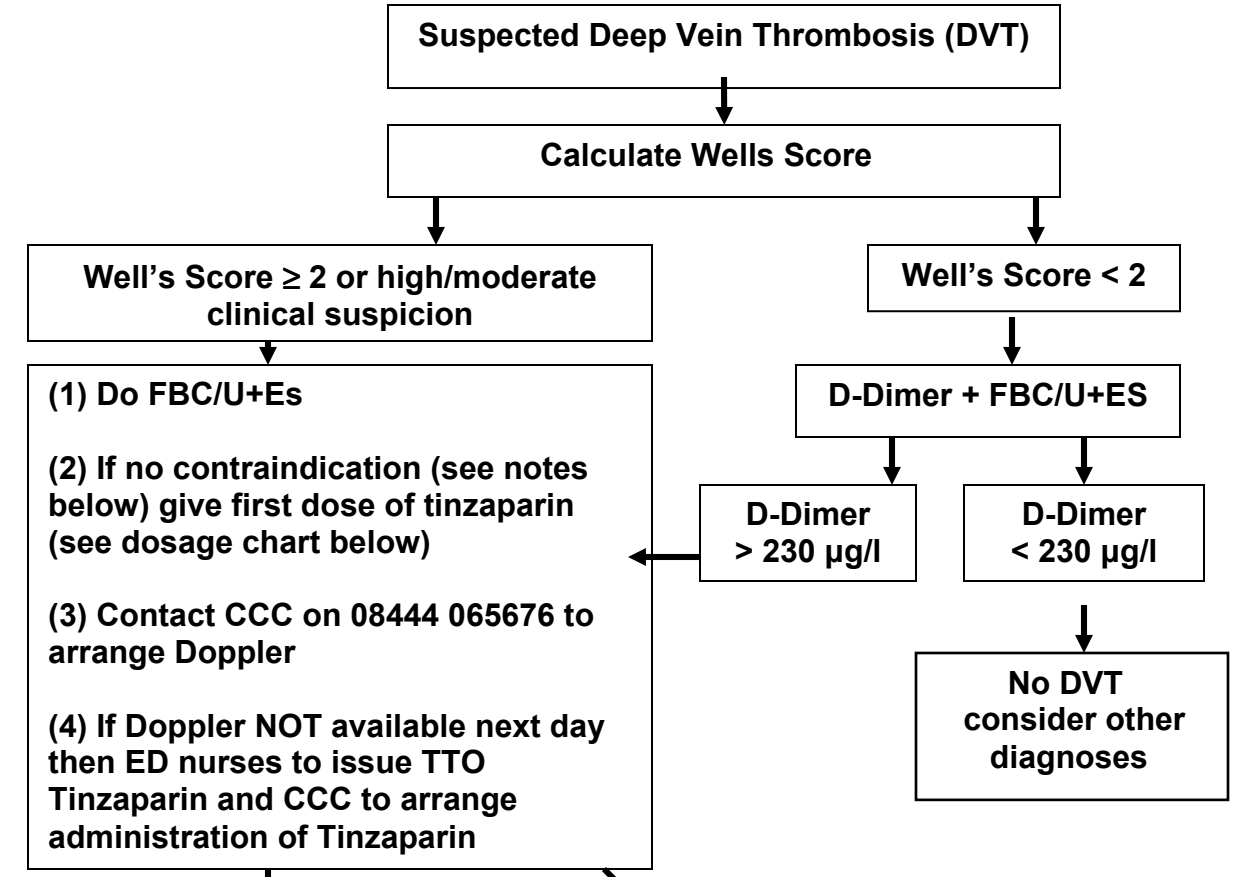
MANAGING PATIENTS WITH SUSPECTED DEEP VEIN THROMBOSIS IN THE EMERGENCY DEPARTMENT

Ref No: 1859

Lead Clinician	:	Dr A Marsh, Consultant in A&E Medicine
Care Group	:	Unscheduled Care Group (Emergency)
Implemented	:	
Last updated	:	
Last reviewed	:	July 2014
Planned review	:	July 2016
Keywords	:	DVT, deep vein thrombosis, ED, Emergency Department
Comments	:	

PROTOCOL FOR MANAGING PATIENTS WITH SUSPECTED DEEP VENOUS THROMBOSIS IN THE EMERGENCY DEPARTMENT



Positive or equivocal ultrasound scan

- Refer to ACU / AMU
- Letter to be sent to GP on discharge from ACU/AMU
- Assess for community management and refer appropriate patients to community nursing team

Negative ultrasound scan

DVT excluded.
Scanning department to write to GP using standardised letter (Appendix I) & provide patient with leaflet
If clinically indicated, GP to re-check D-Dimer after 1 week and repeat ultrasound scan if D-Dimer > 500 µg/l

Scanning & Acute Physician Responsibility

DO NOT USE THIS PROTOCOL IF

- History > 4 weeks
- Pregnant or ≤ 10 days post natal (**refer to PANDA**)
- More than 10 days and ≤ 6 weeks post natal (**refer to AMU**)
- In plaster cast (**refer to Fracture Clinic**)
- Bed bound (**refer to AMU**)
- Bilateral leg swelling
- Patient under 18 years of age (**refer to paediatrics**)
- History of DVT/PE in the last 18 months or patient already on Warfarin (**refer to AMU**)
- Creatinine clearance < 20ml/min (**refer to AMU**)
- Patient is thrombocytopaenic (**refer AMU**)
- Contraindication to tinzaparin (**refer to AMU**)

Wells score

Clinical item	Score
Active Cancer in the last 6 months	1
Lower limb paralysis or immobilization	1
Confinement to bed for 3days or major Surgery within the last 4 weeks	1
Localised tenderness	1
Whole limb enlargement – entire leg swollen	1
Calf enlargement ≥ 3cm compared to the other side	1
Unilateral pitting oedema	1
Superficial venous dilation / non varicose collateral superficial veins	1
Other diagnoses at least as plausible as DVT – cellulitis, musculoskeletal injury, Baker's cyst, arthritis, chronic oedema, haematoma	-2

Score <2	Low probability Unlikely DVT – check D Dimer
Score ≥2	High Probability Likely DVT

ADMINISTERING LOW MOLECULAR WEIGHT HEPARIN (tinzaparin)

CONTRAINDICATIONS TO TINZAPARIN

- Known hypersensitivity to constituents
- Current or history of heparin-induced thrombocytopenia
- Generalised or local haemorrhagic tendency, including uncontrolled severe hypertension, severe liver insufficiency, active peptic ulcer, acute or subacute septic endocarditis, intracranial haemorrhage, or injuries and operations on the central nervous system, eyes and ears, and in women with abortus imminens.
- Patients aged 90 years or over who have renal insufficiency

GUIDANCE ON PRESCRIBING TINZAPARIN

There are are a variety of different volumes of tinzaparin syringes available, and one multidose vial. Ensure that you have ordered/selected the correct one.

Weight

The patient's weight must be used as the basis for calculating the required treatment dose of LMWH. The weight must be accurately recorded in kilograms (kg) in the patient's clinical records. .

Renal Function

LMWHs are excreted via the renal route and when GFR is < 20ml/min there is a significant risk of drug accumulation and hence adverse effects from ongoing treatment (i.e. bleeding).
When creatinine clearance is known to be < 20ml/min, or such a degree of renal impairment is suspected the patient should be referred to the AMU.

Dose

The recommended dose of tinzaparin for suspected DVT is 175 units/kg, administered once daily by subcutaneous injection until DVT is excluded or until the patient is established on maintenance oral anticoagulation if DVT is confirmed

The dose chart below should be used to. Please note that for patients weighing <100kg, clinicians will need to waste some tinzaparin to allow the correct dose to be administered; patients weighing >109kg will need to receive a dose from two syringes – **care must be taken to ensure the correct dose is administered**

Tinzaparin dosage chart:from 20,000 units/ml (injection volume rounded to 0.05ml)

Weight (kg)	Dose (units)	Injection volume (ml)	Weight (kg)	Dose (units)	Injection volume (ml)	Weight (kg)	Dose (units)	Injection volume (ml)	Weight (kg)	Dose (units)	Injection volume (ml)
40-44	7000	0.35	60-64	10,500	0.55	85-89	14,875	0.75	110-114	19,250	0.95
45-49	7875	0.40	65-69	11,375	0.55	90-94	15,750	0.80	115-119	20,125	1.00
50-54	8750	0.45	70-74	12,250	0.60	95-99	16,625	0.85	120-124	21,000	1.05
55-59	9625	0.50	75-79	13,125	0.65	100-104	17,500	0.90	125-129	21,875	1.10
			80-84	14,000	0.70	105-109	18,375	0.90	130-134	22,750	1.15

Storage

Tinzaparin may be stored at room temperature

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Administration
Administration is by subcutaneous injections only.

It is recommended that tinzaparin is injected into the abdominal fat layer. Other sites of injection can be used without problems. Administration should be avoided within 5cm of the umbilicus and should be alternated between left and right side.

A skin fold should be held between the thumb and forefinger and the entire length of the needle inserted at an angle of 90 degrees into the skin fold. The skin fold should be held during the injection and the required dose slowly injected.

Monitoring of blood results

- All patients receiving LMWH should have a platelet count checked on the day of starting treatment.
- Patients exposed to LMWH (or heparin) in the last 100 days should have another platelet count check 24 hours after starting LMWH.

Appendix I

Princess Royal Hospital
Apley Castle
TELFORD
Shropshire
TF1 6TF

Tel: 01952 641222

Patient name –

Dob –

Dear Patient,

You have had an ultrasound investigation of your leg because your GP was concerned that you might have a clot called a deep venous thrombosis or DVT.

The ultrasound does not show any sign of such a clot. The results will therefore be reported to your GP as being negative.

There is however, still a small chance that you may develop a clot over the next week. There are also other reasons for developing a swollen leg such as infection and arthritis.

If your symptoms continue we advise you to contact your GP to discuss further management.

Thankyou for attending the hospital for this investigation today.

Signed _____

Date _____