NHS Shropshire Clinical Commissioning Group

Shropshire Community Health NHS NHS Trust

NHS Telford and Wrekin Clinical Commissioning Group

Administration of intravenous treatment - for the management of Cellulitis in the community

Patient presents with Cellulitis - assess level of infection, symptoms and general health status.
(See overleaf for list of pharmacies routinely holding stock of intravenous antibiotics)

GP/Clinician Assessment: Intravenous Therapy indicated

Oral antibacterial treatment failure (no response/symptoms worsening).

Patient has not had oral antibiotics but clinical presentation suggests IV therapy is indicated. (systemically ill or systemically well but with co-morbiditity such as peripheral vascular disease, chronic venous insufficiency or morbid obesity)

GP/Clinician Assessment: Is patient suitable for **home intravenous therapy**?

Exclusions:

- Under 16 years of age
- Pregnancy and breast feeding
- IV drug users –assessed on individual basis
- Orbital Cellulitis.
- Signs and symptoms of systemic sepsis and patient acutely ill (acute confusion, tachycardia, tachypnoea, hypotension, disproportionate pain, limb threatening infection due to vascular compromise)
- Rapidly evolving/blistering infection
- Diabetic patients with infected foot ulcers or skin breaks (refer to PRH 01952 244628 or RSH 01743261241)

Caution:

Warfarinised patients – ensure close INR monitoring and liaison with haematology.

NO

Contact acute trust for **medical assessment**, the patient may need admission for intravenous therapy

YES

To arrange for home intravenous treatment
Telford Single Point of Referral:
01952 607788
Shropshire County Care Coordination:
08444065676

Nursing Team Assessment

Before initiating treatment at home:

- Confirm clinical presentation
- Confirm clinical history / co morbidities / allergies
- Confirm treatment already taken.
- **Mark infected area**
- Assess the home environment and gain patient consent for home treatment
- Ensure all required equipment is available
- Prescribe (only those competent to do so) /obtain GP prescription for IV treatment.
- Cannulise patient in line with IV medication policy
- Administer ongoing treatment and monitor patient.
- Liaise / review with GP as necessary

Culture of local lesions is generally unrewarding. However swabs should be taken if >2cm surrounding cellulitis, there is purulent drainage or if checking for MRSA carriage

(For further guidance see Policy for administration of antibiotic / intravenous therapy in the home or community setting)

Afebrile
No signs of systemic toxicity
No uncontrolled co-morbidities.

Oral Treatment Indicated
(See Antibiotic guidelines)
Flucloxacillin 500mg
(Four times daily for 7-14 days)
(1g QDS if weight >70kg, up to 2g QDS if >100kg)
If Penicillin allergic
Doxycycline 100mg
(Twice daily for 7-14 days)

Treatment Options: FIRST LINE

Ceftriaxone 2g IV ONCE DAILY (via intravenous infusion over 30 minutes)

(Only prescribe 3 day's supply)
Reconstitute with Sodium Chloride 0.9% 40ml (displacement value 1.03ml so final solution for infusion is 41.03ml)

Also Prescribe

Diluent – Sodium Chloride 0.9% (20ml x 6)
Sodium Chloride 0.9% for injection (flush)
Continue treatment for up to 5-7 days / review after 72 hours and consider step down.

SECOND LINE

For patients allergic to Penicillin and MRSA positive patients.

Teicoplanin 800mg loading dose (as a single dose) followed by 400mg IV every 24 hours (via intravenous bolus over 3-5 minutes)

(Only prescribe 3 days supply initially: 4 x Teicoplanin 400mg)
Reconstitute with diluent (3ml WFI) supplied. (Calculated excess included in preparation no displacement value to be considered)
For patients >70kg adjust dose to 6mg/kg

Also Prescribe

Sodium Chloride 0.9% for injection (flush)
Continue for up to 9 days/review after 72 hours - consider step down
For use in patients with renal insufficiency see guidance overleaf.
Antibiotic treatment assays for Teicoplanin should be considered pre-dose day 4 if patient is not responding. Use a red top bottle / results may take 48-72 hours – contact microbiology for further advice.

Treatment Guidance and Review

- Baseline UE at initiation of treatment
- Review treatment at 3 days - consider step down.
- Blood Tests: UE , ESR , CRP on 4th day of treatment
- Consult microbiologist if poor response.

Treatment Step Down: Patient may require oral therapy as a step-down following IV therapy.

Diagnosis / Classification of Cellulitis

Diagnosis: Flu like symptoms, malaise, onset of unilateral swelling, pain, redness

Class 1	Patients have no signs of systemic toxicity, have no uncontrolled co-morbidities and can usually be managed with oral antimicrobials on an outpatient basis.
Class 2	Patients are either systemically ill or systemically well but with a co-morbidity such as peripheral vascular disease, chronic venous insufficiency or morbid obesity which may complicate or delay resolution of their infection.
Class 3	Patients may have a significant systemic upset such as acute confusion, tachycardia, tachypnoea, hypotension or may have unstable co-morbidities that may interfere with a response to therapy or have a limb threatening infection due to vascular compromise.
Class 4	Patients have sepsis syndrome or severe life threatening infection such as necrotizing fasciitis.

Summary of Home Treatment Options

	First Line	Second Line
Class 1	**Flucloxacillin 500mg (Four times daily) PO**	Penicillin Allergy **Doxycycline 100mg (twice daily) PO**
Class 2	**Ceftriaxone 2g ONCE DAILY** **(via intravenous infusion over 30 minutes)**	Penicillin Allergy **Teicoplanin 800mg loading dose day 1 THEN 400mg daily IV**
Class 3	Not suitable for home treatment – Acute medical assessment needed	
Class 4	Not suitable for home treatment – Acute medical assessment needed	

Dose adjustment of Teicoplanin for patients with renal insufficiency

For patients with impaired renal function, reduction of dosage is not required until the fourth day of treatment.
From the fourth day of treatment

In mild renal insufficiency

•Creatinine clearance between 40 and 60ml/min, Teicoplanin dose should be halved.

In severe renal insufficiency

•Creatinine clearance less than 40ml/min and in haemodialysed patients, Teicoplanin dose should be one third of the normal dose.

Step Down Treatment

Use of IV therapy should be reviewed after 3 days. If possible the patient should be stepped down to oral therapy.

Criteria for step down to oral treatment:

- Pyrexia settling
- Co-morbidities stable
- Less intense erythema
- Falling inflammatory markers

Treatment options for oral step down

Flucloxacillin 500mg - 1g Four times daily

Doxycycline 100mg Twice Daily (if penicillin allergic)

All nursing staff involved in delivery of intravenous home therapy must have received appropriate training and should be aware of guidelines set out in the 'Policy for administration of antibiotic / intravenous therapy in the home or community setting'.

Only non medical prescribers competent in patient assessment & monitoring of ongoing treatment for this indication should prescribe intravenous treatment.

Pharmacies routinely holding stock of intravenous antibiotics		
Tesco Instore Pharmacy	**Wrekin Retail Park, Arleston, Telford, TF1 2DE**	**0191 6935969**
Asda Instore Pharmacy	**St Georges Road, Donnington Wood, Telford, TF2 7RX**	**01952 621710**
Asda Instore Pharmacy	**Southwater Way, Malinsgate, Telford, TF3 4HZ**	**01952 741029**
High Street Pharmacy	**4 High Street, Newport, TF10 7AN**	**01952 820946**
Anstice Pharmacy	**7 Anstice Square, Madeley, Telford, TF7 5BD**	**01952 585717**

References

NHS Telford and Wrekin Community Health Service – Policy for administration of antibiotic / intravenous therapy in the home or community setting.
NHS Telford and Wrekin Antibiotic Prescribing Guidelines – Primary Care May 2013)
DTB Vol 41 No6 June 2003 - Dilemmas when managing cellulitis.
CREST Guideline on the management of cellulitis in adults. June 2005
Eron, L. J. 2000. Infections of skin and soft tissues: outcome of a classification scheme. *Clinical Infectious Diseases*, 31 287.