomy tube, dislodge their vascular access or arterial line, or remove dressings, and expose a surgical wound, thus jeopardising their well being. Preventing and protecting the patient from harm are central nursing responsibilities for individuals who are temporarily incapacitated. Jacobi et al (2003) suggest that 80% of Intensive Care Unit (ICU) patients may experience some degree of agitation during their stay; the causes of this are numerous and are covered in another section of this paper. The use of physical and chemical restraint may be seen as a simple solution to this problem, however it is complicated by a professional obligation to ensure patient freedom, dignity, and autonomy are maintained (Reigle 1996), and enshrined in the Code of Conduct (NMC 2002). Physical restraints are associated with risk and are a drastic intervention, so it follows that patient consent must be sought (DoH 2001). However when discussing restraint in general, professionals may consider the need to obtain consent for physical restraint, yet if a decision is made to administer chemical restraint for critically ill person consent is rarely sought (Van Norman and Palmer 2001).

Everybody has the right to be free from the use of unauthorised force to restrain their movements, unless they are subject to legal detention (Human Rights Act, Article 5, 1998). In addition no one should be subjected to torture or degrading treatment (Human Rights Act, Article 3, 1998). However The Mental Health Act of 1983 (DoH 1999) notes five common reasons for the use of restraint, these involve: non-compliance with treatment, self harm and risk of a physical injury by accident, being the two most relevant in the critical care setting. The Mental Health Act (DoH 1999) also points out that "Restraints may take many forms. It may be both verbal and physical and may vary in degree from an instruction to seclusion." Moreover Happ (2000) suggests that when a patient believes he is restrained, he is, psychologically.

Patients in critical care environments may undergo changes to their normal behaviour, due to their underlying illness and pathology. Health care teams in critical care units face difficult decisions about identifying strategies to prevent the patients from harming themselves. The Department of Health Guidelines (2001) on consent are clear, and it adds that no one is able to give consent on behalf of another, however, the need to communicate and work closely with the patient and relatives is stressed. These guidelines emphasise that consent is not a one off process, but ongoing, and encompasses treatment, physical investigation, and personal care for patients. In Scotland, the Adult with Incapacity Act (Scottish Executive 2000), states that guardians may be appointed to help with decision making on behalf of the adult with incapacity. Many interventions used within Critical Care environments can impair the patient's ability to make such decisions i.e. medication, illness, language barriers and

emotional distress. The need to respect patient autonomy is widely upheld as a measure of professional practice, but it implies that the individual is competent, or that there is an elected guardian to represent their best interests. When consent cannot be obtained it is recognised that the “reasonable person” rule can be applied. This enables a professional to act in the best interests of the patient according to approved accepted standards of care. It is reasonable to assume that a “reasonable person” would wish to be treated for life threatening conditions when not able to give consent. (Dimond 2002). The Department of Health (2001) advises that if clinical staff are unsure of the legal implications of an intervention then expert advice should be sought from the associated legal department.

Critical care staff have a moral obligation to do no harm, *non-maleficence*, and to promote good, *beneficence* (Beauchamp and Childress 1994). This implies that health care professionals need to balance the risks and benefits associated with all forms of restraint. This is confounded with patients who lack the capacity to consent, and rapid decisions are needed to ensure patients do not harm themselves. In such cases actions need to be justified, and for the purpose intended (Reigle 1996), introducing guidelines for staff to follow will aid in such judgements when they have to be made (Vance 2003).

Balancing the best interests of the patient to ensure safety and promoting the patients well being and safeguard their interests, may be difficult, but is the responsibility of the nurse who must adhere to their Code of Professional Conduct (NMC 2002). Happ (2000) felt that the nurse’s presence at the bedside was a crucial element in the reduction of the use of restraints, and that the environment and use of other diversional therapies should also be considered. In the USA legislation from the Joint Commission on Accreditation of Healthcare Organisations (JCAHO 1996), and malpractice claims have led to a review of practice regarding the overuse of physical restraints (Kapp 1996). As cited in Vance (2003), the JCAHO standard for physical restraint must be limited to be ‘clinically appropriate, adequately justified, and used only after all other non-restrictive and innovative alternatives have failed’ (p 87). The JCAHO (1996) also suggest monitoring the amount of physical restraint used as a quality indicator. Reversing the practice and culture in the USA in reducing the use of physical restraints has presented challenges to nursing staff that are trying to explore alternative methods whilst maintaining patient safety (Vance 2003).

When all other alternative therapies have failed, and as a last resort, in the UK there are situations when it would be seen as lawful to use reasonable force and to restrain a patient (Dimond 2002). These are:

- To prevent self-harm or risk of physical injury,
- Where staff are in immediate risk of physical assault,
- To prevent dangerous, threatening or destructive behaviour.

However, nurses need to ensure this is reasonable and proportionate to the circumstance; otherwise they may face allegations of assault, (DoH 2001, RCN 2004), or breach of the Human Rights Act, Article 3&5. (DoH 1998). Consensus needs to be reached between the health care professionals, patient and relatives where possible. (DoH 2001, RCN 2004)

RISK MANAGEMENT ISSUES

The majority of evidence on physical restraint comes from USA, where restraint techniques have been used in many clinical settings. However such approaches have been questioned as there is little substantial evidence to support restraint in reducing patient self-harm and injury (Kapp 1996, Mion 1996, Martin 2002, Maccioli et al 2003). Evidence from the USA suggests that physical restraints were not consistent in preventing self-extubation, indeed such interventions may aggravate and increase the incidence of patient agitation. Anecdotal reports suggest that restraint of patients has led to death and injury (Robinson et al 1993). It is further reported that injuries have occurred when staff have neglected to monitor and adjust restraints (Kapp 1996). The side effects of physical restraint are expanded on elsewhere in this article. Reports from the USA evidence claims of negligence and battery made when patients have been restrained. The result of which has led to the need for physical restraints being a prescribed device, and written standards being produced (JCAHO 1996), as a means to limit overuse in institutions (Kapp 1996). Further studies suggest that reduced nurse patient ratios may increase the use of both physical and chemical restraints (Mion 1996, Leith 1998, Heffner 2000). There is growing evidence to suggest that higher nurse patient ratios are associated with better patient outcomes (Doering 2003). Nurse patient ratios must be considered, and lack of nursing staff is not a rationale for utilising restraint therapies (RCN 2004).

Whilst clinical practice in the UK may not rely on physical restraint techniques, chemical restraint is used as a means of sedating patients (Heffner 2000, Van Norman and Palmer 2001). The potential side effects and risks of sedation overuse, and increased duration of mechanical ventilation is expanded on elsewhere in this paper. In order to undertake a risk assessment for the use of restraint in the critically ill adult factors as seen in Table 1 need to be taken into consideration (**Table 1**).

AGITATION, CONFUSION AND DELIRIUM

Patients who are delirious or agitated may require some form of restraint. As stated earlier when patients become agitated or confused they may remove their invasive lines, life saving equipment, become aggressive, and even expose themselves (Maccioli et al 2003). Jacobi et al (2003) suggest as many as 80% of patients in critical care have agitation and delirium, which they define as: “an acutely changing or fluctuating mental status, inattention, disorganized thinking, and an altered level of consciousness that may or may not be accompanied by agitation” (p 131).

Despite the high incidence of delirium it is often under-recognized and under treated (Truman et al 2003). Delirium in critical care has been identified as an independent risk factor for prolonged hospital length of stay (Ely et al 2001). Sedation scales provide information about the level of consciousness or arousal but do not assess the content of consciousness. (Truman and Ely 2003). The Society of Critical Care Medicine guidelines recommend that critically ill patients be monitored for their level of sedation and for the risk of developing delirium (Jacobi et al 2003).

Assessment tools such as the Confusion Assessment Method (CAM –ICU) can be used to assess for delirium (Truman and Ely 2003). Treatment of delirium should first involve prevention, by trying to re-orientate patients, minimising noise, and regular analgesia, and include a review of the patients’ current drugs. Truman and Ely (2003) argue that ‘benzodiazepines and narcotics that are often used in critical care to

treat confusion/delirium actually *‘worsen cognition and exacerbate the problem’* (p34). Clonidine has been used to augment the effects of sedation in agitated patients and may be useful in patients who are agitated, where the possible cause may be drug withdrawal syndromes (Spies et al 1996, Ip Yam et al 1992). Jacobi et al (2002) recommend that Midazolam or Diazepam be used for rapid sedation of acutely agitated patients, and Haloperidol as the preferred agent for the treatment of delirium in critically ill patients. Considerations for managing delirium are shown in **Table 2**.

PRE-DISPOSING FACTORS OF AGITATION, CONFUSION AND DELIRIUM

Agitation has treatable causes including, pain, sleep deprivation, hypoxia, mechanical ventilation, fear, myocardial ischaemia and altered cell metabolism (Powers, 1999). Anxiety can cause a patient to be agitated and can put the patient at risk of self-injury as previously exemplified. This can escalate to confusion and agitation, and if not addressed can lead to full-blown delirium (Marshall and Soucy 2003). Anxiety and stress are influenced by a number of factors including an inability to communicate and frustration, unfamiliar surroundings, (Barr et al 1995), frequent procedures, loss of control over self, anticipation of real or imagined danger, noise, irregular sleep and wake patterns (White and Zellinger 2001).

Critical care personnel should aim to minimise negative effects of the physiological response to stress (Epstein and Breslow 1999), which can be triggered by pain, anxiety, fear and sleep deprivation (Hooper and George- Gay 1997). Physiological stress response causes the release of catecholamines, which in turn causes impaired cellular metabolism, myocardial irritation, ischaemia and global increase in oxygen consumption. It is important to control anxiety and agitation to improve tolerance to endotracheal or tracheostomy tubes to enhance ventilator synchronization with the patient (Egerod 2002).

Physical and psychological causes for delirium and ICU Syndrome result from organic and metabolic effects, patient’s personality, age, emotional condition at onset of illness. Environmental factors include isolation, impersonal environment, sensory overload and sleep deprivation (Granberg et al 1996). Other predisposing factors include: drugs, infection, stress, lack of sleep, or too much or too little stimulation. Advanced age brings additional challenges, as the elderly are more sensitive to changes to hypoxia and choline (Marshall and Soucy 2003). Precipitating factors include stress, difficulty communicating, reduced mobility, altered body image, altered identity, isolation and loneliness.

Pain and general discomfort

This can be caused by the underlying disease and is a common reason for agitation. It is a significant cause of anxiety in patients and contributes to the stress response. Analgesia is vital in achieving optimal sedation (White and Zellinger 2001), however difficulties arise in critical care in assessing pain levels in patients who are not able to communicate (Slomka et al 2000). Strategies must be used to assess and manage pain in critically ill patients. (Shannon et al 2003).

Under-sedation

Occurs in patients with increased metabolic states, and history of drug and alcohol abuse, resulting in increased tolerance. It is easily recognised as agitation, anxiety, and sometimes attempts by the patient to remove invasive devices such as intravenous lines, endotracheal tubes, and attempts to get out of bed or aggressive movement towards staff in the unit. Under-sedation can cause cardiovascular effects of tachycardia, hypertension, increasing metabolic rate and oxygen requirements and be detrimental to the patient's condition and lead to inadequate ventilation (Carrasco 2000).

Noise

Noise is a significant stressor for patients. Contributory factors are inappropriate alarm settings, suction equipment left on after use, and telephones (Dyer 1996). Staff conversations have been regarded as a significant source of noise and confusion for patients. Patients remembered hearing parts of conversations during bedside ward rounds, which led to misinformation and fear and contributed to persecutory delusions (Russell 1999).

Inadequate sleep

Sleep is needed for the healing process, and if inadequate can contribute to an increased morbidity and mortality (Krachman et al 1995). Sleep is necessary for patients to prevent ICU psychosis (Ollevent et al 1998), and can be helped by sedation. Nursing interventions can disturb sleep and cause a vicious cycle resulting in reversal of sleep-wake cycle. Lack of natural light, noise, pain, separation, communication, immobilisation all contribute to disturbed sleep.

Alcohol withdrawal

The prevalence of dependence on alcohol in the UK overall is 74 per 1,000: 119 per 1,000 in men, and 29 per 1,000 in women (Singleton et al 2001). These figures are higher in the younger adults: currently there are 150,000 alcohol related hospital admissions per year. Potentially critical care units will be caring for more patients with alcohol dependence in the future. Complications of alcohol abuse are common. Alcohol withdrawal syndrome (AWS) includes symptoms of delirium, pancreatitis, seizures, aspiration syndromes, acute respiratory distress syndrome, sepsis and multiple metabolic disorders. Delirium tremens (DTs) will develop in 5% of those hospitalised for AWS and rise to 15% if not treated. AWS develops when levels of alcohol fall after prolonged or excessive consumption. This is due to reduced alcohol levels in the brain, which create an imbalance and excessive neuronal activity (Satz 1998).

Watling et al (1995) suggest an alcohol withdrawal protocol can co-ordinate care for patients dependent on alcohol. This allows for staff to measure signs of withdrawal objectively, administer drug doses based on withdrawal symptoms, and allows flexibility in administering appropriate doses. Substitution of the drug that has been abused with another one that has a similar pharmacological profile is the general approach to treatment of physical drug dependency (Crippen, 2000). The choice of drug should be one such as midazolam, which can give as a continuous infusion that can be altered rapidly if required. Haloperidol is beneficial in the treatment of restlessness and aggressive agitation especially in combination with benzodiazepines (Crippen, 2000). Other medications include chlorodiazepoxide, chlormethiazole and

occasionally alcohol orally. Benzodiazepines are easily titrated for controlled withdrawal and less toxic to organ systems and are favoured over using ethanol infusions to treat Delirium Tremens. Propofol can also be used when sedation alone is insufficient because of its progressive dose dependent continuum of anxiolysis, hypnosis, sedation and finally anaesthesia. In critical care these medications are not given as a method of curing the addiction but to control the symptoms of withdrawal, during the critical illness phase and help compliance with treatment as a supportive measure. (Honisett 2001).

Nicotine withdrawal

This can cause delirium, which is reversible (Mayer et al 2001). Patients admitted to intensive care are subjected to enforced nicotine withdrawal, as nicotine is addictive. Smokers have been shown to be more likely to self-extubate than non-smokers (Atkins et al 1997). It is normally noted on admission or from the patient's family, whether and how much a patients smokes. This is called the fifth vital sign (Fiore and Jorenby 1991). Honisett (2001) suggests nicotine replacement therapy has a place in treating symptoms of withdrawal and can reduce length of stay in ICU. It is reported by Balfour et al (2000) that nicotine replacement therapy is well known and is now standard treatment for people who stop smoking. Nicotine patch alleviates symptoms of withdrawal including cravings, changes in heart rate, and improvement of delirium. There is uncertainty about the efficacy and safety of nicotine patches especially with cerebrovascular disease, e.g. post myocardial infarction or cerebrovascular accident due to the possible increase in thrombogenic potential of cerebral endothelium (Mayer et al, 2001).

Other drug withdrawal

This can be managed with replacement therapy of sedation with benzodiazepines or propofol. Replacement with fentanyl, morphine, or methadone can be used for narcotics. (Mayer et al, 2001).

A summary of Managing factors associated with agitation and confusion can be found in **Figure 1**

ALTERNATIVE NON-RESTRAINT METHODS/CONSIDERATIONS

Complementary and alternative therapies

Evidence regarding complementary and alternative therapies varies in quality and quantity, though, for specific conditions the evidence base is more robust (Kreitzer et al 2000). Patients in critical care have complex physiological and psychological needs, and there is currently little substantive evidence overall, however the use of such therapies can be considered if thought beneficial for the individual patient (Kreitzer et al 2000). In reviewing the evidence related to critical care settings, the following was found in regard to specific therapies:

Massage

Richards et al (2000) found this could be beneficial for patients, in promoting relaxation and reducing pain. More robust research is required with regards to reducing anxiety in the critical care patients (Richards et al 2000)

Music therapy

Wilkins (2002) demonstrated that music reduced agitation in confused patients, improved mood, and facilitated communication. Music therapy is easy to administer, relatively inexpensive, non-invasive intervention that can reduce anxiety and pain. (White 2000)

Acupuncture

Acupuncture and acupressure are commonly used to reduce anxiety in the Orient but infrequently within Western medicine. (Cohen and Abraham 2002)

Communication

Efforts to communicate with the patient via a non-verbal route are frequently unsuccessful, causing patients to feel frustrated, depersonalised, and insecure. Verbal communication with the patient is often impossible due to the presence of an endotracheal or tracheostomy tube (Hewitt 2002). Studies of patient's recollections of ICU demonstrate that staff in often fail to acknowledge a sedated patient's presence when discussing physiological condition and treatment plans (Russell 1999). Comments on poor prognosis increases their fear of impending death and disability, contributing to anxiety confusion. (Russell 1999, Rotondi and Chelluri 2002))

Therapeutic Touch

Expressive touch can enhance communication with a sedated patient. Its use informs the patient that the nurse is focused on them There is evidence that touch has a comforting and calming effect on patients (McInroy and Edwards 2002).

Involvement of Relatives

Relatives and friends are a support in sustaining orientation of the patient. Their inclusion with planning care should be valued (Hewitt 2002). Human beings provide an important part of the sensory environment for most patients

Melatonin

Small short-term studies (Bonn 1996) have suggested that melatonin can improve sleep quality by co-ordinating biological and circadian rhythms. It is acknowledged that further research needs to be carried out into this area.

If ICU Staff are considering the introduction of complementary and alternative therapies to critical care practice it is recommended that the following are considered: collating the evidence base with regard to safety and efficacy, consent from the patient, appropriateness of the therapy, developing and utilising protocols, use of qualified therapists, education, training and audit. (RCN 2003, Kreitzer et al 2000)

CHEMICAL RESTRAINT

Traditionally chemical restraint within critical care settings is used in the following ways:

- Sedation most commonly, this involves continuous intravenous sedation given to patients being mechanically ventilated.
- Neuromuscular Blocking Agents or Paralysing Drugs, sometimes used to prevent patients breathing themselves whilst on mechanical ventilation, or to prevent raised intracranial pressure in head injured patients.
- Drugs used specifically to manage agitated, acutely confused, delirious patients. This includes sedation and antipsychotic drugs.

Sedation

Sedation is used most commonly in critical care for patients who are being mechanically ventilated, and is given for the following reasons: comfort, reduction of

anxiety, amnesia, to facilitate care such as ventilation, and to reduce myocardial oxygen demands (Ball 2002). Woodrow (2000) claims that there are sound humanitarian arguments for the use of sedation, which include the reduction of discomfort from the endotracheal tube, and ensuring that the patient is synchronous with the ventilator. Accepting that there are sound humanitarian arguments for the use of sedation in critical care there does however appear to be a tendency to over sedate patients (Heffner 2000), and sedation can have significant unwanted side effects, such as:

- Hypotension, producing increased need for inotropic drugs.
- Detrimental effects on the pulmonary vasculature increasing V/Q mismatch
- Reduced REM sleep. No sedatives provide REM sleep, and a lack of REM sleep can be a common cause of ICU psychosis.
- Accumulation leading to delayed weaning and increased length of ICU stay
- Reduced intestinal motility which can impair the establishment of enteral feeding

(Intensive Care Society 2003: www.ics.ac.uk/downloads/sedation.pdf)

Park (2002) highlights that in the UK the medical approach to sedation is one that focuses on sedation first, with pain relief considered as an adjunct therapy. This approach argues Park (2002), can lead to over sedation. The Society of Critical Care Medicine guidelines for the sustained use of sedatives in the critically ill (Jacobi et al 2002), states that the optimal sedation level will be influenced by the patient's illness and the supportive treatments they require. Many of the sedation assessment tools aim for an optimal sedation level where the patient receives the minimal amount of sedation that enables them to be aware but calm, and tolerant of treatments such as mechanical ventilation. Some patients however may require deep levels of sedation to facilitate mechanical ventilation (Jacobi et al 2002). The Society of Critical Care Medicine guidelines (Jacobi et al 2002) state: "The desired level of sedation should be defined at the start of treatment and re evaluated on a regular basis as the clinical condition of the patient changes." (p 124). In the UK sedation is commonly given by continuous infusion. This method may prolong the duration of mechanical ventilation, length of stay in critical care and may increase the need for tests such as CT scan to assess alterations in mental status.

In a randomised controlled trial Kress et al (2000) demonstrated that stopping continuous sedative infusions once per day reduced the time spent on mechanical ventilation. In the control group where sedation was stopped at the discretion of a doctor, the median duration of mechanical ventilation was 7.3 days, whilst in the intervention group, who had a daily sedation hold it was 4.9 days. Length of ICU stay was also shorter in the intervention group, and they required fewer tests such as CT scans to assess changes in their mental status. This practice of sedation holds is now being promoted by the Modernisation Agency as part of a 'care bundle' for ventilated patients (Berenholtz et al 2002, Fulbrook and Mooney 2003).

Jacobi et al (2002) recommend that a validated sedation assessment scale be used. There are a number of Sedation Scales that have been validated for use in critically ill patients such as the Motor Activity Assessment Scale (Devlin et al 1999) and the Ramsey scale (Ramsay et al 1974). Many of the scales define categories of sedation but do not guide the titration of therapy. In the UK the following are commonly used for sedation:

- Anaesthetics
- Hypnotics
- Opiates
- Benzodiazepines

Less common drugs include Remifentanyl and, Clonidine. Remifentanyl is a new type of analgo-sedation, with a more predictable action. It has a rapid onset and rapid offset (Park 2002). Lane et al (2002) described the use of remifentanyl in 17 patients. Patients sedated with remifentanyl received less propofol or midazolam, and eight of the patients were able to be sedated using remifentanyl alone. Further research needs to be done on using remifentanyl in critical care involving larger numbers of patients, but this approach of treating pain first and then using hypnotics if required may mean that patients are able to remain more awake whilst on intensive care, and may therefore require less chemical restraint. Recommendations for the use and management of sedation can be found in **Table 3**.

Neuromuscular blocking agents

The use of neuromuscular blocking agents to paralyse patients could be considered the most extreme kind of chemical restraint used in intensive care, especially in view of the potential risk that the patient may be insufficiently sedated (aware) and paralysed. The Society of Critical Care Medicine guidelines (Murray et al 2002) state that neuromuscular blocking agents should only be used as a last resort, in the following circumstances- increased ICP, muscle spasms, and to decrease oxygen consumption, but only after all other treatments to improve the clinical situation have been tried. The guidelines also state that neuromuscular blocking agents should be stopped daily and only restarted if the patient's condition requires them. Recommendations for the management of neuromuscular blocking agents can be found in **Table 4**

PHYSICAL RESTRAINT

In a systematic review of evidence regarding physical restraint in acute and residential settings Evans et al (2002a) found that between 7% and 17% of hospital patients are subject to physical restraint. There are reports of the adverse effects of physical restraint, which can culminate in death (Miles and Irvine 1992, Ruben et al 1993, Parker and Miles 1997). The Food and Drug Administration (FDA) estimated that at least 100 deaths occurred annually from improper use of restraints (Milliken 1998). Evidence demonstrates that the use of physical restraint can lead to: skin trauma, pressure sores, muscular atrophy, nosocomial infection, constipation, incontinence, limb injury, contractures, depression, anger, a decline in functional and cognitive state, and increasing agitation (RCN 2004, Evans et al 2002a). It is reported that there are negative effects on patients and their families, with patients feeling disgraced, and embarrassed in remembering the experience (Strumpf & Evans 1988, Kanski et al 1996). The negative effects on patients and their families in critical care are described in another part of this paper.

Harm associated with physical restraint is usually explored in terms of physical or psychological injury, rather than in terms of patient's rights. It is suggested that benefits of physical restraint increase a patient's vulnerability to neglect and harm, are unproven, have no scientific basis, and no clinical trials have evaluated the effectiveness of restraints (Reigle 1996). In critical care two studies demonstrated that the incidence of self-extubation in already restrained patients exceeded 60%

(Cappolo D and May 1990, Grapp M et al 1995). Where physical restraint has been traditionally used and accepted, such as the USA, there are increasing concerns about its use, aiming to balance this intervention with the rights of the individual, providing humane care, and ensuring patients come to no harm (Reigle 1996). Efforts are now concentrating in reducing restraint in areas where it has been traditionally used, which have been more successful in residential settings than acute care (Evans et al 2002a). Different programmes and approaches are required depending upon the setting, but have demonstrated success in the ICU (Vance 2003). Considering the physical, psychological and ethical aspects of physical restraint it is advocated that such is only used when all other methods of managing the problem have failed, employed with caution, and as a last resort (RCN 2004, JCAHO 1996, Reigle 1996).

Recommendations when using physical restraint are included with risk issues as shown in **Table 1**

PATIENT AND RELATIVES PERSPECTIVES ON PHYSICAL RESTRAINT

Little evidence pertaining to patient and relatives perceptions on the use of physical restraints in critical care was found. Most of these articles originate from USA, Australia, and one from Italy where the use of physical restraints is widely recognised and accepted within their culture as an agreed method of practice. In these countries there is currently little or no critical care follow up provision and therefore their findings and patient numbers are limited, as is their use of chemical restraint.

Minnick et al (2001) in her study concluded that 'patients do not remember great distress specifically related to the use of restraints, but the overall situation leading to the use of restraints is disturbing if remembered'. Six patients (40%) in this study did remember being restrained, and the behaviour, which led to this (pulling intravenous and ventilator tubing). Although they reported knowing that they needed to stop, they were unable to do so. Four of these six patients remembered having visitors whilst restrained. None indicated any embarrassment or distress that their relatives witnessed this restraint. Two key themes, which should be taken into consideration, highlight the therapeutic use of physical restraints. Firstly, those patients who remembered restraints being used believed that they were used for the patients' own safety, that nothing else could be done and the restraints were removed once the patients were no longer agitated. Secondly, and of equal importance, was that the patients may have accepted restraints because they remembered at least one nursing action that enhanced the acceptability of restraints.

Another study (Simini 1999) researching into patient's perceptions of ICU found six patients out of fifty five interviewed remembered being 'tied to the bed', which is a small number if common practice is to physically restrain all patients. Completely juxtaposed to this, Bower and McCullough 2000, Rotondi and Chelluri 2002, and Russell 1999, indicate that studies over the past 20 years, have found that patients had 'negative feelings and described the event as very unpleasant'. Feelings such as anger, fear, resentment and not knowing the rationale for being restrained were noted.

The evidence from the studies previously described demonstrate how patients and families perceive restraint, and highlights that the latter are upset seeing their loved ones restrained and want to know more about the consequences of such policies. Few

seemed to understand the rationale for using restraints, and many were worried about the physical and psychological harm arising from these interventions on the patient. Involving the families in patient care was found to be a helpful way to reduce restraint use (Evans 2002), this is a theme highlighted by Hewitt (2002), who recognises that relatives and friends can provide support by assisting with orientation and should be valued as a resource.

Evidence from the UK

During the last decade more research has developed into the follow up of critical care patients, focusing on their physical and psychological outcomes. (Hayes et al 2000, Eddleston et al 2000, Skirrow et al 2001, Jones et al 2003) Such studies have started to describe the physical and psychological problems encountered by critical care patients, during and after their stay in critical care. These studies do suggest that both environmental factors and chemical therapies in critical care contribute to delusional behaviour of the critical care patient. As recommended by Skirrow et al (2001) the aim for future enquiry is to investigate further the causes of disorientation and psychotic episodes in our patients, to enable critical care staff in managing and preventing them.

A Follow Up service is excellent way to seek out both patient and relatives experience and feelings of their critical care admission (Griffiths and Jones 2002), and to evaluate restraint practice in general. Developing such a service is now recommended for critical care units, (Audit Commission 1999, DOH 2000), and can act as an excellent forum to evaluate the effects of clinical practice. Recommendations with regard to involving patients and their relatives is shown in **Table 5**

EDUCATION AND TRAINING

Educational programmes in critical care should address all types of restraint therapies. The USA and Australia are now addressing a reduction in physical restraint, (Vance 2003, Martin 2002, Evans 2002), by developing educational programmes aimed at enhancing understanding of:

- Patients rights and autonomy
- Ethical aspects of restraining patients
- Legal aspects
- Impact and dangers of physical restraint
- Restraint alternatives.

Such initiatives need to be developed in the UK, but also encompass creating greater awareness of chemical restraint as well as ways of preventing or minimising these approaches (Heffner 2000). Recommendations to assist in education and training are shown in **Table 6**.

Current Research:

The European Society of Intensive Care Medicine Nursing Section is currently undertaking a study on Physical Restraint in Intensive Care in Europe (PRICE study) The purpose of this study is to establish the incidence and reasons for physical restraint in adult intensive care units in Europe. The research will also be addressing any differences in the use of physical restraint, and any relationship between nurse: patient ratios.

Dr Christina Jones and Professor Richard Griffiths are co-ordinating a study regarding 'Psychological recovery from critical illness' between the Whiston Hospital Liverpool, Ferrara Hospital (Italy), Norrkoping and Gothenburg (Sweden) and Bergen (Norway). The Italian group are collecting data on the patient's memory of restraint and any later symptoms of Post Traumatic Stress Disorder.

The results of these studies will be disseminated internationally and add to the body of research within this field of practice.

It is recognised that further research needs to be undertaken to explore the practices of chemical restraint and reflections of patients/relatives concerned with their experiences of restraint within critical care.

CONCLUSION

This position statement was constructed in light of requests from members of the BACCN to explore the issues regarding all types of restraint therapies in critical care. It was perceived to be an important area of practice to review. Therefore the international and national evidence available were critiqued by the working party and the statement formulated. The publication of this work aims to provide health care professionals and managers with the meaningful position of the BACCN. It is not intended to be explicitly prescriptive, but to highlight to members, areas to be considered in order to inform their practice. The essence, core beliefs and values of the BACCN are withheld throughout this position statement, which centres on the needs of the critically ill patient and family to receive the highest standard of care available.

References

- Atkins PM, Mion LC and Mendelson W. (1997). Characteristics and outcomes of patients who self-extubate from ventilatory support: a case control study. *Chest*; 112:5:1317-23.
- Audit Commission. (1999). Critical to Success. The place of efficient and effective critical care services within the acute hospital. *Audit Commission*. London
- Ball J. (2002). Monitoring sedation in the ICU (How to Guide). *Care of the Critically Ill*; 18: 2.
- Balfour D, Benowitz N and Fagerstrom K. (2000). Diagnosis and treatment of nicotine dependence with emphasis on nicotine replacement therapy: A status report. *European Heart Journal*; 21:6: 323-5.
- Beauchamp T.L. and Childress J.F. (1994) *Principles of Biomedical Ethics* 4th Ed. New York. Oxford University Press.
- Berenholtz SM, Dorman T and Ngo K. (2002). Qualitative review of intensive care unit quality indicators. *Journal of Critical Care*; 17: 1 – 5
- Bonn D (1996). Melatonin's multifarious marvels: miracle or myth? *The Lancet*; 347: 184
- Bower F and McCullough C. (2000) Restraint Use in Acute Settings. Can it be reduced? *JONA*: 30:12:592 – 598.
- Cappolo D.P. and May J.J. (1990) Self Extubation: a 12-month experience. *Chest* 98:165 – 169
- Carrasco G. (2000). Instruments for monitoring intensive care unit sedation. *Critical Care*; 4: 217-25.
- Cohen I and Abraham E. (2002). Management of the agitated intensive care unit patient *Critical Care Medicine*; 30:1(supplement)
- Crippen D. (2000). Life-threatening brain failure and agitation in the intensive care unit. *Critical Care*; 4:2: 81-90.
- Department of Health and Welsh Office (1999) Mental Health Act 1983 Code of Practice. *Department of Health*. London.
- Department of Health. (2001). Reference Guide to Consent for Examination or Treatment. DOH. London. www.doh.gov.uk/consent
- Department of Health. (2000). Comprehensive Critical Care. A Review of Adult Critical Care Services. DOH. London www.doh.gov.uk/nhsexec/compcritcare.htm

- Doering L.V. (2003) California's AB 394: the two sides of mandated staffing ratios. *Intensive and Critical Care Nursing* **19**:253 - 256
- Dyer I. (1996). Intensive Care Syndrome. *Nursing Times* **92**:4: 58-59.
- Devlin JW, Boleski G and Mlynarek M. (1999). Motor Activity Assessment Scale: A valid and reliable sedation scale for use with mechanically ventilated patients in an adult surgical intensive care unit. *Critical Care Medicine*; **27**: 1271 – 1275.
- Dimond B. (2002). *Legal Aspects of Nursing* 3rd Ed. Longman. London.
- Eddleston JM, White P and Guthrie E. (2000). Survival, morbidity, and quality of life after discharge from intensive care. *Critical Care Medicine*; **28**:7:2293 - 2299
- Egerod I. (2002). Uncertain terms of sedation in ICU - How nurse and physicians manage and describe sedation for mechanically ventilated patients. *Journal of Clinical Nursing*; **11**: 831-40.
- Ely EW, Margolin R and Francis J. (2001). Evaluation of delirium in critically ill patients: validation of the confusion assessment method for the intensive care unit. *Critical Care Medicine*; **29**: 1370-1379.
- Epstein J, and Breslow M.J. (1999). The stress response or critical illness. *Critical Care Clinics*; **15**:1: 17-33.
- Evans D. Wood J. and Lambert L. (2002a) A review of physical restraint minimisation in the acute and residential settings. *Journal of Advanced Nursing* **40**:6:616 - 625
- Evans D. Wood J. and Lambert L (2002) Physical Restraint in Acute and Residential Care. A Systematic Review Number 22. The Joanna Briggs Institute Adelaide Australia. www.joannabriggs.edu.au/pubs/best_practice.php.
- Fiore MC, and Jorenby DE (1992). Tobacco dependence and the nicotine patch. *JAMA*; **268**:19: 2687-95.
- Fulbrook P, and Mooney S. (2003). Care bundles in critical care: a practical approach to evidence – based practice. *Nursing In Critical Care* **8**: 6: 249-255
- Granberg A, Engberg IB and Lundberg D. (1996). Intensive care syndrome: a literature review. *Intensive and Critical Care Nursing*; **12**:173-82.
- Grapp MJ. Glass C. and Lindamood MO. (1995) Factors related to unplanned extubation of endotracheal tubes. *Critical Care Nurse* **7**:57 – 65.
- Griffiths R. and Jones C. (2002) Intensive Care Aftercare. 1st Ed. Butterworth Heinemann. Oxford.
- Happ MB. (2000). Preventing treatment interference: The nurse's role in maintaining technological devices. *Heart & Lung*; **29**:1:60-69.

- Hayes JA, Black NA and Jenkinson C. (2000) *Health Technology Assessment*; **4**:24
- Heffner JE. (2000). A wake up call in the intensive care unit. *The New England Journal of Medicine*; **342**:1520 – 1522
- Hewitt J (2002). Psycho-affective disorder in intensive care units: a review. *Journal of Clinical Nursing*; **11**: 575-584.
- Honisett TD. (2001). Nicotine replacement therapy for smokers admitted to intensive care. *Intensive and Critical Care Nursing*; **17**: 318-21.
- Hooper VD, and George-Gay B. (1997). Sedation in the critically ill patient. *Critical Care Nursing Clinics of North America*; **9**:3: 395-410.
- Human Rights Act. (1998). *HMSO*. London
- Intensive Care Society www.ics.ac.uk/downloads/sedation.pdf
- Ip Yam PC, Forbes A, and Knox WJ (1992). Clonidine in the treatment of alcohol withdrawal in the intensive care unit. *British Journal of Anaesthesia*; **69**: 328.
- Jacobi J, Fraser GL, and Coursin DB (2002) Clinical practice guidelines for the sustained use of sedatives and analgesics in the critically ill adult. *Critical Care Medicine*; **30**: 1:119 - 141
- Joint Commission on Healthcare Organisations. (JCAHO) (1996). Comprehensive Accreditation Manual for Hospitals. *Restraint and seclusion standards plus scoring: Standards TX.7.1 – TX.7.1.3.3*. Oakbrook Terrace, IL: Joint Commission on Healthcare Organisations 1996 191 - 193
- Jones C, Griffiths RD, and Humphris G (2001) Memory, delusions and the development of acute posttraumatic stress disorder-related symptoms after intensive care. *Critical Care Medicine* **29**:3:573 – 580
- Kanski GW, Janelli LM, and Jones HM. (1996) Family reaction to restraints in an acute care setting. *Journal of Gerontological Nursing* **22**:17 - 22
- Kapp MB. (1996) Physical Restraint in Critical Care: Legal Issues. *AACN Clinical Issues Advanced Practice in Acute and Critical Care*; **7**:4:579 – 584
- Krachman SL, D'Alonzo GE, and Criner G J. (1995). Sleep in the intensive care unit. *Chest*; **107**:6: 1713-1720.
- Kreitzer MJ, and Jensen D. (2000) Healing Practices: Trends, Challenges, and Opportunities for Nurses in Acute and Critical Care. *AACN Clinical Issues Advanced Practice in Acute Critical Care* **11**:1:7 - 16
- Kress JP, Pohlman AS, and O'Connor MF. (2000). Daily interruptions of sedative infusions in critically ill patients undergoing mechanical ventilation. *The New England Journal of Medicine*; **342**: 1471 – 1477.

Lane M, Cadman B, and Park G. (2002). Learning to use Remifentanyl in the critically ill. *Care of the Critically Ill*; **18**: 140 – 143.

Leith B. (1998). The use of restraints in critical care. *Official Journal of the Canadian Association of Critical Care Nurses*. **9**:24 - 28

Maccioli GA, Dorman T, and Brown BR. (2003) Clinical practice guidelines for the maintenance of patient physical safety in the intensive care unit: Use of restraining therapies - American College of Critical Care Medicine Task Force 2001 – 2002 *Critical Care Medicine* **31**: 11:2665 – 2676.

Marshall M.C, and Soucy MD. (2003). Delirium in the intensive care unit. *Critical Care Nurse*; **26**:3:172-8.

Martin B. (2002) Restraint Use in Acute and Critical Care Settings: Changing Practice. *AACN Clinical Issues*. **13**:2:294 - 306

Mayer S.A, Chong JY, and Ridgway E. (2001). Delirium from nicotine withdrawal in neuro-ICU patients. *Neurology*; **57**:3:551-3.

McInroy A and Edwards S. (2002). Preventing sensory alteration a practical approach. *Nursing in Critical Care*; **7**:5:247-254.

Miles SH, and Irvine P. (1992). Deaths caused by physical restraints. *Gerontologist* **32**:6:762 – 766.

Milliken D. (1998). Death by restraint. *Canadian Medical Association Journal*. **158**:1611 – 1612

Minnick, Leipzig, and Johnson. (2001). Elderly Patients' Report of Physical Restraint Experiences In Intensive Care Units. *American Journal of Critical Care*; **10**:168-171.

Mion L.C. (1996) Establishing Alternatives to Physical Restraint in the Acute Care Setting: A Conceptual Framework to Assist Nurses' Decision Making. *AACN Clinical Issues* 7:4:592 - 602

Murray M J, Cowen J, and De Block H. (2002). Clinical practice guidelines for sustained neuromuscular blockade in the adult critically ill patient. *Critical Care Medicine*; **30**:1:142 – 156.

Nursing and Midwifery Council. (2002). Code of Professional conduct. London.

Olleveant N, Humphris G, and Roe B. (1998). A reliability study of the modified New Sheffield Sedation Scale. *Nursing in Critical Care*; **3**:2: 83-8.

Park G. (2002). Remifentanyl in the ICU: A new approach to patient care. *Current Anaesthesia and Critical Care*; **13**:313 – 320.

- Parker K and Miles SH. (1997) Deaths caused by bedrails. *Journal of American Geriatric Society*. **45**:797 - 802
- Powers J. (1999). A sedation protocol for preventing patient self-extubation. *DCCN*; **18**:2: 30-4.
- Ramsay MA, Savage TM, and Simpson BR (1974). Controlled sedation with alphaxalone-alphadolone. *British Medical Journal*; **2**: 656 – 659.
- Reigle J. (1996) The Ethics of Physical Restraint in Critical Care. *AACN Clinical Issues: Advanced Practice in Acute and Critical Care*; **7**:4:585 - 591
- Richards KC, Gibson R, and Overton – McCoy AL. (2000) Effects of Massage in Acute and Critical Care *AACN Clinical Issues: Advanced Practice in Acute Critical Care*: **11**(1): 77 - 96
- Robinson B.E Sucholeiki R. and Schocken D.D (1993) Sudden Death and Mechanical Restraint: a case report. *Journal of the American Geriatric Society* **41**: 424 - 425
- Rotondi A, and Chelluri L (2002) Patient’s recollections of stressful experiences while receiving prolonged mechanical ventilation in an intensive care unit. *Critical Care Medicine*; **30**:4:746-752.
- Royal College of Nursing*. (2003). Complementary therapies in nursing, midwifery and health visiting practice. RCN guidance on integrating complementary therapies into critical care.
- Royal College of Nursing*. (2004). Restraint Revisited – Rights, Risk and Responsibility. Guidance for Nursing Staff.
- Ruben BS, Dube AH, and Mitchell AK (1993) Asphyxial death due to physical restraint: a case series. *Archives of Family Medicine*. **2**:405 – 408.
- Russell S. (1999). An exploratory study of patient’s perceptions, memories, and experiences of an Intensive Care Unit. *Journal of Advanced Nursing*; **29**:3:783-791
- Satiz R. (1998). Introduction to alcohol withdrawal. *Alcohol Health and Research World*; **22**:1: 5-13.
- Scottish Executive. (2000). Adults with Incapacity Act. Scotland. *The stationary office*.
- Shannon K. and Bucknall T. (2003). Pain assessment in critical care: what have we learnt from research. *Intensive and Critical Care Nursing* **19**:154 - 162
- Simini B. (1999). Patients' perceptions of Intensive Care. *The Lancet*; **354**(9178): 571 - 572

- Singleton N, Bumpstead R, and O'Brien M (2001). Psychiatric morbidity among adults living in private households 2000. London. HMSO.
- Skirrow P, Jones C, and Griffiths D (2001) Intensive Care – Easing the Trauma. *The Psychologist*; 14:12:640 – 642.
- Slomka J, Hoffman-Hogg L, and Mion LC (2000). Influence of clinician's values and perceptions on use of clinical practice guidelines for sedation. *American Journal of Critical Care*; 9:6: 412.
- Spies CD, Dubisz N, and Neumann T (1996). Therapy of alcohol withdrawal syndrome in intensive care unit patients following trauma. Results of a prospective randomised trial. *Critical Care Medicine*; 24: 414 – 422.
- Strumpf NE, and Evans LK. (1988) Physical restraint of the hospitalised elderly: perceptions of patients and nurses. *Nursing Research* 37:132 - 137
- Truman B and Ely EW. (2003). Monitoring Delirium in Critically Ill Patients. Using the Confusion Assessment Method for the Intensive Care Unit. *Critical Care Nurse*; 23: 2: 25 – 36.
- Vance D. (2003). Effect of Treatment Interference Protocol on Clinical Decision Making for Restraint Use in the Intensive Care Unit: A Pilot Study. *AACN Advanced Practice in Acute and Critical Care*; 14:1:82 – 91.
- Van Norman G, and Palmer S. (2001) The Ethical Boundaries of Persuasion: Coercion and Restraint of Patients in Clinical Anaesthesia Practice. *International Anaesthesiology Clinical*; 39:3:131 – 143.
- Watling S.M, Fleming C, and Casey, P. (1995). Nursing based protocol for treatment of alcohol withdrawal in the intensive care unit. *American Journal of critical Care*; 4:1:66-70.
- White S.K, and Zellinger M. (2001). A renaissance in critical care nursing: Technological advances and sedation strategies. *Critical Care Nurse*;_October: 1-16.
- Wilkins M (2003) Music Interventions in the ICU: a complementary therapy to improve patient out comes. Paper presented at: *Canadian Association of Advanced Practice Nurses 37th Biennial Convention Toronto Canada*
- Woodrow P. (2000). *Intensive Care Nursing: A framework for Practice*. 1st Ed London. Routledge.

Table 1: Risk Issues

- The decision to restrain an individual should be informed through a multidisciplinary collaborative forum, the purpose of which is to ensure a global professional perspective is sought.
 - Where possible the consent of the patient or preferred patient choice should be gained. If this is not feasible assent of the next of kin should be attempted.
 - A mechanism for staff to voice concerns if they disagree with a decision should be supported.
 - The decision to restrain should not be influenced in any way by the degree or lack of staffing levels within the ward area.
 - The discussion, beforehand should address the method of restraint to be used, when and for how long, with this agreement being clearly documented in the patient's plan of care.
 - Guidelines/policies need to be available to guide staff and to standardise the use and application of restraint techniques within the clinical environment.
 - A risk assessment model should be adopted by the organisation to ascertain the need, choice and type of restraining technique.
 - Clear documentation of the decision to restrain should be made within the patient's medical notes. Further to this, documentation should state when the restraint is released for clinical assessment or removal.
 - The adoption of any restraint technique needs to be accompanied by a recognised training programme.
 - Physical restraint should never be used in a manner that may be considered indecent, or undignified.
 - Where possible a sufficient number of staff that are trained and confident in safe and appropriate techniques and in alternatives to restraint should be ensured.
 - Equipment used for physical restraint is accepted commercially, evidenced based and adheres to national guidelines.
 - Audit of restraining techniques should be implemented to inform practice
-

Table 2: Managing agitation and delirium

- Consider the use of a validated tool to assess for delirium. This could be used in conjunction with the sedation scale.
 - Consider correctable causes of delirium, for example hypoxaemia, electrolyte imbalance, pain, or malposition of endotracheal tube
 - Try to prevent delirium by non pharmacological measures
 - If delirium is identified medical staff need to review current drugs to see if there may be contributory factors.
-

Table 3: Management of Sedation

- The management of sedation should be seen as one of the most important aspects of ICU care and should be given priority attention.
(Intensive Care Society 2003: www.ics.ac.uk/downloads/sedation.pdf)
 - Sedation scoring systems should be used effectively to maintain a patients level of sedation at an agreed level. In their absence, daily sedation holds may be used unless contraindicated in the patient's physiological condition.
 - Before increasing sedation any avoidable source of physical discomfort should be excluded. The need for any uncomfortable or disturbing therapies should be reviewed, and the use of non-drug measures such as massage is considered.
(Intensive Care Society 2003: www.ics.ac.uk/downloads/sedation.pdf)
 - Sedative infusions should be commenced by giving a loading dose (titrated to effect) first then setting the desired rate, as opposed to setting a high rate to achieve sedation quickly. The practice of increasing the rate of an infusion should be by first administering a bolus (titrated to effect), and then increasing the infusion rate by a small increment.
(Intensive Care Society 2003: www.ics.ac.uk/downloads/sedation.pdf)
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Table 4: Management of neuromuscular blocking agents

- Use only as a last resort and if the patient's condition allows.
 - Stop infusions daily and only restart if the patient's condition requires it.
 - Ensure that the patient is adequately sedated to reduce the risk of the patient being aware and paralysed.
-

Table 5: Inclusion of patients and families

- The important role of the family as a resource to support the patient, and reduce restraint therapies should be made explicit. Inclusion of patients, families and ICU staff in discussions prior to the use of physical restraints
 - Recognition of a multi-cultural population means available translations /translator are necessary to discuss this issue
 - If units are to adopt physical restraint therapies this must be included in all patient and relative information booklets
 - Information from any ‘follow up’ service should be fed back to the critical care unit to inform future practice
 - Further research to include the patient and relative perspective is necessary to provide best practice guidelines.
-

Table 6: Education and Training

- It is recommended that risk assessments are undertaken across organisations to establish particular risks in clinical areas and to identify staff training needs
 - Specific training in the techniques of restraining needs to be supported locally and through the organisation
 - Facilitation of education and training programmes need to be emphasised to enable nurses to acquire knowledge and skills within this area of practice.
 - Where possible such education should be multiprofessional in orientation.
 - Educational programmes need to address issues relating to various techniques, indications for use, contraindications and safety aspects relating to clinical use.
 - Nurses may lack confidence and competence in adoption of restraining techniques if relevant training programmes are not supported.
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Figure 1: Management of Predisposing Factors for the Agitated Patient

Are any of the following conditions present?	Action
Alcohol/Nicotine addiction Substance abuse	Determine amount, frequency, type of consumption and administer appropriate alternative drug therapies.
Central nervous system disorders Psychological or emotional disturbances Personality type	Investigate previous history of such, and potential treatment to alleviate problem
Chronic renal, hepatic, cardiac, pulmonary dysfunction	Monitor condition, address alterations in blood chemistry
Advanced age i.e. >65 years	Be aware of multiple aetiologies and medications
Reduced nutrition, Vitamin deficiency, Dehydration	Check electrolytes/fluid balance Vitamin and mineral screen, trace elements. Involve dietician
Brain Trauma	Monitor and report changes in conscious level
Possible drug reaction/interactions	Review drug prescription chart Check for side effects interactions, and incompatibilities
Hypoxia/dyspnoea	Check arterial blood gas, oxygen saturation, ventilator settings and function, and adjust to optimise patient's condition.
Pain	Assess and Monitor pain levels and ensure adequate analgesia is administered.
General discomfort	Change of position Check for urinary retention Bowel/incontinence evaluation
Anxiety/fear/stress Communication difficulties	Reassurance and explanation of procedures Re – orientation Provision of appropriate communication aids Minimise isolation as far as possible Allow participation of family/friends Consider alternative/diversional therapies Consider anxiolytics
Under sedation	Utilise sedation scales, titrate to desired effect. Daily sedation holds
Environmental factors Sleep deprivation	Reduce noise levels to promote comfort Maximise sleep/minimise interventions Encourage day/night lighting and rest periods. Assess environmental conditions e.g. temperature and adjust accordingly

Appendix 1

DEFINITIONS OF RESTRAINT

General

In broad terms, it means restricting someone's liberty, or preventing them from doing something they want to do'. (Royal College of Nursing 2004)

Physical

‘Any physical or mechanical method of restricting a person’s freedom of movement or physical activity to his or her body’ (This includes the use of four bed rails in the upright position)

Devices which do not constitute restraint are those customarily used in conjunction with medical diagnostic procedures, treatments, or movement/transfer of patients and are considered a regular or usual part of treatment

(Joint Commission Accreditation of Health Care Organisations 1996 www.jcaho.org)

Chemical

‘A drug used as a restraint to control behaviour or to restrict the patients freedom of movement, and is not standard treatment for the patient’s medical or psychiatric condition.’

(Centers for Medicare and Medicaid Services www.cms.hhs.gov cited in Martin 2002)

Psychological restraint

‘If the patient believes he is restrained, he is at least psychologically restrained.’
(Happ 2000)