Worcestershire NHS
Acute Hospitals NHS Trust

Guideline on the use and monitoring of intravenous unfractionated Heparin (UFH) in adults

This guidance does not override the individual responsibility of health professionals to make appropriate decision according to the circumstances of the individual patient in consultation with the patient and /or carer. Health care professionals must be prepared to justify any deviation from this guidance.

Introduction

Heparin is a commonly used anti-thrombotic agent. Most heparin used now is low-molecular weight heparin (LMWH) but unfractionated heparin (UFH) is still useful in certain situations, renal failure and where rapid reversal of the anticoagulant effect is required.

This guideline has been produced to cover adult patients only and to coincide with the WAHT Heparin Prescription Chart (WR1762) which is in-line with the NPSA guidance "Actions that make anti-coagulant therapy safer" (Ref: NPSA/2007/18).

This guideline is for use by the following staff groups :

All healthcare professionals who undertake the prescription, preparation and administration of heparin therapy for adult patients.

Lead Clinician(s)

Tina Wilkinson	Clinical Pharmacist Team Leader, WRH
Dr S Shafeek	Consultant Haematologist
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Approved by Medicines Safety Committee on:	4th June 2013
Extension approved by TMC on:	22nd July 2015
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Key Amendments made to this Document:

Date	Key Amendments	By:
08.02.2011	No amendments made to guideline	Dr Shafeek
09.04.2013	Minor changed made to the wording of the text and more details about screening for HIT.	Mark Crowther
19.11.2015	Document extended for 12 months as per TMC paper approved by TMC on 22nd July 2015	TMC
Oct 16	Further extension as per TMC paper approved 22nd July 2015	TMC
Oct 2017	Document reviewed with no changes	Dr S Shafeek
December 2017	Sentence added in at the request of the Coroner	
4th January 2018	Document extended for 2 years, no changes made	Dr S Shafeek

Contents:

Staff Competences

All staff preparing or administering heparin therapy must have the necessary NPSA work competency (see appendix 2)

Any gaps in competence must be addressed through training to ensure that all staff may undertake their duties safely. E-learning modules are available at www.npsa.nhs.uk/health/alerts

Introduction

Heparin is a naturally occurring anticoagulant that works by potentiating the effect of anti-thrombin. All UK heparin is sourced from porcine tissue. The majority of heparin used is low-molecular weight heparin (LMWH) which is highly purified giving the advantage of dependable pharmacokinetics allowing for once daily subcutaneous dosing. The problem with LMWH is that it is excreted by the kidney, causing accumulation in renal failure, and its effect cannot be reversed. Unfractionated heparin (UFH) is metabolized by the reticuloendothelial system, hence can be used in renal failure, and can be rapidly reversed, therefore can be used where anticoagulation is indicated but may require immediate reversal (e.g. high bleeding risk or the perioperative period). UFH is given intravenously and has variable pharmacokinetics requiring regular dose monitoring and adjustment.

UFH has a short half-life of 1-2 hours and its effect can be reversed by the administration of protamine sulphate.

Detailed guidance on the use of LMWH can be found in the trust guideline 'Guideline for the Management of Venous Thromboembolism (VTE) Including Management of Patients receiving low molecular weight Heparin WAHT-HAE-019'.

Indications for UFH

The main indications for UFH are:

1. UFH should be considered in patients who require full dose anticoagulation but cannot have LMWH because:
   - They have a calculated GFR <15mls/minute
   - They have had a major haemorrhage in the past four weeks and may require immediate reversal of anticoagulation
   - They have a condition with a high risk of thrombosis and have had a procedure with a high risk of bleeding and may require immediate reversal of anticoagulation
   - They have a condition with a high risk of thrombosis and are awaiting a procedure that requires the immediate reversal of anticoagulation
2. During haemofiltration to ensure the circuit remains patent
3. As a more dilute solution (50iu/ 5mls) used for intravenous line flushes.

Contraindications and cautions with UFH

UFH is contraindicated in patients:

- With heparin allergy
- Undergoing surgery of the brain, spinal cord or the eye, in procedures at sites where there is a risk of bleeding, and in patients undergoing lumbar puncture or regional anaesthetic block.
- Who have active bleeding or severe liver disease (including oesophageal varices) or purpura or severe hypertension or active tuberculosis and/or increased capillary permeability.

UFH should be used in caution in patients:

- Who have had recent surgery or haemorrhage
- Who have a history of bleeding disorders
- Who have alcohol excess
- Have had recent trauma
- Who have a potential bleeding site eg. hiatus hernia, peptic ulcer, neoplasm, bacterial endocarditis, retinopathy, bleeding haemorrhoids, suspected intracranial haemorrhage, cerebral thrombosis or threatened abortion.

Patients with a past history of heparin induced thrombocytopenia should be discussed with haematology before starting heparin

Pre-administration checks

- Indication for anticoagulation detailed in notes with risk/benefits of using UFH noted.
- Discussion with patient/relative documented in notes.
- Check normal drug prescription chart for other anticoagulants, antiplatelet agents and non-steroidal anti-inflammatories. Under normal circumstances the co-administration of these drugs is contra-indicated.
- Document on the medication chart that a separate heparin prescription chart is in use.
- Complete all the patient details on the adult intravenous heparin treatment chart WR1762
- Check coagulation screen –document baseline APTT on intravenous heparin treatment chart (WR1762- see appendix 1). Discuss with clinical haematology if PT or APTT are abnormal.
- FBC (particularly platelet count). Discuss with clinical haematology if platelet count $<100x10^9$/L.
- U & E's and LFT's
- Weight (kg) - document patient's weight on intravenous heparin treatment chart (WR1762- see appendix 1).

Doses are based on ideal body weight- if the patient is obese use this equation:

Men (IBW):	50kg + (2.3kg x number of inches over 5 feet)
Women (IBW):	45kg + (2.3kg x number of inches over 5 feet)

Heparin syringe

Only those qualified to give intravenous infusions should make up the heparin syringe, this should be checked by another qualified adminstrator and signed on the prescription chart.

A 50ml syringe should be used to draw up 40mls of 1000 units/ml strength of heparin (40,000 units).

The National Patient Safety Agency has warned that only heparin of 1000 units/ml strength should be stocked on wards for intravenous infusions to avoid errors.

Each syringe should be discarded after 24 hours regardless of any remaining solution.

Loading dose

UFH requires a loading bolus. **Heparin sodium 5000 units intravenously over 5 minutes is the standard loading dose.** The prescriber must use the designated loading dose box on the adult intravenous heparin chart (WR1762) to prescribe this. The person administering the loading dose must have it checked and sign in the box that it has been given.

(NB-Any additional loading doses that may be required must be prescribed on the stat dose section of the in-patient medicine chart)

Maintenance dose

Once the loading dose has been given the maintenance infusion must be started. The Initial rate of infusion is dependant on weight, see table below (also on reverse of WR1762) then altered dependent on the APTT ratio.

Weight (kg)	**Initial rate (mL/hour of heparin sodium 1000units/mL)**
41-50	0.8
51-60	1.0
61-70	1.2
71-80	1.4
>80	1.6

The initial rate required should be prescribed on the '**Continuation infusion'** section of WR1762. Complete the time the 1st APTT ratio should be checked (6 hours from start of continuation infusion). Date, time and sign the prescription. The person administering the infusion must have the rate checked and sign the chart.

Monitoring

- Do not take sample blood from the drip arm.
- Measure the Activated Partial Thromboplastin Time ratio (APTTr) (aiming for range between 1.5 – 2.5) every six hours initially (unless instructed otherwise in the table below) and after any rate change.
  Once APTT is stable (i.e. at least two results within range) daily monitoring is appropriate.
- APTTr is monitored by sending a sodium citrate (light blue top) tube to haematology.

- All patients receiving unfractionated heparin should have their platelet count measured every second day between days 4-14
- U&E's- heparin may cause hyperkalaemia.
- Long term (>1 month treatment) 2-3 % patients develop osteoporosis and vertebral fractures, which may be a long term complication (heparin decreases osteoblast and increases osteoclast activity). Monitor for back pain.

Dose adjustment

Adjust the rate of infusion in accordance with the schedule in the table below. All dose adjustments must be prescribed and signed for on the chart. Any changes to the rate must be done by a trained member of staff and checked by a second and signed that it has been done.

Heparin Infusion Schedule	
APTT ratio	**Infusion rate change**
<1.2	Give IV bolus 5000units and increase rate by 0.4mL/hour. Repeat APTT after 4hours
1.2-1.4	Increase rate by 0.2mL/hour
1.5-2.5	No change
2.6-3.0	Reduce rate by 0.1mL/hour
3.1-4.0	Reduce rate by 0.2mL/hour
4.1-5.0	Reduce rate by 0.3mL/hour
>5	Stop infusion for 1 hour then reduce rate by 0.5mL/hour. Repeat APTT after 4 hours

Treatment of bleeding or over dosage

Because of its short half-life the effect of UFH only lasts for a couple of hours. For minor bleeding the infusion can be stopped and appropriate local measures taken.

For major bleeding, or rapid reversal, the infusion can be stopped and protamine sulphate administered. Protamine should also be considered in large over dosages of UFH. Protamine is given at a dose of 1mg per 100 units of heparin administered in the previous four hours up to a maximum dose of 50mg. Protamine is given as a slow intravenous injection with a rate not exceeding 5mg/minute. The APTT should be rechecked 10 minutes after the administration of protamine and if still prolonged consideration given to further doses. Clinical haematology advice should be sought if necessary.

Cautions with protamine - allergic reactions are increased if previously exposed to protamine. These patients include those who have previously undergone procedures such as coronary angioplasty or cardio-pulmonary by-pass which may include use of protamine, diabetics who have been treated with protamine insulin, patients allergic to fish and men who have had a vasectomy or are infertile and may have antibodies to protamine.

Heparin-induced thrombocytopenia (HIT)

This is immunologically mediated thrombocytopenia which is uncommon but can be life threatening. IgG antibodies are formed in response to heparin therapy, which form immune complexes and trigger platelet aggregation causing vascular thrombosis and microvascular occlusion.

All patients who are to receive any form of heparin should have a baseline platelet count performed.

HIT should be considered in any patient who develops the following while receiving heparin:-

- Confirmed or suspected new thrombosis (either arterial or venous)
- A falling platelet count
- Confirmed or suspected extension of previous thrombus
- Skin reaction at injection site (erythema and/or skin necrosis)
- Anaphylactic reaction to heparin/fondaparinux
- Adrenal haemorrhage

Patients with suspected HIT should have a '4T' score performed, see table below.

Delayed onset HIT should be considered if there is new thrombosis occurring up to 40 days after stopping heparin therapy. Delayed onset HIT is rare and further investigations should be discussed with a haematologist.

Active monitoring of platelet count should be performed in the following situations:

- All patients receiving unfractionated heparin should have their platelet count measured every second day between days 4-14.

'4T' scoring system

	Score = 2	Score = 1	Score = 0
Thrombocytopenia Compare the highest platelet count within the sequence of declining platelet counts with the lowest count to determine the % of platelet fall. (Select only 1 option)	>50% platelet fall AND a nadir of ≥20 AND no surgery within the preceding 3 days.	>50% platelet fall BUT surgery within the preceding 3 days OR Any combination of platelet fall and nadir that does not fit criteria for Score 2 or Score 0 (e.g. 30-50% platelet fall or nadir 10-19)	<30% platelet fall OR Any platelet fall with nadir <10
Timing (of platelet count fall or thrombosis or appearance of skin lesions) Day 0 = first day of most recent heparin exposure (Select only 1 option)	Platelet fall day 5-10 after start of heparin Platelet fall within 1 day of start of heparin AND exposure to heparin within the past 5-30 days	Consistent with platelet fall day 5-10 but not clear (e.g. missing counts) Platelet fall within 1 day of start of heparin AND exposure to heparin in the past 31-100 days Platelet fall after day 10	Platelet fall ≤ day 4 without exposure to heparin in the past 100 days
Thrombosis (or other clinical sequelae) (Select only 1 option)	Confirmed new thrombosis (venous or arterial)	Recurrent venous thrombosis in patient receiving therapeutic	Thrombosis not suspected

	Skin necrosis at injection site Anaphylactoid reaction to iv heparin bolus Adrenal haemorrhage	anticoagulants Suspected thrombosis (awaiting confirmation on imaging) Erythematous lesions at unfractionated heparin injection sites	
Other causes for thrombocytopenia (Select only 1 option)	No alternative explanation for platelet fall is evident.	Possible other cause is evident: Sepsis without proven microbial source Thrombocytopenia associated with initiation of ventilator	Probable other cause is present: Within 72h of surgery Confirmed bacteraemia/fungaemia Chemotherapy or radiation within the past 20 days DIC due to a non-HIT cause Post transfusion purpura Thrombotic thrombocytopenia Purpura Platelet count <20 and given a drug implicated in drug induced immune thrombocytopenia purpura Non-necrotising skin lesions at LMWH injection sites

If the patient scores:-

Score 0-3 – Low probability of HIT, no further investigations required, heparin treatment can continue. Patient should be rescored if clinical situation changes.

Score 4-5 – Intermediate probability of HIT - heparin should be stopped, no further heparin should be given (including heparin flushes for lines). Alternative anticoagulant should be started only if there is thrombosis. The patient should have a HIT test performed.

Score 6-8 – High probability of HIT - heparin should be stopped, no further heparin should be given (including heparin flushes for lines) and an alternative anticoagulant started. The patient should have a HIT test performed.

Intermediate and high probability cases should be discussed with the on-call haematologist, the balance of thrombosis and bleeding can then be assessed.

Heparin for flushing lines

Intravenous lines are often flushed with a weak heparin solution (10iu/ml). This is either comes in 50iu/ 5ml ampules for intermittent line flushes or is made up by adding heparin to a bag of normal saline. Both these must be prescribed on a standard drug chart, and their use signed for. Weak heparin solutions should be kept separately from standard heparin to avoid the accidental flushing using neat heparin. Although the dose of the heparin is small systemic effects can occur.

Audit

The NPSA requires the Trust to

'Audit anticoagulant services using BSH/NPSA safety indicators as part of the annual medicines management audit programme. The audit results should inform local actions to improve the safe use of anticoagulants, and should be communicated to clinical governance, the Trust Medicines Safety Committee (and the Area Prescribing Committee where appropriate). This information should be used by commissioners and external organisations as part of the commissioning and performance management process.

References

- Actions that can make anticoagulant therapy safer – NPSA Patient Safety Alert 18 issued 28 March 2007
- Baglin T, Barrowcliffe TW, Cohen A Greaves M. Guidelines on the use and monitoring of heparin. Br J Haematol: 90; 1-7
- Davidson S, Keeling D, Watson H. The management of heparin induced thrombocytopenia. Br J Haematol: 133; 3. 259-269

MONITORING TOOL

This should include realistic goals, timeframes and measurable outcomes.

How will monitoring be carried out?
Because UFH is used so infrequently audit will be difficult. Monitoring of Datix reports of non-compliance.
Routine pharmacy audit

Who will monitor compliance with the guideline?
Anticoagulation safety committee

STANDARDS	%	CLINICAL EXCEPTIONS
All patients who are started on treatment dose UFH should have the UFH prescribed on WR1762.	100%	None
All patients who are started on treatment dose UFH should have their APTT measured every six hours, until stable then daily.	100%	None
APTT ratio's will be within safe limits and if not appropriate action taken	100%	None

CONTRIBUTION LIST

Key individuals involved in developing the document

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Circulated to the following CD's/Heads of dept for comments from their directorates / departments

Name	Directorate / Department
Surgical specialties CDs/Matrons Medical CDs/Matrons Radiology CD Pharmacy CD Emergency Department CD/Matrons Anaesthetics CD/Matron	

Circulated to the chair of the following committee's / groups for comments

Name	Committee / group

Appendix 1

ADULT INTRAVENOUS HEPARIN TREATMENT CHART

Worcestershire NHS
Acute Hospitals NHS Trust

ADDRESSOGRAPH
Name.....
Hosp No:
NHS No:
D.O.B..... Male Female

ALLERGIES/ADVERSE DRUG REACTIONS		
NONE KNOWN ☐ Signature:		
DATE	DRUG/FOOD/OTHER	REACTION DETAILS

CONSULTANT:	WARD:		WEIGHT: ..... KG

INITIAL LOADING DOSE

Heparin Sodium 5000 units to be given intravenously over 5 minutes as a stat dose

Prescribed by:		Date:	Time:
Given by:	Checked by:	Date:	Time:

CONTINUATION INFUSION

Heparin Sodium 40,000 units in 40mls to be given by intravenous infusion via a syringe pump.

Initial rate ..... ml/hr. Check APTT ratio 6 hours after commencing infusion.

Prescribed by:	Date:	Time:

SYRINGE MUST BE CHANGED EVERY 24 HOURS REGARDLESS OF DOSE

Date	APTT ratio	Time	Infusion Rate ml/hour	Rate		Syringe Preparation	
				Set by SIGN	Checked by SIGN	Prepared by SIGN	Checked by SIGN
	BASELINE						

FILE IN INPATIENT SECTION OF MEDICAL NOTES

WR1762 - Version 1 - Issued:Oct 2008

ADULT INTRAVENOUS HEPARIN TREATMENT CHART

GUIDANCE FOR USE

1. Perform a Full Blood Count and coagulation screen (refer to Pathology Handbook) and document these baseline results before prescribing heparin.

2. Heparin must also be prescribed in the Regular Drugs section of the Trust Inpatient Prescription Chart, referring to this chart for prescription specifics.

DRUG (APPROVED NAME) Heparin Infusion			08:00
DOSE See IV Heparin Treatment Chart	ROUTE	DIRECTIONS	12:00
START DATE 01/06/08	SIGNATURE A. Prescriber	BLEEP 999	18:00 22:00
PHARMACY USE			

3. All Heparin Infusions must be prepared using Heparin Sodium (unfractionated Heparin) 1000 units/ml ampoules.

4. An initial IV loading dose of 5000 units should be prescribed and given over 5 minutes (by completing the preprinted prescription overleaf).

5. The continuation infusion should also be prescribed overleaf, dose and rate determined by reference to the table below (based on 18 units/kg/hour) and the time at which the initial APTT ratio should be checked should also be defined (6 hours after starting infusion).

Weight (kg)	Initial rate (ml/hour of 1000 units/ml)
41 - 50	0.8
51 - 60	1.0
61 - 70	1.2
71 - 80	1.4
> 80	1.6

5. Prepare an IV infusion 1000 units/ml i.e. 40,000 units/40mls and commence the infusion at the prescribed rate overleaf.

6. Measure the APTT ratio 6 hours after starting the infusion as above, and then adjust the rate as per the Heparin Infusion Schedule table below, to maintain the patient APTT ratio between 1.5 and 2.5

7. Once the APTT ratio is stable, the ratio can be checked daily. If the rate (dose) is changed in any respect, the ratio must be re-checked 6 hours after any change (or sooner as indicated in the heparin infusion schedule below)

HEPARIN INFUSION SCHEDULE	
APTT ratio	**Infusion Rate Change**
<1.2	IV bolus 5000 units and increase rate by 0.4ml/hour Repeat APTT after 4 hours
1.2 - 1.4	Increase rate by 0.2ml/hour
1.5 - 2.5	**No change**
2.6 - 3.0	Reduce rate by 0.1ml/hour
3.1 - 4.0	Reduce rate by 0.2ml/hour
4.1 - 5.0	Reduce rate by 0.3ml/hour
> 5	Stop for 1 hour and reduce rate by 0.5ml/hour. Repeat APTT after 4 hours

Appendix 2

NHS
National Patient Safety Agency

Workforce competence statement

Anticoagulant competence 5:

Preparing and administering heparin therapy

Summary	This proposed workforce competence is directly applicable to healthcare professionals who undertake the preparation and administration of heparin therapy for adult patients. It includes the assessment of the patient's fitness for treatment, the checking of the treatment drugs against the prescription and patient information, calculation of the amount needed to deliver the required dose, drug administration and the education of the patient with regard to benefits and side effects.
Indicative links to KSF Dimension and Level	*Health and wellbeing HWB7:* Interventions and treatments *Level 3:* Plan, deliver and evaluate interventions and/or treatments
Origin	This is a new workforce competence proposed and developed by the National Patient Safety Agency.
Activity scope	**Key words and concepts:** *Unfractionated heparin (UFH)* Naturally occurring anticoagulant extracted from porcine or bovine mucosa. Comprises a mixture of compounds of different molecular weights. Injectable anticoagulant. *Low molecular weight heparin (LMWH)* Low molecular weight fractions of heparin. Longer-acting than UFH. Injectable anticoagulant. *Danaparoid* Heparinoid. Injectable anticoagulant. *Fondaparinux* Synthetic pentasaccharide Factor Xa inhibitor. Similar in action to LMWHs. Injectable anticoagulant. *Hirudins* Synthetic, recombinant thrombin inhibitors. Injectable anticoagulant. This workforce competence covers the preparation and administration of injectable anticoagulant therapy for adult patients. It covers the use of heparins, danaparoid, fondaparinux and hirudins for both prophylaxis and treatment. It does not cover the use of heparins and related products in the outpatient treatment of DVT or the prevention of clotting in extra-corporeal circuits.
Performance criteria	**You need to:** 1. Read the patient's notes, prescription and relevant regimen protocol and identify any special instructions, investigations (including abnormal blood test results), or issues for which you need to seek advice.

	2. Greet and accurately identify the patient. 3. Introduce yourself and any colleagues involved in the procedure to the patient and/or carer. 4. Assess the patient's physical condition and their fitness for treatment and seek advice from an appropriate team member if required. 5. Check the drugs against the treatment plan, prescription and patient information with regard to: • patient's identification on prescription chart and on labelled drugs; • critical test results (including blood results); • regimen and individual drug identification; • name of drug; • the drug's fitness for administration (assessed by appearance • and condition); • diluents and dilution volumes; • dose; • administration route and duration; • expiry date/time of the drug. 6. Explain the treatment and potential side effects and their management to the patient and/or carer, and accurately answer any questions at a level and pace that is appropriate to: • their emotional state; • their level of understanding; • their culture and background; • their preferred ways of communicating; • their needs. 7. Check that the patient and/or carer understand the treatment to be given and any potential side effects together with their management. 8. Undertake a final check of the treatment drug against the prescription and the patient's identity before administration. 9. Prepare the dose, carrying out calculations, dilutions etc in accordance with local policy. 10. Give the required drug via the prescribed route, at the prescribed rate according to local medicines administration guidelines, local control of infection and COSHH guidelines. 11. Record the administration in the patient's notes, prescription chart and patient held records, as appropriate, according to local guidelines. 12. Dispose of waste materials (sharps etc) in accordance with local guidelines. 13. Communicate with appropriate professional colleagues as required by local guidelines. 14. Recognise when you need help and seek advice and support from an appropriate source when the needs of the individual and the complexity of the case are beyond your competence and capability.

Knowledge and understanding	**You need to apply:** *Legislation, regulations and guidelines* 1. An in-depth understanding of national* and local anticoagulant guidelines and their application. 2. A working understanding of the local guidelines for patient records, their storage and confidentiality of information. 3. An in-depth understanding of the national and local prescribing guidelines. 4. A working understanding of the Guidelines on the Administration of Medicines. 5. A working understanding of local guidelines for waste and sharps handling and disposal. 6. A working understanding of risk management, patient safety principles and causes of medication errors. *Clinical knowledge* 7. A working understanding of the disease progression and the potential impact on physiological systems. 8. A working understanding of the relevance of other treatment modalities and clinical conditions. 9. An in-depth understanding of diagnosis, care plan, protocol and guidelines. 10. An in-depth understanding of the principles and practice of prescribing injectable anticoagulants. 11. An in-depth understanding of the indications and contra-indications for injectable anticoagulants. 12. An in-depth understanding of drug calculations appropriate to the prescribed injectable anticoagulant, dose dilution and length of delivery. 13. An in-depth understanding of the side effects of injectable anticoagulant medicines, and their assessment, monitoring, prevention and management. *Technical knowledge* 14. A working understanding of different venous access devices and their care. 15. A working understanding of administration by the subcutaneous route, and intravenous bolus and/or infusions. *Procedures and patient management* 16. A factual knowledge of the roles and responsibilities of other team members. 17. A working understanding of the limits of one's own knowledge and experience and the importance of not operating beyond these.

***National guidance**	Guidance produced nationally includes: Baglin T et al. Guidelines on oral anticoagulation (warfarin): third edition - 2005 update. *British Journal of Haematology*. 2005; 132: 277-285. Available at: www.bcshguidelines.com National Patient Safety Agency. *Patient Safety Alert – Actions that can make anticoagulant therapy safer*. (2007). Available at: www.npsa.nhs.uk/health/alerts British National Formulary. 52nd and subsequent editions.

Supporting Document 1 - Equality Impact Assessment Tool

To be completed by the key document author and attached to key document when submitted to the appropriate committee for consideration and approval.

		Yes/No	Comments
1.	**Does the policy/guidance affect one group less or more favourably than another on the basis of:**		
	• Race	No	
	• Ethnic origins (including gypsies and travellers)	No	
	• Nationality	No	
	• Gender	No	
	• Culture	No	
	• Religion or belief	No	
	• Sexual orientation including lesbian, gay and bisexual people	No	
	• Age	No	
2.	**Is there any evidence that some groups are affected differently?**	No	
3.	**If you have identified potential discrimination, are any exceptions valid, legal and/or justifiable?**	No	
4.	**Is the impact of the policy/guidance likely to be negative?**	No	
5.	**If so can the impact be avoided?**		
6.	**What alternatives are there to achieving the policy/guidance without the impact?**		
7.	**Can we reduce the impact by taking different action?**		

If you have identified a potential discriminatory impact of this key document, please refer it to Human Resources, together with any suggestions as to the action required to avoid/reduce this impact.

For advice in respect of answering the above questions, please contact Human Resources.

Supporting Document 2 – Financial Impact Assessment

To be completed by the key document author and attached to key document when submitted to the appropriate committee for consideration and approval.

	Title of document:	Yes/No
1.	Does the implementation of this document require any additional Capital resources	No
2.	Does the implementation of this document require additional revenue	No
3.	Does the implementation of this document require additional manpower	No
4.	Does the implementation of this document release any manpower costs through a change in practice	No
5.	Are there additional staff training costs associated with implementing this document which cannot be delivered through current training programmes or allocated training times for staff	No
	Other comments:	

If the response to any of the above is yes, please complete a business case and which is signed by your Finance Manager and Directorate Manager for consideration by the Accountable Director before progressing to the relevant committee for approval