

## Intravenous Tramadol in Emergency Departments

Intravenous (I.V.) tramadol is infrequently used in Emergency Departments (ED) for pain relief. As a result, staff may be unfamiliar with the packaging of IV tramadol. Tramadol ampoules contain 100mg in 2ml and the ampoules are also marked 50mg in 1ml.



In a recent SAI, ED staff who were unfamiliar with the preparation, misread the ampoule as containing a total quantity of 50mg. A staff member mistakenly drew up the contents of two ampoules (amounting to 200mg) to make up the 100mg prescribed dose.

### Key Learning

- Since I.V. tramadol is rarely used for pain relief in ED, consideration should be given to the need to hold stocks of this drug in I.V. form.
- If I.V. tramadol stock is required within an ED, staff should ensure that they are updated on medication checking procedures especially in relation to careful reading of the packaging details on the individual ampoules and the total quantity in each ampoule.
- The manufacturer has been requested to review the packaging and labelling to make the total quantity in each ampoule more prominent.

### Introduction

Welcome to the sixth issue of Learning Matters newsletter. Health and Social Care in Northern Ireland endeavours to provide the highest quality service to those in its care. The purpose of our newsletter is to provide staff with short examples of incidents where learning has been identified.

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# Missed Diagnosis of Head and Neck Injuries

Five SAIs were notified concerning the missed diagnoses of cervical spine injury and head injury.

**Case 1** - A Patient was brought to an Emergency Department (ED) by ambulance with cervical spine precautions in place following a fall down 6 steps. A plain X-ray of the cervical spine did not visualize the C7/T1 junction. The patient was re-assessed, mobilized and sent home. The patient subsequently re-presented to ED with pain and neurological signs. A CT scan of the cervical spine showed dislocation of C6 on C7 with spinal cord impingement and the patient suffered spinal cord damage.

**Case 2** - A Patient was involved in a motorcycle road traffic collision. The patient had multiple injuries and was transferred to ED with cervical spine precautions in place. No fracture was noted or reported on the cervical spine X-ray and cervical spine precautions were removed. A subsequent CT scan showed undisplaced fractures of C6 and C7.

**Case 3** - A Patient sustained a head injury following a fall, the ambulance form stated that the patient denied any loss of consciousness but the ED form stated that there was loss of consciousness. The patient was admitted overnight for head injury observations and discharged without a CT scan of the head. The patient continued to have symptoms and 2 months later a CT scan showed an acute-on-chronic subdural haematoma, which was likely to have been caused by the original head injury. The patient made good progress following surgery.

**Case 4** - A Patient had consumed alcohol and was admitted to ED following a fall and head injury. On examination the patient had reduced power and tone in their arms however the cervical spine was not immobilised prior to CT scanning. The CT scan revealed a significant cervical spine injury.

**Case 5** - A resident of a nursing home was transferred to ED following a fall and there was a delay in diagnosing a fracture of C6 and C7.

## Key Learning

- Careful consideration should be given to the mechanism of injuries when selecting the appropriate imaging modality. If a cervical spine injury is a possibility and plain cervical x-ray does not fully visualize the cervical spine, a cervical CT scan should be carried out.
- Staff should familiarise themselves with the NICE Head Injury Clinical Guidelines 176 (<http://www.nice.org.uk/guidance/cg176>) including the sections on criteria for investigations.
- Staff should familiarise themselves with NICE Guideline Spinal Injury: assessment and initial management (NG41) published in February 2016. The guidance draws attention to:
  - the heightened risks of cervical spine injury in patients aged over 65;
  - if patients are under the influence of drugs or alcohol;
  - if they have any hand or foot weakness coupled with altered or absent sensation in the hands or feet.
- Any neurological deterioration in a patient should prompt immediate reassessment by a senior clinician.

## Blood Component Special Requirements & Out of Hours Transfusion

A Rhesus negative pregnant woman was admitted to a non-maternity ward for platelet transfusions for a medical condition. Her care plan indicated that she would require a further platelet transfusion if she developed certain symptoms along with a low platelet count. She presented with these symptoms out of hours and she required Rhesus negative (RhD neg blood).

RhD neg platelets were not available from the Northern Ireland Blood Transfusion service so RhD positive platelets were issued and no consideration was given to administering Anti-D until the following day.

Rhesus negative blood components should be issued to any Rhesus negative female of child bearing age. If Rhesus negative components are not available and the transfusion is necessary, Anti-D must be administered with volume guidance from the Blood Bank within 72 hours of transfusion.

The Consultant in charge of the patient would have advised if he had been contacted that the care plan action could have been deferred until the correct blood components were available the following day.

### Key Learning

- Clinical staff should always check the need for blood component 'special requirements' particularly in the following broad patient groups:
  - Renal/Transplant
  - Antenatal
  - Those people born after 1st January 1996
  - Haematology/Oncology
- A quick reference for this is available on the inside cover of the transfusion request form booklet. Further information is available from Blood Bank, Haemovigilance or Haematology Medical staff.
- Any special requirements should be included in the transfusion request form and included in the prescription for blood.
- If special requirements are not available seek senior or specialist medical advice to check that alternatives offered by Blood Bank are suitable.

## Importance of risk assessment for VTE in pregnancy

A maternal death was notified as a Serious Adverse Incident (SAI) in a woman following an Elective Caesarean Section. After the procedure the mother became unresponsive in the recovery suite and in spite of extensive resuscitation efforts including ICU admission, sadly died. The post-mortem report concluded that the likely cause of death was probable pulmonary thromboembolism following Caesarean Section.

The SAI review found that:

- The venous thromboembolism (VTE) risk assessment for antenatal women was not completed at the mother's booking appointment. This risk assessment assigns antenatal women a risk status for VTE with relevant recommendations such as mobilisation, avoidance of dehydration and low molecular weight heparin for 10 days after delivery. (Ref. RCOG green-top guideline no. 37a 'Reducing the risk of venous thromboembolism during pregnancy and the puerperium' (2015) <https://www.rcog.org.uk/globalassets/documents/guidelines/gtg-37a.pdf>)
- The mother had a prolonged period of voluntary fasting from the evening prior to her admission for elective caesarean section (rather than fasting from midnight as advised). Her elective caesarean section was delayed until the afternoon because there were emergency cases in the Delivery Suite theatre.
- The mother's fluid balance chart did not record the urinary output post caesarean section until she was admitted to ICU.

### Key Learning

- Ensure that VTE assessments are carried out at booking, and on every hospital admission. The outcome of each assessment should be documented in the maternity hand held record, and the appropriate action taken depending on the outcome of the risk assessment as per the flow chart guidance contained in the maternity hand held record (which is based on the RCOG green-top guideline no. 37a 'Reducing the risk of venous thromboembolism during pregnancy and the puerperium' (2015) <https://www.rcog.org.uk/globalassets/documents/guidelines/gtg-37a.pdf>)
- Avoid prolonged periods of pre-operative fasting and dehydration. If the start time of a planned elective caesarean section is delayed, commence intravenous fluids as soon as the decision is taken to delay the procedure. A fluid balance chart should be commenced and completed appropriately.

## Home Oxygen and the risk of fires

Medical oxygen cylinders are normally safe to use and handle, being designed, manufactured and supplied in accordance with strict guidelines and standards. However, there is always a small risk when handling and operating high-pressure oxygen cylinders that an ignition might occur. Therefore, educating health care professionals, patients and their carers of the risk should be a high priority to save life and prevent injury.

- In one SAI, the patient's carer turned on the oxygen cylinder which was sitting on the back seat of the car. Immediately after opening the valve there was an abnormally loud hiss, that appeared to be coming from the top of the cylinder, and flames were noted coming out from the side of cylinder. The patient and carer got out of the car quickly and suffered minor burns; the car was completely destroyed by the fire. The SAI review highlighted that the presence of grease/oil on hands e.g. after eating fried food, when using compressed oxygen could potentially have triggered the fire.
- In a second SAI, a patient suffered scorching to the hair and was forced to leave their home after the oxygen cylinder exploded in the bedroom causing serious fire damage. The SAI review found that the patient had not been using his oxygen cylinder correctly, i.e. the 'oxygen release valve' was turned off, without turning the pressure down first. This can lead to pressure build up and oxygen released at high pressure next time the cylinder is turned on, causing an explosion. The risk of explosion is greater if this high pressure oxygen meets with material such as oil, grease or dirt. The presence of 'oil/dirt' was also identified as a probable contributory factor in this case.

### Key Learning

**Healthcare professionals** involved in the care of patients using oxygen should ensure that:

- they are adequately trained to advise patients on the safe use of oxygen
- patients and carers understand how to use their oxygen safely and are well aware of the risks of home oxygen and fires

**Patients** on home oxygen should expect to receive appropriate education including written information on the use of and risks with handling and operating high pressure oxygen cylinders.

## Accurate communication of actions and results

As part of a surveillance programme, gastroscopy and biopsies were performed by a locum doctor for the referring consultant. Some of the biopsies showed low to high grade dysplasia, but these results were not acted on. This resulted in delay in diagnosis of malignancy of 2 years following a second routine surveillance endoscopy.

Two issues appear to have contributed to the delay in diagnosis in this case

1. The results from the histopathology test were returned to an 'unspecified consultant' in the Day Procedure Unit (DPU), as the IT system was unable to record a locum's name

2. DPU sent a copy of the results to the referring consultant, however the results were filed in the patient's notes without being signed or actioned by that consultant.

The Northern Ireland Electronic Care Record (NIECR) has developed a results sign-off function which is currently being implemented throughout HSCNI.

### Key Learning

In the absence of a fully implemented electronic process for recording actions/results:

- Staff must ensure that all actions are completed, followed up and recorded accurately in patients' notes.
- Staff must ensure there are robust systems for the communication of results to all relevant professionals involved in the care, and are accurately recorded in the patient notes.

# National Patient Safety Alerts



Patient Safety Alerts (PSAs) are used to rapidly alert the healthcare system to risks and provide guidance on preventing potential incidents that may lead to harm or death. Since August 2015 there have been 7 PSAs issued by NHS England which are outlined below.

Further information on PSA is available at: <http://www.england.nhs.uk/ourwork/patientsafety/psa/>

DoH Ref No	Title of Alert	Link to DoH Website	Date Issued
HSC(SQSD) 61/16	Risk of death and severe harm from error with injectable phenytoin	<a href="https://www.health-ni.gov.uk/sites/default/files/publications/health/HSC-SQSD-61-16.pdf">https://www.health-ni.gov.uk/sites/default/files/publications/health/HSC-SQSD-61-16.pdf</a>	15.11.16
HSC(SQSD)57/16(NHS/PSA/D/2016/009)	Reducing the risk of oxygen tubing being connected to airflow meters	<a href="https://www.health-ni.gov.uk/sites/default/files/publications/health/HSC-SQSD-57-16.pdf">https://www.health-ni.gov.uk/sites/default/files/publications/health/HSC-SQSD-57-16.pdf</a>	31.10.16
HSC(SQSD) 55/16	Minimising the risk of medication errors with high strength, fixed combination and biosimilar insulin products	<a href="https://www.health-ni.gov.uk/sites/default/files/publications/health/HSC-SQSD-55-16.pdf">https://www.health-ni.gov.uk/sites/default/files/publications/health/HSC-SQSD-55-16.pdf</a>	26.09.16
HSC(SQSD) 54/16	Ensuring the safe administration of insulin	<a href="https://www.health-ni.gov.uk/sites/default/files/publications/health/HSC-SQSD-54-16.pdf">https://www.health-ni.gov.uk/sites/default/files/publications/health/HSC-SQSD-54-16.pdf</a>	26.09.16
HSC(SQSD) 53/16	Restricted use of open systems for injectable medication	<a href="https://www.health-ni.gov.uk/sites/default/files/publications/health/HSC%20%28SQSD%29%2053-16.pdf">https://www.health-ni.gov.uk/sites/default/files/publications/health/HSC%20%28SQSD%29%2053-16.pdf</a>	12.09.16
HSC(SQSD) 48/16	Central Alerting System: Resources To Support The Care Of Patients With Acute Kidney Injury (AKI)	<a href="https://www.health-ni.gov.uk/sites/default/files/publications/health/HSC-SQSD-48-16.pdf">https://www.health-ni.gov.uk/sites/default/files/publications/health/HSC-SQSD-48-16.pdf</a>	29.09.16
HSC(SQSD) 47/16	Nasogastric Tube Misplacement: Continuing Risk of Death and Severe Harm	<a href="https://www.health-ni.gov.uk/sites/default/files/publications/health/HSC%20%28SQSD%29%2047-16.pdf">https://www.health-ni.gov.uk/sites/default/files/publications/health/HSC%20%28SQSD%29%2047-16.pdf</a>	12.08.16
HSC(SQSD) 44/16	Resources To Support Safer Care Of The Deteriorating Patient (Adults And Children)	<a href="https://www.health-ni.gov.uk/sites/default/files/publications/health/HSC%20%28SQSD%29%2044-16.pdf">https://www.health-ni.gov.uk/sites/default/files/publications/health/HSC%20%28SQSD%29%2044-16.pdf</a>	26.07.16
HSC(SQSD) 41/16	Guidance for clinicians managing children at risk of, or with, acute kidney injury	<a href="https://www.health-ni.gov.uk/sites/default/files/publications/health/HSC%20%28SQSD%29%2041-16.pdf">https://www.health-ni.gov.uk/sites/default/files/publications/health/HSC%20%28SQSD%29%2041-16.pdf</a>	27.06.16
HSC (SQSD) 38/16	Risk of patient harm from an interaction between miconazole and coumarin anticoagulants	<a href="https://www.health-ni.gov.uk/sites/default/files/publications/health/HSC%20%28SQSD%29%2038-16.pdf">https://www.health-ni.gov.uk/sites/default/files/publications/health/HSC%20%28SQSD%29%2038-16.pdf</a>	17.06.16



DoH Ref No	Title of Alert	Link to DoH Website	Date Issued
HSC (SQSD) 33/16	Risk Of Death And Severe Harm From Failure To Recognise Acute Coronary Syndromes I Kawasaki Disease Patients	<a href="https://www.health-ni.gov.uk/sites/default/files/publications/health/HSC%20%28SQSD%29%2033-16.pdf">https://www.health-ni.gov.uk/sites/default/files/publications/health/HSC%20%28SQSD%29%2033-16.pdf</a>	18.05.16
HSC (SQSD) 42/16	Consultation on the Refresh of the Department of Health Issuing Circular for PSAs	<a href="https://www.health-ni.gov.uk/sites/default/files/publications/health/HSC%20%28SQSD%29%2042-16.pdf">https://www.health-ni.gov.uk/sites/default/files/publications/health/HSC%20%28SQSD%29%2042-16.pdf</a>	29.06.16
HSC (SQSD) 19/16	Risk of death from failure to prioritise home visits in general practice	<a href="https://www.health-ni.gov.uk/sites/default/files/publications/dhssps/HSC%20%28SQSD%29%2019-16.pdf">https://www.health-ni.gov.uk/sites/default/files/publications/dhssps/HSC%20%28SQSD%29%2019-16.pdf</a>	15.04.16

## Reminder of Best Practice Guidance (SQR) Letters

Reference	Title	Date of Issue
SQR/SAI/2016/020 (AS and PHC)	Communication and reconciliation of combination antiplatelet and anticoagulation therapy April 2016	April 2016
SQR-SAI-2016-021 (AS & MCH)	Use of ventilator filters in the resuscitation of neonates	April 2016

# Integrated Elective Access Protocol (IEAP) referrals

Variations in how patients are managed within the referral system can cause delays and increase clinical risk to the patient.

In one SAI, an appointment was **not** made for a patient who was under 3 monthly outpatient review. The patient complained and was given an appointment. However, this was five months later than clinically indicated, at which stage cancer was found.

In another SAI, a new referral was triaged as 'urgent', but the patient was not given an appointment within the urgent timeframe. A second referral was made with both the 'urgent' and 'red-flag' categories ticked. At triage, the 'red-flag' status was downgraded to 'soon', a category used by that particular consultant.

As a result, the patient waited almost three months to be seen, at which stage cancer was diagnosed.

In both cases, the impact of the delay on the diagnosis of cancer was difficult to ascertain and probably minimal; however, the impact on the patients was significant, causing distress and anxiety.

The Integrated Elective Access Protocol (IEAP) provides the regional guidance on how patients should be managed throughout their elective pathway. The IEAP indicates that for new outpatients, **only** three categories of clinical priority should be used:

- red flag
- urgent
- routine

## Key Learning

- The management of patients through the elective pathway must be clear, consistent and in line with the regional guidance outlined in the IEAP.
- The use of categories other than those outlined must be avoided as it increases risk and causes delays
- Local processes should be able to clearly identify patients needing to be booked into an appointment.
- Where capacity gaps arise, there should be clear processes for escalation and action plans developed.

## Contact us



Health and  
Social Care

If you have any comments or questions on the articles in the newsletter please get in contact by email at [learningmatters@hscni.net](mailto:learningmatters@hscni.net) or by telephone on **0300 555 0114 ext: 3446**

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