LM Learning Matters

Issue 8: September 2018

Avoid Excessive Fasting in Pre-operative Patients

In a recent SAI an elderly patient was admitted to hospital with a hip fracture. Routine investigations at the time of admission showed low sodium levels and the patient was started on intravenous fluids. The patient was scheduled for surgery the next day. Surgery was cancelled on 3 successive days following admission. The reasons for cancellation of surgery were not documented in the patient's clinical notes but may have been due to low sodium levels. There was no evidence of a management plan in the patient's notes to address the reasons for cancellation of surgery. The patient was fasted over 3 days for a combined total of 51 hours before hip surgery. Surgery was uneventful.

The day after the operation the patient was diagnosed with a gastric stress ulcer and developed other complications post operatively. The patient died 2 weeks later.

Pre-operative delay and prolonged fasting are known risk factors for the development of a stress ulcer. The reasons for the three cancelled surgeries were not recorded in the patient's notes.

Key Learning

- Trusts should develop guidance for the management of repeat cancellations of in-patient surgery for non elective cases.
- Trusts should develop guidance on pre-operative fasting to include standardised information for the following:
  - Management of late cancellations
  - Management of patients who have fasted for long periods pre-operatively
  - Management of patients who have fasted repeatedly pre-operatively
- An anaesthetic pro-forma should be included in patients' notes to record the progress of the anaesthetic plan prior to surgery.

Introduction

Welcome to the eighth issue of the Learning Matters Newsletter. Health and Social Care in Northern Ireland endeavours to provide the highest quality service to those in its care and we recognise that we need to use a variety of ways to share learning. The purpose of our newsletter is to complement the existing methods by providing staff with short examples of incidents where learning has been identified.

Contents

Duration of observation following anaphylaxis including reactions to medications

A patient presented to the Emergency Department with back pain. The patient had a known allergy to codeine but the nature of the reaction to codeine was not noted.

Timeline for medication prescribed and noted effects detailed below	
12:00 hours	50mg of tramadol administered
13:05 hours	A further dose of tramadol 50 mg and 400 mg of ibuprofen given
14:00 hours	100mg of diclofenac was administered
15:10 hours	Diazepam and oramorph were given
15:45 hours	Patient developed an urticarial face rash
16:00 hours	10mg chlorpheniramine was given intravenously
16:30 hours	The patient was given oral analgesia and discharged
18:40 hours	Patient returned to ED by ambulance. During transport patient received a salbutamol nebuliser and 2 doses of adrenaline. On arrival patient was noted to have a swollen neck and tongue with difficulty talking
19:30 hours	The patient was transferred to theatre and intubated

The patient made a full recovery.

The root cause of this incident was the combination of multi-modal (a number of different methods) administration with a patient having an unknown degree of sensitivity to codeine. The development of respiratory swelling might have been prevented if the patient had been kept for clinical observation as per NICE guidance regarding anaphylaxis management.

Key Learning

- It is essential to confirm a patient's allergy status with the patient and another source such as previous HSC documentation
- 6 hours of clinical observations are required after administration of intravenous antihistamine and 12 hours observation after adrenaline administration (NICE guidance) https://www.nice.org.uk/Guidance/CG134
- The administration of multi-modal analgesia should be prescribed with caution irrespective of allergy status and effects recorded by medical and nursing staff

Follow up of temporary medical devices or stents

Ureteric stents are sometimes placed in the transplanted ureter at the time of transplant to protect the ureteric anastomosis. Stent insertion is normally at the discretion of the implanting surgeon and is normally removed six weeks post operatively.

In a recent SAI, a patient 12 years post-transplant presented at hospital with graft pyelonephritis and subsequent imaging revealed a retained stent. The patient was transferred to the renal transplant service for removal of the stent. There was no loss of renal function.

This is the second case of a retained stent that has presented to the renal transplant morbidity and mortality group. As a precautionary exercise, a local case review exercise was undertaken of those who had undergone a renal transplant post 2000. The review found no other patients in the cohort with a retained stent.

Key Learning

The lessons from this SAI have identified the need for:

- meticulous formal record keeping of patients with temporary transplanted stents / devices
- labelling of operation notes
- an active plan for the removal at time of discharge
- regular check that the patient is listed for removal

Doctors ordering investigations have the responsibility to follow up results

A patient attended Emergency Department (ED) and had a CT scan arranged. The ED doctor who completed the request form used the name of a GP at the patient's GP practice. The GP practice was not informed by ED that the scan had been requested.

The scan result was sent to the GP practice, indicating the need for repeat scan in one year. The GP practice failed to arrange the repeat scan. The patient attended with symptoms after the repeat scan should have been carried out, and was subsequently diagnosed with cancer.

Key Learning

- The clinician who orders a test is responsible for reviewing, acting and communicating the result
- Hospital clinicians should not order tests in the name of GPs
- Where it is clinically more appropriate for test results to be sent to the GP, this should be agreed with the GP before using their name as the referring doctor
- Doctors should be familiar with the GMC 'Good medical practice' https://www.gmc-uk.org/ethical-guidance/ethical-guidance-for-doctors/good-medical-practice

The possibility of an air embolus arising from an open central line port

A patient had a naso-gastric tube and a 5-lumen central line inserted during a procedure. A few days post operatively, the patient, whilst sitting upright on a bedside chair, had the naso-gastric tube removed. Immediately after the removal, the patient appeared to have a seizure and lose consciousness. Whilst being clinically assessed, it was noted that the brown lumen of the central line was open to air.

The patient regained consciousness and was noted to have profound left-sided weakness with poor control and co-ordination. Following hyperbaric oxygen therapy the patient had notable improvement in movement in the left leg.

The probable cause of the collapse and weakness was an air embolus arising from an open central line port. The open port on the brown lumen allowed air into the central line and subsequently, the jugular vein causing an air embolism to occur.

In addition, the central line care bundle had not been fully adhered to on the ward.

Key Learning

- Staff should ensure that all lumens are kept closed when not being used for other clinical purposes
- Staff should ensure the Trust CVP bundle/ proforma is adhered to in all areas where patients with central lines are cared for

Central Line Maintenance Bundle

Hand Hygiene	• Hands are decontaminated immediately before and after each episode of patient contact using the correct hand hygiene technique.
Personal Protective Equipment	• Wear personal protective equipment only when indicated and in accordance with local policy, gloves and apron should not compromise hand hygiene.
Continuing Clinical Indication and Vessel Health	• Indication of ongoing need and vessel health should be documented at least once a shift. • Insertion site should be visually inspected at a minimum during each shift and, a visual infusion phlebitis (VIP) score may be recorded on central vascular devices, in line with local policy. • Central venous access devices should not be routinely replaced.
Central Line Device Access	• Access ports and catheter hubs are decontaminated with 2% chlorhexidine gluconate in 70% isopropyl aclcohol solution and allowed to air dry. (If the patient has a sensitivity povidone-iodine in 70% alcohol application is used).
Administration set replacement	• Administration sets for continuous infusions are changed, at a minimum. every 96 hours. • Administration sets in continuous use for blood and blood components should be changed every 12 hours, or when transfusion is complete. Platelets must be transfused through new giving sets. • TPN administration sets should be changed when the TPN has finished or 24 hours after commencement of the infusion.
Dressing	• Sterile, transparent dressing should br changed, at a minimum, every 7 days or sooner if the integrity of the dressing is compromised. • Cleaning of the access site should be carried out with 2% chlorhexidine gluconate in 70% isopropyl alcohol solution and allowed to air dry. (If the patient has a sensitivity povidone-iodine in 70% alcohol application is used) at each dressing change. • Dressings must be changed using a recognised aseptic technique.

Infection Preventin Society (IPS) High Impact Interventions Care processes to prevent infection (4th edition of Saving lives: High Impact Interventions Nov 2017).

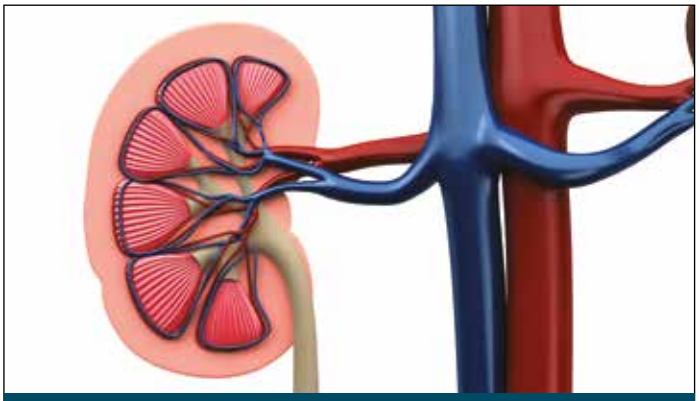
Please note all lumens must be kept closed when not being used for other clinical purposes

Nephrotoxicity due to errors in prescribing and monitoring gentamicin

Two serious adverse incidents related to gentamicin prescribing and monitoring were reported recently:

1. A patient was prescribed gentamicin at a dose too high for their reduced renal function. No plasma levels were taken over the next 4 days while the patient continued to receive gentamicin. The incorrect dosing regime was detected by the ward pharmacist on the fifth day of therapy, and the gentamicin level in the patient's blood found to be high. The patient developed acute kidney injury (AKI), for which gentamicin was a likely contributory factor. Gentamicin treatment was discontinued, and the patient's condition improved before being discharged home. Kidney function returned to baseline levels over the next few weeks. **Key Issue: incorrect dosing and failure to monitor.**

2. An elderly patient was prescribed gentamicin at a dose that was higher than the recommended limit. A plasma level following the first dose showed the gentamicin level was greater than the recommended therapeutic range for a subsequent dose to be given. This went unnoticed, and the patient received two further doses, leading to an AKI, with gentamicin considered to be a contributory factor. Gentamicin was withheld until the serum levels returned to an acceptable therapeutic level. The patient received supportive therapy for the AKI until it recovered. **Key Issue: failure to act on monitoring results and failure to check this before giving next dose.**

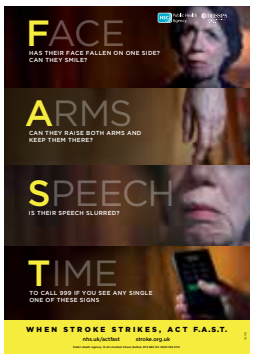


Remember other antibiotics with narrow therapeutic index that require therapeutic drug monitoring (TDM) e.g. Aminoglycosides (tobramycin and amikacin) and glycopeptides (Vancomycin IV and Teicoplanin). Follow Trust TDM guidance on the Trust's intranet or Microguide or Rx Guidelines.

Key Learning

- Gentamicin is a 'high risk' medication with a narrow therapeutic index. If plasma levels are allowed to rise beyond a safe limit, this can lead to nephrotoxicity and ototoxicity. Ototoxicity is irreversible
- Prescribers must check the patient's renal function before prescribing gentamicin and ensure the right dose and regimen is prescribed for the individual patient depending on gentamicin levels – if in doubt, advice should be sought from the ward pharmacist or Medicines Information. Renal function should be monitored throughout treatment
- The clinical team should have a plan in place to monitor gentamicin levels, including weekends. Gentamicin results must be checked and acted upon! **NB expected levels may vary depending on regimen**
- Samples must be taken at appropriate times and labelled appropriately. It is essential to record date and time of sample on lab request form
- Prescribe in line with Trust Antimicrobial Guidance and check trust Therapeutic Drug Monitoring (TDM) guidelines for appropriate monitoring e.g. microguide or treatment guidelines and trust intranet policy

Atypical Presentation of stroke



Stroke occurs around 7 times every day in Northern Ireland. Early arrival at hospital enables people to be assessed for suitability for treatment using Thrombolysis (clot busting therapy), a time critical intervention. This treatment is estimated to be suitable for up to 20% of stroke patients who have suffered an ischaemic stroke.

It has been highlighted in a number of complaints that a number of stroke events will present with atypical symptoms (not in line with the FAST campaign see picture).

In some cases patients may not arrive by ambulance and may self-present to the Emergency Department or be referred by primary care. In particular patients with, posterior circulation strokes may present with symptoms of impaired balance and co-ordination or fluctuating symptoms which would not be typically recognised as signs of stroke.

Key Learning

- It is important that all treating physicians consider stroke in the differential diagnosis in patients with acute onset neurological symptoms until a firm diagnosis is confirmed. It is also important that healthcare professionals recognise that in the early stages of stroke, brain imaging may be normal

Some symptoms of atypical stroke

Neuropsychiatric symptoms	Acute confusional state
Altered level of consciousness	Abnormal movements
Limb-shaking transient ischaemic attacks	Seizures
Alien hand syndrome	Localised asterexis (flapping tremor)
Isolated hemi-facial spasms	Disappearance of previous essential tremor
Acute vestibular syndrome	Other cranial nerve palsies (especially third and seventh cranial nerves)
Tongue numbness or tingling	Acute mono-paresis
Cortical hand syndrome	Cortical foot syndrome
Isolated sensory symptoms	Isolated dysarthria
Isolated dysarthria-facial paresis syndrome	Isolated visual symptoms
Anton's syndrome (cortical blindness with denial of deficit)	Balint's syndrome (type of visual-spatial deficit)
Isolated visual field disturbances	Foreign accent syndrome
Isolated dysphagia or stridor	Isolated headache

Don't de-escalate red flag referrals before results have been reviewed

In a recent SAI a patient with an abnormal chest x-ray was referred as a red flag cancer referral. Prior to a chest CT scan being carried out the patient was seen at clinic and a diagnosis of chest infection was made. The patient was de-escalated from the red flag pathway prior to the CT scan result being available resulting in a delayed diagnosis of malignancy.

Key Learning

- Patients who are on a red flag cancer pathway should remain on that pathway whilst investigations are pending until the results are available

CUSS statements When and how to stop a procedure if you have a concern

There have been a number of individual SAIs in which safety concerns had been raised at the time but not acted upon.

In one case a patient undergoing myocardial perfusion imaging (MPI) was noted by a clinical physiologist (CP) as potentially having a contraindication to adenosine, the drug used as part of the procedure.

The Trust's policy for its use specified that it was contraindicated in patients who had moderate to severe asthma. However, it was used in patients with mild asthma and was perceived as a safe drug, with a very short half-life, which caused few problems. The patient in question had a previous ICU admission for asthma. Within a short time of infusion commencing, the patient had a respiratory arrest and died despite full resuscitation.

Key Learning

- All staff should be encouraged to use 'CUSS' statements when they are concerned an action is about to cause a patient harm. These are a series of phrases designed to be easily recognised as a red flag by other clinicians, but which can be used without causing alarm to patients. Examples, to be used in sequence are:
  - I am Concerned….
  - I feel Uncomfortable….
  - This is for Safety
  - Stop

- If another member of staff uses these statements to you – reassess the situation and seek senior advice

Prior to administration, a junior clinical psychologist highlighted the safety concerns to the junior doctor and other senior members of the team, given a patient history of intensive care admission for asthma. A decision was taken by the doctor, following chest examination, to proceed with use of adenosine.

In another case, a pregnant patient, allergic to penicillin, was administered co-amoxiclav and had an anaphylactic reaction, despite the allergy being drawn to the attention of the prescribing doctor by a midwife.

Factors to consider when deciding choice of investigations following chest trauma

An elderly patient attended the Emergency Department after falling backwards and sustaining an injury to their lateral upper back. Deep breaths and movement were painful. X-rays were taken and no abnormalities identified. The patient was discharged with a diagnosis of a soft tissue injury.

Following discharge the patient continued to complain of breathlessness and attended their GP, who prescribed antibiotics for a chest infection. Just over 1 week from the initial presentation the patient collapsed at home and was taken to ED by emergency ambulance where, following CT and ultrasound investigation, he was found to have 3 fractured ribs, a haemothorax and a ruptured spleen.

The patient had had a chest x-ray while in the ED on the day of initial injury, which did not show rib fractures.

Key Learning

- Following consideration by Radiology and Trauma network clinicians, this case has highlighted that the threshold for suspicion of serious trauma should be lower in elderly patients. Staff may have been falsely reassured by the fact that there were no rib fractures seen on the chest x-ray (CXR). All ED staff must be aware that early CXRs need to be interpreted cautiously as they do not rule out significant trauma and pathology. The patient's age, symptoms and observations have to guide choice of investigation, which may include CT. Elderly trauma patients, particularly those who have other symptoms or signs of concern, need to be reviewed by a senior member of staff prior to discharge from ED to determine if CT, other investigations and/or an additional period of observation may be indicated

Risk of plastic bags on mental health inpatient units

Staff found a patient lying on the floor who had intentionally tied a plastic bag over their head in an act of self-harm. There have been a number of subsequent near miss incidents relating to the same issue.

Key Learning

- Staff should ask patients and relatives not to bring plastic bags onto the ward
- It is good practice to have paper bags (at the entrance to the ward) as an alternative for patients and relatives to transfer items into
- It is recommended to include plastic bags as a **restricted item** in ward information booklets
- It is recommended in the main part of ward/communal areas/bedrooms/bathrooms etc. to have an alternative to placing plastic bags in bins due to safety risk
- Small paper bags should be provided for all sanitary products and then placed into the bin
- Plastic bags should only be used in restricted areas e.g. kitchen and clinical room where there is supervision

Paracetamol suspension without a child resistant cap

In a recent SAI a child was admitted to hospital and treated for an overdose of paracetamol following an incident which occurred at home.

The factors which contributed to this incident were:

- The suspension was dispensed in the original 500ml dispensing bottle which **did not have a child resistant closure**.
- The bottle had been stored by the parent on a high shelf in the fridge but the child still managed to access it.

The child recovered and was discharged after two days but the outcome could have been catastrophic.

Key Learning

The Pharmaceutical Society of Northern Ireland's *Professional Standards and Guidance for the Sale and Supply of Medicines (3.10)*, requires that:[1]

- **All solid dose and all oral and external liquid preparations are dispensed in suitable re-closable child resistant containers unless:**
  - The medicine is in an original pack or patient pack such as to make this inadvisable;
  - the patient has difficulty in opening a child resistant container;
  - a specific request is made by the patient, their carer or representative that the product is not dispensed in a child resistant container;
  - no suitable child resistant container exists for a particular liquid preparation or
  - the patient has been assessed as requiring a compliance aid
- The HSCB referred the matter of the manufacturer supplied closure to the MHRA for follow-up as appropriate.

HSCB Dispensing Service Specification 3.4 requires that patients are advised on the safe storage and keeping of medicines[2]

Recommendations

Community pharmacists should review relevant procedures to ensure that:

- Packaging is checked to ensure compliance with the standards before hand over to the patient
- Patients are given advice on safe storage of medicines particularly when the product is not dispensed in a child resistant container.
- Consideration is given to availability of products in child resistant containers when procuring medicines.

1. http://www.psni.org.uk/wp-content/uploads/2012/09/standards_on_sale_and_supply_of_medicines-revised1mAR2016.pdf
2. http://www.hscbusiness.hscni.net/pdf/2014-01-13_Final_HSC_Dispensing_Specification.pdf

Resources to support safer modification of food and drink

A Department of Health (N Ireland) circular was issued in July 2018 on 'Resources to support safer modification of food HSC (SQSD) 16/18.

The circular describes how descriptors for food and fluid textures are changing in line with the new International Dysphagia Diet Descriptors Standardisation Initiative (IDDSI) and highlights what Trusts are required to do.

Following on from work of the Thematic Review of Choking on Food, dysphagia (swallowing difficulties) has become an area of focus for us all in Northern Ireland. An important element of managing dysphagia is the use of dysphagia diet descriptors to describe the consistency of food/fluid suitable for patients with a common understanding of these across HSC staff and catering.

IDDSI is an evidence based framework developed by experts to:

- Standardise the names and descriptors of texture modified foods and thickened liquid;
- Use numbers and colour codes to create common terminology that can be used across cultures and by all stakeholders;
- Provide valid and practical testing methods for all levels of food and drink.

A Regional Multidisciplinary and Multiagency Adult Dysphagia Group has recently been established. A workstream of this group will focus solely on this issue for both adults and children to help provide support and direction to HSC.

The transition to the IDDSI terminology has already begun in parts of the UK including changes to labelling and dosage instructions of powdered thickeners for some manufacturers. This will also affect labelling of food products and prepared modified texture meals.

To minimise the risk of choking and aspiration in patients with dysphagia during this transition phase it is essential that your organisation is aware of these changes and has robust implementation processes in place to ensure patient safety is maintained.

For more details refer to the IDDSI website: http://iddsi.org/

Key Learning

- People with dysphagia must receive their recommended fluid and food consistency in order to reduce the risk of complications such as choking and aspiration

Multiple re-presentations to ED should prompt careful consideration and re-evaluation

In a recent SAI a patient attended the Emergency Department with a 5 day history of abdominal pain, vomiting and diarrhoea. The patient was diagnosed with gastroenteritis and was discharged. The patient attended the next day and the day after and on both occasions was discharged again with the initial diagnosis of gastroenteritis. The patient presented for the 4th time 8 days later. A CT abdomen was carried out and showed a dilated large bowel with a distal large bowel obstruction. The patient required emergency bowel surgery resulting in a subtotal colectomy with an ileostomy. The obstruction was due to a benign stricture.

Recovery post operatively was slow and the patient had a further 2 admissions.

The review panel identified a number of care and service delivery issues. There were no significant contributory factors identified. Root causes identified include:

- The initial diagnosis was accepted when patient re-presented to ED. There was a failure to reconsider the diagnosis when inflammatory markers were rasied and pain persisted.
- A differential diagnosis was not fully explored

In a second SAI, a patient attended an Emergency Department with abdominal pain and a 2 week history of not passing a bowel motion. The patient was diagnosed with constipation and discharged home. The patient re-attended ED 4 days later and again a diagnosis of constipation was made and the patient discharged home. The patient presented again 2 days later with intra-abdominal sepsis and suspected perforation. Despite surgery and critical care support the patient died the following day.

Senior input was not sought in relation to the second presentation at ED. Raised inflammatory markers were not acted on. A lack of faecal loading on the abdominal x-ray, if interpreted correctly, might have triggered specific review of the history, examination findings and results to consider an alternative diagnosis.

Key Learning

Repeat attenders with the same complaint should be considered red flag cases

- Abnormal blood results should be highlighted and acted on
- If patients are given a lower priority following repeat triage assessment, the nurse must indicate the rationale and enter signature
- Careful consideration of the full differential diagnosis should occur
- Patients making an unscheduled return to the ED with the same condition within 72 hours of discharge should be reviewed by a senior decision maker prior to discharge from ED (Royal College of Emergency Medicine. Quality in Emergency Care Committee Standard Consultant Sign-Off. June 2016 https://www.rcem.ac.uk/docs/Consultants%20Sign%20off/17.%20Consultant%20Sign-Off%20-%20Standard%20(June%202016).pdf)

Email Top Tips

Always check that you are using the correct email addresses

When sending email messages always double-check that you are using the correct email address.

If you send an email to an incorrect recipient, try to recall the message, immediately follow up with an apology and ask the incorrect recipient to delete the message. If the message contains personal or confidential information you should notify your line manager immediately.

Delay sending your email

Outlook provides a facility to delay sending your email; you can set a rule to delay all messages by x minutes, giving you extra time to realise that you've sent it to the wrong person or forgotten to attach a file. Once you have changed your settings messages will sit in your Outbox for the specified period of time before being sent.

Be careful when sending messages to multiple recipients

Only send a message to someone if they need to receive it. Be careful when replying to messages; don't reply to everyone unless you really want everyone to see your response.

Be aware that email is not secure

You should be aware that email is not a secure way of sharing personal and confidential information. You should consider whether an alternative method provides better security, for example you may save confidential information to a secure shared drive.

Protect your emails from unauthorized access

To help prevent unauthorized access to your emails and other records you should always lock your computer screen when away from your desk. In Windows you can press Ctrl+Alt+Delete and select Lock Computer, which will lock your computer until you enter your password. You should never write down or share your password with anyone.

Emails may be accessible under the Freedom of Information Act – treat them as formal records of HSC business

Emails are often considered informal, but they are subject to the same laws and regulations as other forms of correspondence and may be accessed under Freedom of Information or other legislation. Messages should be composed in a professional, clear and concise manner.

Use clear subjects/titles and make it easy for others to manage their emails

Where possible, only refer to one subject per email. If you have multiple issues to write about it is better to separate messages, which can then be managed individually. Always enter a meaningful subject field.

Beware of spam and phishing emails

Spam e-mail is also known as 'junk' or 'bulk' email which is sent to millions of e-mail addresses every single day. Phishing is the process of attempting to acquire details from users such as usernames, passwords and banking details i.e. account numbers or credit card information by masquerading as a trustworthy source. This is done by presenting people with emails that look legitimate but direct users to sites that are not. Be suspicious when an email asks you to provide personal or financial details, even if the message appears to come from a trusted source. Never respond to email requests from unknown or external sources asking you to divulge personal information or sensitive corporate information.

Contact us

HSC 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 or by telephone on **0300 555 0114 ext: 3446**

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