



## **Rapid Response Report**

**Subject:**

**Reducing Treatment Dose Errors With Low Molecular Weight Heparins**

**For action by:**

Chief Executive, HSC Board for cascade to :  
*Assistant Director of Pharmacy and Medicines Management*  
*Director of Integrated Care, HSCB*  
*Assistant Director, Primary Care, HSCB*

Chief Executives, HSC Trusts for cascade to:

*Medical Directors*  
*Directors of Nursing*  
*Directors of Pharmacy*  
*CSCG leads*  
*Community Nurses*

Chief Executive RQIA for cascade to:

*Independent hospitals and clinics*

General Practitioners  
Community Pharmacists

**For Information to:**

Chief Executive, Public Health Agency  
Director of Public Health/Medical Director, Public Health Agency  
Director of Nursing, Public Health Agency  
Dir. of Performance Management & Service Improvement, HSCB  
Assistant Director of Performance Management, HSC Board  
Director of Integrated Care, HSCB  
Assistant Director, Primary Care, HSCB  
Professor David Woolfson, Head of School of Pharmacy, QUB  
Professor Linda Johnston, Head of Nursing & Midwifery, QUB  
Professor Hugh McKenna, Head of Life & Health Sciences, UU  
Dr Owen Barr, Head of School of Nursing, UU  
Professor Paul McCarron, Head of School of Pharmacy, UU  
Post Graduate Dean, NIMDTA  
Staff Tutor of Nursing, Open University  
Director, Safety Forum  
Lead, NI Medicines Governance Team  
NI Medicines Information Service  
NI Centre for Pharmacy Learning and Development

**Summary of Contents:**

The purpose of this circular is to reduce treatment dose errors with low molecular weight heparins

**Enquiries:**

Any enquiries about the content of this circular should be addressed to:

Safety & Quality Unit  
DHSSPS  
Room D2.4  
Castle Buildings  
Stormont  
BELFAST  
BT4 3SQ

**Tel:** 028 9052 2239

[qualityandsafety@dhsspsni.gov.uk](mailto:qualityandsafety@dhsspsni.gov.uk)

**Related documents**

**Superseded documents**

N/A

**Status of Contents:**

For completion of actions and assurance templates by 20 February 2011

**Implementation:**

Immediate

SQSD material can be accessed on:

<http://www.dhsspsni.gov.uk/index/phealth/sqs.htm>

Dear colleagues

## **Reducing Treatment Dose Errors With Low Molecular Weight Heparins**

Low molecular weight heparins (LMWHs) are used in the prevention and treatment of venous thromboembolism (VTE) and treatment of acute coronary syndromes.

Prescribed doses of LMWHs for the treatment of a thromboembolic event are dependent on the weight of the patient and renal function. Underdosing has an increased risk of a further thromboembolic event, while overdosing can increase the risk of bleeding. Dosing errors with LMWHs can occur if the prescribed treatment dose is not calculated using the patient's current weight.

Dosing errors can also occur when more than one LMWH is available in an organisation, as every product has a different dose per kg. Trusts are encouraged to keep only one LMWH in stock which will remove the risk of confusion between products and their doses.

The content of the attached circular at Annex A has been reviewed by relevant professional colleagues in the Department and approved for regional dissemination.

I would ask you to bring this to the attention of relevant practitioners and key health and social care staff within your organisation. They should consider the best practice for their setting and take appropriate steps to minimise the risks to patients.

I would also draw your attention to the attached 'assurance template' which is a means of recording the response from the Trusts and Board in circumstances where SQS Circulars require action to be taken by a given date.

Yours sincerely



**Dr J F Livingstone**  
Director, Safety, Quality & Standards

## **Reducing Treatment Dose Errors With Low Molecular Weight Heparins**

### **Issue**

1. Low molecular weight heparins (LMWHs) are used in the prevention and treatment of venous thromboembolism (VTE) and treatment of acute coronary syndromes.
2. Prescribed doses of LMWHs are dependent on the weight of the patient and renal function. Underdosing has an increased risk of a further thromboembolic event, while overdosing can increase the risk of bleeding. Dosing errors with LMWHs can occur if the prescribed treatment dose is not calculated using the patient's current weight.
3. Reports to the National Reporting and Learning System (NRLS) indicate that some patients are not weighed prior to dosing, that body weight is estimated or recorded inaccurately, or that doses based on a patient's weight are miscalculated. Additionally, there are numerous reports where the prescribed, dispensed or administered dose and frequency of LMWH were outside accepted guidelines for the required clinical indication and other predisposing conditions such as renal failure. Limited patient information (i.e. weight, dosage, indication and intended duration of treatment) communicated at transfers of care has also led to reports of harm.

### **National Context**

4. Between January 2005 and September 2009, the NPSA received 2,716 patient safety incident reports relating to dosing errors concerning LMWHs. These include one incident reported to have led to death and three reports of severe harm. A review of NHS Litigation Authority claims identified one further death.
5. NPSA/2010/RRR014: Reducing Treatment Dose Errors With Low Molecular Weight Heparins and the supporting information is available on:  
<http://www.nrls.npsa.nhs.uk/resources/?entryid45=75208>

### **Local Context**

6. All HSC organisations and staff in the independent sector where the prescribing, administration, monitoring and dispensing of treatment doses of LMWHs occur should ensure that:
  - i. A patient's weight is used as the basis for calculating the required treatment dose of LMWH. The weight must be accurately recorded in kilograms (kg) in

the inpatient medication chart (when in use) and clinical record. Patients should be weighed at the start of therapy and, where applicable, during treatment.

- ii. Renal function is considered when prescribing treatment doses of LMWHs. The renal function test should not delay initiation of the first dose but every effort must be made to base subsequent dosing on these results.
  - iii. Dose calculation tools are available for a range of body weights, specific clinical indications and LMWH products, and that consideration is given to rationalising the range of LMWH products used in the organisation.
  - iv. Essential information such as dose, weight, renal function, indication and duration of treatment is communicated at transfers of care (e.g. by discharge letters) and used to ensure that future doses are safe.
  - v. Dosing checks based on patient information are made by healthcare professionals who review, dispense or administer LMWHs when this information is readily available to them.
  - vi. System improvements are demonstrated through the collection and review of data, such as incident reports, clinical pharmacy interventions, audit or other relevant outcome measures.
7. Regionally approved shared care guidelines for various indications of low molecular weight heparins are available at [www.ipnsm.n-i.nhs.uk](http://www.ipnsm.n-i.nhs.uk)

### **Action Required**

8. You will wish to bring the contents of this document to the attention of staff, particularly those involved in governance and risk management within your organisation. Organisations need to be aware of this best practice circular in order to assist in complying with the Quality Standards for Health and Social Care –
  - Criteria 4.3(i) (the appropriate management of risk);
  - Criterion 5.3.1(f)(viii) (ensuring safe practice in medicines management);
  - Criterion 5.3.3(f) (implementation of evidence-based practice through guidance, for example, NPSA guidance);and
  - Criteria 8.3(l) (effective communication and information)
9. HSC Trusts should take immediate action to implement this Rapid Response Report as outlined in paragraph 6 above by 20 February 2011. Trusts should provide assurance on this action to the HSC Board by completing Section 1 of the attached template.

10. The HSC Board should complete Section 2 of the attached assurance template and forward to the Department by 21 March 2011.

## **SQS CIRCULARS: ASSURANCE TEMPLATE FOR HSC BOARD AND TRUSTS**

**Circular number: HSC (SQSD) 12/10 Reducing Treatment Dose Errors With Low Molecular Weight Heparins  
For Implementation by: 20 February 2011**

(Section 1 is to be completed by HSCT and forwarded to HSCB for consideration. Section 2 should then be completed by HSCB and forwarded to DHSSPS)

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### **SECTION 1:**

To: Chief Executive, HSC Board

I can confirm that the required actions set out in the above circular have been implemented in full by the due date.

I can confirm that the actions in the above correspondence have been partially implemented by the due date. The issues impacting on full implementation along with the timescales for resolving these issues are set out in the box below:

I can confirm that the organisation has been unable to implement any actions of the above circular for the reasons set out in the box below. (The actions being taken/required to resolve or clarify the issues preventing implementation and the timescales for this should be outlined):

I confirm that the HSC Trust's Chief Executive and designated senior manager have been advised of this response and are content that it should be submitted to the HSC Board.

Response submitted by: \_\_\_\_\_ (Name & contact details of person submitting response)  
on behalf of \_\_\_\_\_ HSC Trust. Date: \_\_\_\_\_

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### **SECTION 2:**

To: Director, Safety, Quality & Standards Directorate, DHSSPS

I note the response from the Trust and –

I can confirm that the HSC Board is content the action(s) taken, referred to in Section 1, complies with the requirements of the above circular.

I can confirm that further action, as outlined in the box below, is needed to ensure compliance with the requirements of the above circular

I confirm that the HSC Board's Chief Executive and designated senior manager have been advised of this response and are content that it should be submitted to the Department.

Response submitted by: \_\_\_\_\_ (Name & contact details of person submitting response)  
on behalf of HSC Board. Date: \_\_\_\_\_