

## North Derbyshire Step Up Outpatient Parenteral Antimicrobial Therapy (OPAT) Guidance for Primary Care

### Introduction

OPAT services provide intravenous (IV) antibiotics to patients outside of the acute hospital inpatient setting. Patients who are otherwise medically fit, and who would otherwise require a hospital bed, can avoid admission to hospital, or be discharged sooner by receiving treatment either as an outpatient or within their own homes. In North Derbyshire, this is achieved by Chesterfield Royal Hospital Foundation Trust (CRHFT) working in partnership with Derbyshire Community Health Services (DCHS) OPAT (Community IV) Team.

### The OPAT Service

The OPAT service team is made up of:-

- Consultant microbiologists (CRHFT)
- Antimicrobial OPAT pharmacist & technician (CRHFT)
- Community OPAT team nurses (DCHS)
- Community OPAT team administration support (DCHS)

### Step – up OPAT Referral

Follow pathways in appendix below.

- [Appendix 1 - OPAT Step Up Pathway](#)
- [Appendix 2 - OPAT Referral Form](#)
- [Appendix 3 - Uncomplicated Cellulitis](#)
- [Appendix 4 - Respiratory Tract Infections](#)
- [Appendix 5 - Urinary Tract Infection](#)

In general patients requiring treatment for uncomplicated cellulitis (Appendix 3) may be referred directly to the community OPAT team; patients requiring treatment for Respiratory Tract Infections (Appendix 4) or Urinary Tract Infection (Appendix 5) must be first discussed with the microbiologist based at CRHFT. In addition, the generic inclusion criteria below must be met, and the patient must not have any exclusion criteria listed.

### Generic OPAT Referral Criteria

Inclusion Criteria for OPAT	Exclusion Criteria for OPAT
<ul style="list-style-type: none"> <li>• Needs IV antibiotics, no suitable oral antibiotics</li> <li>• Medically fit otherwise</li> <li>• Haemodynamically stable</li> <li>• No social issues that will obstruct OPAT therapy</li> <li>• Patient has consented to treatment or has been supported to make this decision in line with <a href="#">Mental Capacity Act - Helping People to Make Decisions DCHS Policy</a></li> <li>• For cellulitis , uncomplicated UTI, chest infection – see pathway (appendix 3,4,5)</li> </ul>	<ul style="list-style-type: none"> <li>• Patients under the age of 18 years old</li> </ul>

**Special Circumstances**

The following patients are eligible for OPAT only after additional consideration of choice of drug **AND** dose and risk/ benefits discussed with the OPAT Team and the patient:-

- Breast feeding
- Pregnancy (discuss with microbiologist)
- Immunocompromised or on biological therapy (\*prompt patient to discuss with specialist team ASAP)
- Severe renal impairment eg eGFR < 30ml/ min and haemodialysed patients

**Treatment location for all OPAT administration**

Intravenous antibiotics can be administered at the OPAT clinic at Walton Community Hospital / Cavendish Hospital (Fenton ward) or other suitable DCHS ward / clinic site if the patient is ambulatory; or can be administered in the patient's own home if the patient is unable to access the clinics.

NOTE: Clinical teams should contact the Community IV Team to determine capacity before offering a choice that best suits the patient.

**Clinical Responsibility**

The patient will remain the clinical responsibility of the referring clinician. This may be the patient's GP, community based Advanced Clinical Practitioner (ACP), Enhanced Clinical Practitioner (Community Matron) or Non-Medical Prescriber. Patients will be reviewed daily by the OPAT team for the duration of their IV therapy. For any patients requiring more than a week of therapy, the community OPAT team will arrange a follow-up from the GP or referring clinician at weekly intervals; or the patient may be discussed at the OPAT weekly MDT meeting. On completion of IV therapy the patient will be discharged to the care of their GP who will receive a discharge summary letter from the community OPAT team.

**Prescribing**

The referring clinician will prescribe the initial IV antibiotics via the GP clinical system on a **paper printed** prescription. Ideally this should be printed on plain white paper rather than the green FP10SS controlled stationary used for printing FP10 prescriptions. The printed prescription will be signed by the prescriber.

The paper printed prescription is used for the supply of the IV antibiotics and elastomeric pumps (where required) at CRHFT outpatient pharmacy (open 7 days a week; note reduced opening hours on bank holidays and weekends). It will not be submitted to the NHSBSA for processing, but will be used as the legal authority to supply dispensed medicines by CRHFT. N.B. The community OPAT team non-medical prescriber may also prescribe antibiotics as appropriate e.g. switch from IV to oral therapy.

To ensure a paper prescription is printed:

If using SystmOne: The IV antibiotics in the OPAT formulary are all listed as personally administered items. At the point of issuing the prescription the "nominated dispenser" and "print tokens" options will not be selected as the default. Choose the "print now" option when saving the patient's record:

ETP options  Nominate dispenser

Print tokens (optional for electronically signed scripts with a nominated dispenser) Set Default

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Recurring patient counterfoil message Presets

Clear

One-off patient counterfoil message Presets

Clear

Scripts will be printed now.  
[Why are these scripts not being sent via ETP?](#)

Script Printing

Select what to do with script(s)

If using Emis:

Tick the personally administered box to ensure "NHS printed script (non EPS)" is selected prior to issue:

Ceftriaxone 2g powder for solution for injection vials

vial      Duration      28      Day(s)

Acute

Private     Personally-administered

DCHS clinicians will prescribe and utilise stock consumables for diluents and flushes e.g. water for injection or sodium chloride. These do not need to be prescribed by the primary care prescriber.

All IV antibiotics are included in the OPAT formulary on SystmOne. This is maintained by the ICB Pharmacy team and includes default prescribing directions. The formulary is included as Appendix 6 to provide support to prescribers using EMIS which does not have the functionality to include default directions.

Once the prescription is printed it should be signed by the prescriber, scanned and emailed to [crhft.antibioticpharmacist@nhs.net](mailto:crhft.antibioticpharmacist@nhs.net). The paper prescription should then be sent via post to CRH pharmacy, or the community OPAT team can collect it and take to the CRH pharmacy if required.

Note: The responsibility for step-down prescribing lies with the discharging ward doctor. Any ongoing prescribing needs during the course of OPAT will be required to be returned to the parent team or picked up by the antimicrobial prescribing OPAT pharmacist at CRHFT, as part of OPAT MDT.

### Administration and Line Placement

The administration of IV therapy is performed by the community OPAT team or by the patient/ carer after training is completed if appropriate.

All IV treatments requiring pumps will need to be administered via PICC or mid lines which should be placed by CRH radiology department. The community OPAT team will check radiology availability for line placement, however GPs must be the ones to refer for line placement. When ordering a line placement it is advised that the wording "as discussed with microbiology" is included in the request.

Any IV antibiotic that is administered for longer durations (more than 2 weeks) would require line placement. The community OPAT team will support the arrangement of this, but the request must come from the GP.

### Formulary

A restricted range of IV antibiotics (see table below) are available for prescribing in the community on a printed paper prescription. These may be prescribed by GP or other referring clinician following step-up pathways as described in Appendix 3,4,5. Due to the nature of the service, antibiotics requiring once-daily dosing should be first line choices (unless in exceptional circumstances on agreement with the OPAT team). Most OPAT regimes will involve one or more of the following agents:

IV Agent prescribed by primary care prescriber	Dose (in renal impairment included)	Indication	Diluent(s) to be prescribed by DCHS staff
Ceftriaxone	2g OD usual dose 1g OD* 4g OD* (max 2g if CrCL <10ml/min) *on microbiologist advice	First-line agent for cellulitis, Higher dose for staphylococcus aureus/consider for morbidly obese patients. NB does not cover Extended Spectrum Beta-Lactamase (ESBL) producing bacteria.	10ml WFI per 1g vial 100ml sodium chloride 0.9% bag per 2g vial
Teicoplanin	Dose depends on weight and renal function	Second line for cellulitis (e.g. if penicillin allergy) <b>Adult</b> <b>body-weight up to 70 Kg</b> Initially 400mg every 12 hours for 3 doses, then 400 mg OD <b>body-weight between 70-100 Kg</b> Initially 600mg every 12 hours for 3 doses, then 600 mg OD <b>body-weight 100kg and above</b> Initially 6mg/kg every 12 hours for 3 doses, then 6mg/kg OD (round dose to nearest 200mg for ease of administration) Maximum dose 1.2g  <b>Dose in renal impairment:</b> Use normal dose regimen on days 1-4, then use normal maintenance dose every 48 hours if CrCl 30-80 mL/min and use normal maintenance dose every 72 hours if CrCl less than 30ml/min.	up to 800mg 10ml WFI per 200mg vial OR 10ml WFI per 400mg vial  above 800mg 10ml WFI per 200mg vial OR 10ml WFI per 400mg vial AND 100ml sodium chloride 0.9% bag per dose

Use only following microbiologist advice

IV Agent prescribed by primary care prescriber	Dose (in renal impairment included)	Indication	Diluent(s) to be prescribed by DCHS staff
Benzylpenicillin	7.2g or 14.4g with citrate buffer continuous 24h infusion via elastomeric infusor (max 7.2g if CrCl 10-20ml/min, Not suitable if CrCl<10ml/min)	e.g., endocarditis, deep tissue infections  Please note that 14.4g is delivered via two 7.2g pumps running simultaneously, therefore a duel-lumen PICC line is required in this case.	Diluents not needed for elastomeric pumps  One pump per day of therapy
Flucloxacillin	8g (4g and 12g also available) with citrate buffer continuous 24h infusion via elastomeric infusor (Max. 4g if CrCl <10ml/min)	for use in cellulitis, post operative wound infections, endocarditis	Diluents not needed for elastomeric pumps.  One pump per day of therapy
Ertapenem	1g OD (max 500mg daily if eGFR <30ml/min/1.73m <sup>2</sup> )	For ESBL infections, and other resistant organism, or antibiotic allergies limiting options	10mL WFI and 100mL sodium chloride 0.9% bag for each 1g vial
Meropenem	1g (or 2g if indicated) TDS (Use normal dose every 12hrs if CrCl 26-50ml/min, Use half normal dose every 12hrs if CrCl 10-25ml/min, Use half normal dose once daily if CrCl<10ml/min)	Use dependent on whether patient can self-administer 22:00hr dose. Option against Pseudomonas in bronchiectasis (please inform patient's respiratory consultant)	20mL WFI per 1g vial
Piperacillin – Tazobactam	18.0g (13.5g and 9g also available) with citrate buffer continuous 24-hour infusion via elastomeric infusor  (If CrCl 20-40ml/min, max 13.5g daily, If CrCl <20ml/min,, max 9g daily)	Option for bronchiectasis / urinary Pseudomonas (use highest dose adjusted for renal function) (Please inform patient's respiratory consultant)	Diluents not needed for elastomeric pumps  One pump per day of therapy
Ceftazidime	2g TDS (If CrCl 31-50ml/min, max 2g BD, If CrCl 16-30ml/min, max 2g daily, If CrCl 6-15ml/min, max 1g daily, If <6ml/min, max 1g 48hrly)	Option for bronchiectasis pseudomonas.  TDS regimen: Use dependent on whether patient can self-administer 22:00hr dose.	10ml WFI per 1g vial OR 10ml WFI per 2g vial

**For advice regarding dose adjustments in dialysis/hepatic impairment, please contact Antimicrobial OPAT Pharmacist (see contact below).**

**Monitoring & Escalation:**

The community OPAT team are responsible for completing and recording the following monitoring. They will order the bloods as per the below recommendations but can be more or less frequently as discussed with the GP:

Intervention	Frequency
<b>FBC, U&amp;E, CRP, ESR, LFT</b>	On initiation of treatment, after 72hrs, then if stable once weekly
<b>NEWS 2, Sepsis Screen (if clinically indicated), VAD &amp; VIPS assessment</b>	Daily
<b>DCHS initial assessment</b>	As per DCHS guidelines
<b>Teicoplanin levels</b>	Pre dose trough level on day 5, then once weekly thereafter. Levels are measured to ensure treatment is within therapeutic range, depending on the type of infection being treated. Levels are sent to Royal Derby Hospital so may take longer to return than other assay results. Continue treatment whilst awaiting result.
<b>OPAT Team review</b>	Weekly at the OPAT MDT
<b>GP review</b>	Following OPAT team request

Results are available on ICE and monitoring support and guidance can be sought from the antimicrobial OPAT pharmacist or microbiologist.

The community OPAT team will review and monitor results. If there are any clinically significant results which would necessitate a change in patients management they will contact the GP to discuss management.

The community OPAT team must raise any concerns regarding patients' response to treatment with the consultant microbiologists, arranging for a medical review on the Same Day Emergency Care (SDEC) unit at CRHFT as required.

Patients must be advised that they must contact community OPAT team directly within working hours (8am – 6pm should they (or their carers) have any concerns. Outside of working hours, they should be instructed to contact 111 or attend the Emergency Department should they require urgent medical review.

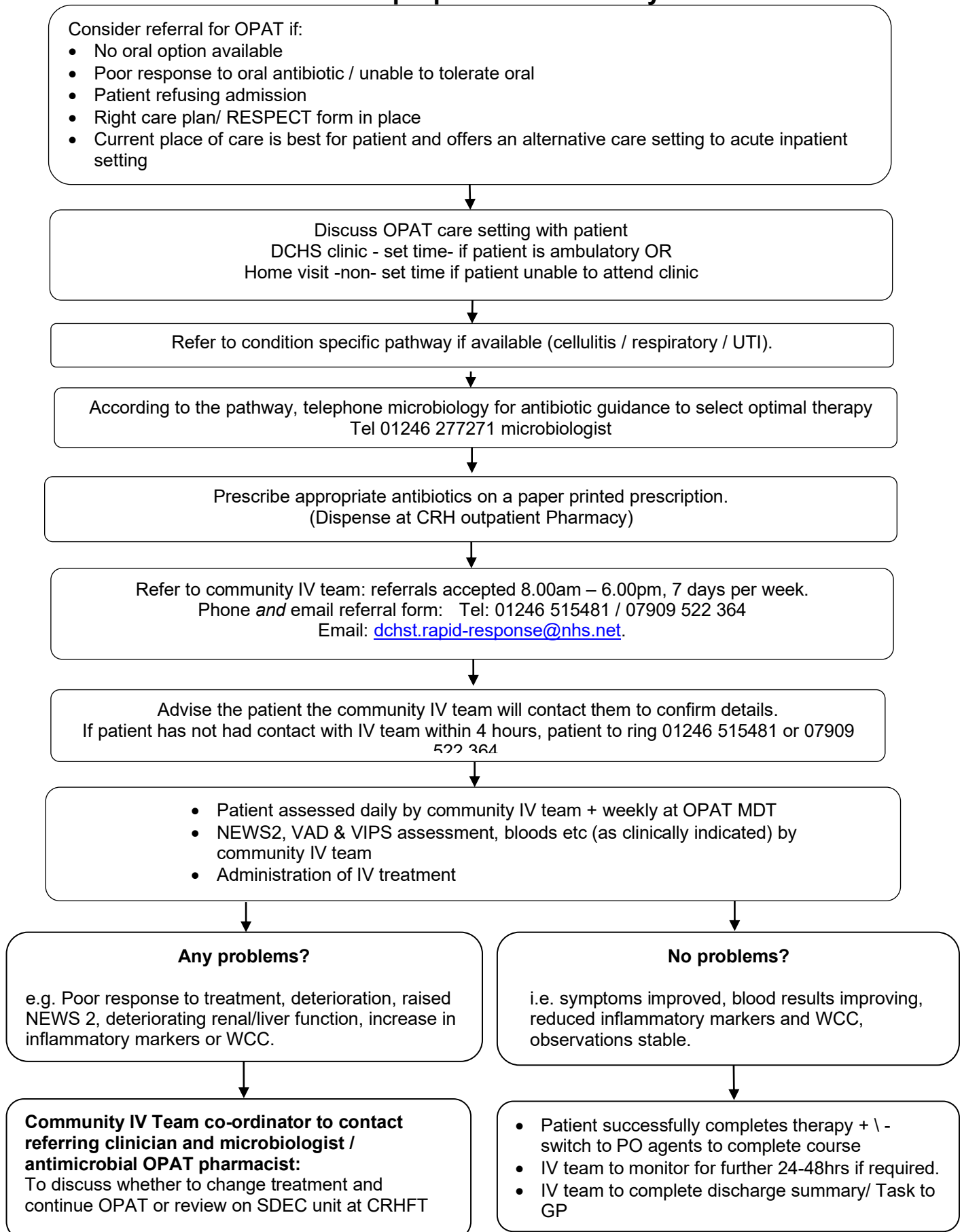
**Contacts**

<b>Community OPAT team DCHS</b>	Tel: 01246 515481 Mob: 07909 522364 Email: <a href="mailto:DCHST.Rapid-Response@nhs.net">DCHST.Rapid-Response@nhs.net</a>
<b>Consultant Microbiologists CRHFT</b>	CRH switchboard 01246 277271
<b>Antimicrobial OPAT Pharmacist CRHFT</b>	01246 513600 for antimicrobial OPAT pharmacist or AMS pharmacy technician. Or for non-urgent queries: <a href="mailto:crhft.antibioticpharmacist@nhs.net">crhft.antibioticpharmacist@nhs.net</a>
<b>SDEC Unit, CRHFT</b>	Tel: 01246 513983



## Appendix 1

### OPAT Step Up Referral Pathway



## Appendix 2

### Outpatient Parenteral Antimicrobial Therapy service (OPAT) Referral Form (To be completed by medical and nursing staff)

<b>Patient details</b>		<b>Hospital referral:</b> <input type="checkbox"/> <b>other source:</b> <input type="checkbox"/>	
Title and first name:		Consultant 1:	Shared care <input type="checkbox"/>
Surname:		Consultant 2:	
Discharge address:		Ward discharged from:	
Postcode:		Ward telephone number:	
Telephone:		Discharge coordinators contact number:	
D.O.B:		SDEC <input type="checkbox"/> EMU <input type="checkbox"/> ED <input type="checkbox"/> AFU <input type="checkbox"/>	
Height: cms		Diabetic Foot Clinic / Podiatry <input type="checkbox"/> UTC <input type="checkbox"/> ANP <input type="checkbox"/>	
Weight: kgs		<b>GP Referral:</b> <input type="checkbox"/>	
NHS No:		GP Name:	
G number		Address:	
		Postcode:	
		Telephone:	

<b>Past Medical History: (including history of chronic kidney disease / factors influencing dosing adjustment)</b>	
<b>Allergies</b>	
<b>COVID 19 / MRSA status</b>	

<b>Reason for treatment:</b>		
<b>Date referred to the community OPAT team:</b>		
<b>Name of antibiotic 1 and dose:</b>	Bolus: <input type="checkbox"/>	once daily: <input type="checkbox"/>
Date commenced & time:	Infusion: <input type="checkbox"/>	twice daily: <input type="checkbox"/>
Date / time of last dose:	24-hour Elastomeric Infusor: <input type="checkbox"/>	T.D.S: <input type="checkbox"/>
<b>Name of antibiotic 2 and dose:</b>	Bolus: <input type="checkbox"/>	once daily: <input type="checkbox"/>
Date commenced & time:	Infusion: <input type="checkbox"/>	twice daily: <input type="checkbox"/>
Date / time of last dose:		



If the antibiotic frequency is **TDS**, who will be administering the 3<sup>rd</sup> evening dose if the patient is not able to perform self-administration of their evening dose?

<b>Date OPAT to start:</b>	<b>Therapy approved by:</b> (Name of consultant microbiologist):
<b>Antibiotic stop or review date:</b> (include oral step down)	<b>OPAT passport completed:</b> YES/NO
<b>Medical review by:</b>	<b>Date of medical review:</b>
<b>Follow-up outpatient appointment:</b> face to face <input type="checkbox"/> <b>Date:</b>	telephone <input type="checkbox"/> <b>Date:</b>

**Please note that if a review / follow up appointment has not been made, then the referral will be rejected**

Blood monitoring:	Tick if required:	Date required/frequency
FBC		
U+E		
LFT		
CRP		
ESR		
Pre – dose Teicoplanin level		
CK level (Daptomycin)		
Other:		

**Date of last blood tests:**

**Vascular Access Device being used**

Peripheral Cannula  Midline  PICC  TIVAD/Port  Hickman

Once the treatment has been completed can the vascular access device be removed? **YES:**  **NO:**

If **NO**, then please indicate reasons / alternative removal date:

**Complete the relevant sections:**

Has the patient been given contact telephone details the OPAT/Information leaflet? **YES/NO**  
**OPAT Landline:** 01246 515481 **OPAT Mobile:** 07909 522364

Is the patient able to attend Walton Hospital clinic for their treatment? **YES/NO**  
 If no, please indicate the reason:

Does the patient consent to treatment? **YES/NO** Is the patient medically / psychologically stable and is treatment appropriate and manageable in the community settings? **YES/NO**

Does the patient / carer understand the treatment, allergic reactions / side effects and how to care for their vascular access device? **YES/NO**

Is the patient a smoker? **YES/NO**

Has the patient had a history of substance abuse? **YES/NO** give details if YES:

**Is the home environment suitable?**

Is there a telephone/mobile? **YES/NO** Is their adequate carer support? **YES/NO**  
 If ongoing therapy is required has a referral been made, are there any adaptations to the home required **YES/NO** give details if YES:

Does the patient live alone? **YES/NO** Is there a Key safe? **YES/NO** Key safe number:  
 Is there warm running water with a suitable place to wash hands? **YES/NO**  
 Is the environment suitable to prepare and administer IV medicines? **YES/NO**  
 Are there any pets in the house? **YES/NO** give details if YES:

**Additional patient information (complete the relevant sections)**

**Inpatient care record (Waterlow, MUST, Stool chart, Wound care charts etc):**  
 If the patient is being discharged from Chesterfield Royal Hospital or any other acute hospital, please send a copy of the inpatient care record  **N/A**

**N.E.W.S. 2:**  
 If the patient is being discharged from Chesterfield Royal Hospital or any other acute hospital, please send a copy of the inpatient NEWS 2 record  **N/A**

Does the patient have any skin or pressure damage? **YES/NO** Give details:

If **YES**, has a referral been made to the community district nursing service? **YES/NO**

Does the patient have any wound care needs? **YES/NO** Give details:

If **YES**, has a referral been made to the community district nursing service? **YES/NO**

**Any additional information regarding the referral:**

Send the referral form and discharge letter / patient summary / NEWS 2 / inpatient care record to the Community OPAT Team via secure email. Please ring the OPAT Team at Walton Hospital to discuss the referral in addition to sending a referral form.

**Please await confirmation from the OPAT Team to ensure that there is capacity to receive the patient before discharge**

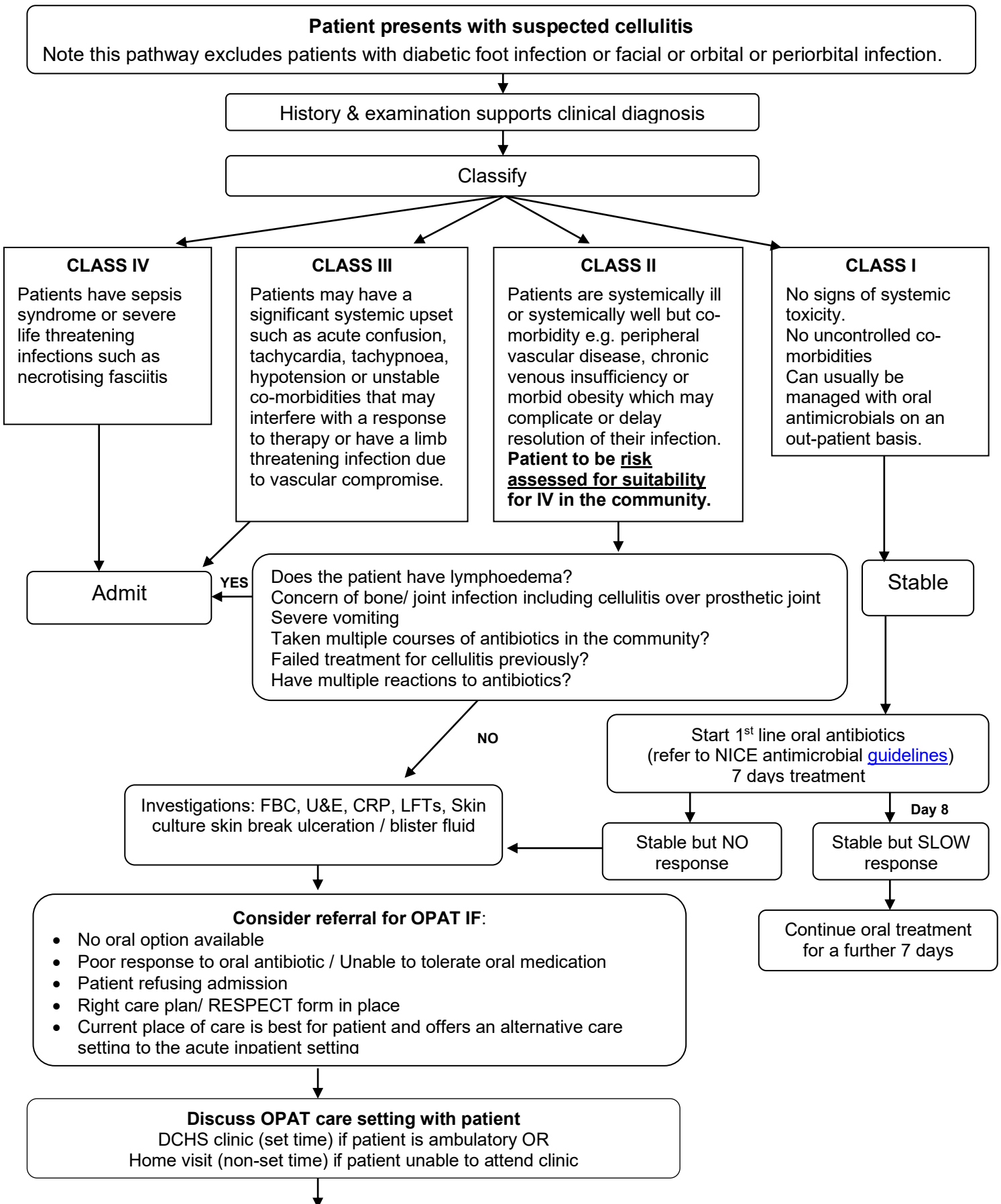
**Email:** DCHST.Rapid-Response@nhs.net  
**Landline:** 01246 515481  
**Mobile:** 07909 522364

<b>Name:</b>		
<b>Signature:</b>	<b>Designation:</b>	<b>Bleep/contact no.:</b>

**To be completed by OPAT:**

Hospital discharge summary letter confirming antibiotic dose / community equivalent received: **YES/NO**  
 NEWS 2 / inpatient care record received: **YES/N/A**  
 Referral accepted and confirmed by telephone with the referring clinician: **YES/NO** If no, please indicate the reason:

### Appendix 3: Uncomplicated cellulitis pathway for OPAT



Has the patient had an anaphylactic reaction to penicillin or is there an immediate hypersensitivity?

No

Yes

**Prescribe on a paper printed prescription to be dispensed at CRHFT:-**

**Ceftriaxone**

Note *Ceftriaxone should not be used in patients with an immediate hypersensitivity to penicillin.*

Ceftriaxone is suitable for use in patients allergic to teicoplanin or known to be hypersensitive to vancomycin

2g I.V. once daily

**Renal Impairment Or severe hepatic impairment Dose may need adjusting.**

If CrCl <10ml /min/1.73m<sup>2</sup> maximum dose is 2g daily

**Prescribe on a paper printed prescription to be dispensed at CRHFT:-**

**Teicoplanin**

Teicoplanin should be used with caution in patients known to be hypersensitive to vancomycin as cross hypersensitivity may occur

**Adult:**

**body-weight up to 70 Kg**

Initially 400mg every 12 hours for 3 doses, followed by 400 mg OD

**body-weight 70-100 Kg**

Initially 600mg every 12 hours for 3 doses, followed by 600 mg OD

**body-weight 100 Kg and above**

Initially 6mg/kg every 12 hours for 3 doses, then 6mg/kg OD (round dose to nearest 200mg for ease of administration). Maximum dose 1.2g

**Dose in renal impairment:**

Use normal dose regimen on days 1-4, then use normal maintenance dose every 48 hours if CrCl 30-80 mL/min and use normal maintenance dose every 72 hours if CrCl less than 30 mL/min.

Refer to community IV Team: referrals accepted 8.00am – 6.00pm, 7 days per week.

Phone and email referral form: Tel: 01246 515481 / 07909 522 364 Email: [dchst.rapid-response@nhs.net](mailto:dchst.rapid-response@nhs.net).

Advise the patient the community IV Team will contact them to confirm details. If patient has not had contact within 4 hours, patient to ring community IV team on 01246 515481 or 07909 522 364

Patient assessed daily by community IV team nurses, and discussed weekly in OPAT MDT

**Any problems?**

e.g. Poor response to treatment, deterioration, raised NEWS 2, deteriorating renal/liver function, increase in inflammatory markers or WCC.

**Failure to switch to oral treatment by day 7**

**No problems?**

i.e. symptoms improved, blood results improving, reduced inflammatory markers and WCC, observations stable.

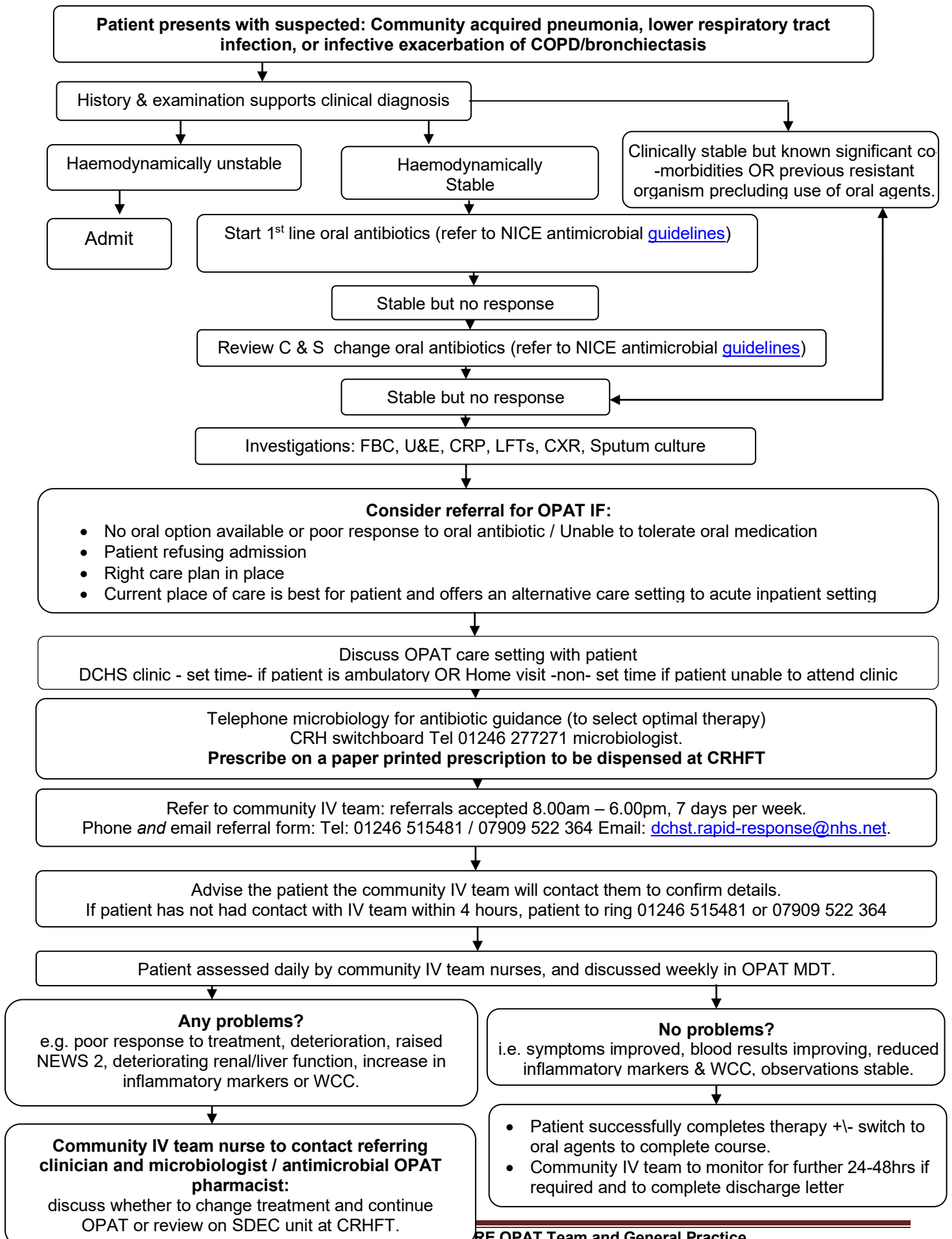
**Community IV team nurse to contact referring clinician and microbiologist / antimicrobial OPAT pharmacist:**

- To discuss whether to change treatment and continue OPAT or review on Ambulatory Care ward at CRHFT.

Crest Guidelines criteria for I.V to oral switch:

- Pyrexia settling
- Co-morbidities stable
- Less intense erythema
- Falling inflammatory markers
- Patient successfully completes therapy +/- switch to PO agents to complete a total of 7-14 days antimicrobial course.
- Community IV team to monitor for further 24-48hrs if required.
- Community IV team to complete discharge letter/task

## Appendix 4: Respiratory tract infections – Pathway



## Appendix 5: Recurrent Urinary Tract Infections - Pathway

### Guidelines for Adult, Non-pregnant, Non catheter associated UTI

#### Management of Recurrent UTI's (RUTI's) in Adult Females

(non-pregnant, no visible haematuria, not catheterised):

Recurrent UTI (RUTI) is defined as 2 uncomplicated UTI's in 6 months or, more traditionally as  $\geq 3$  positive cultures within the preceding 12 months. This is estimated to affect 25% of women with a history of UTI.

If nausea, vomiting, rigors or fever, flank, loin or lower back pain or tenderness are present, consider pyelonephritis.

#### Relapse vs. Re-infection

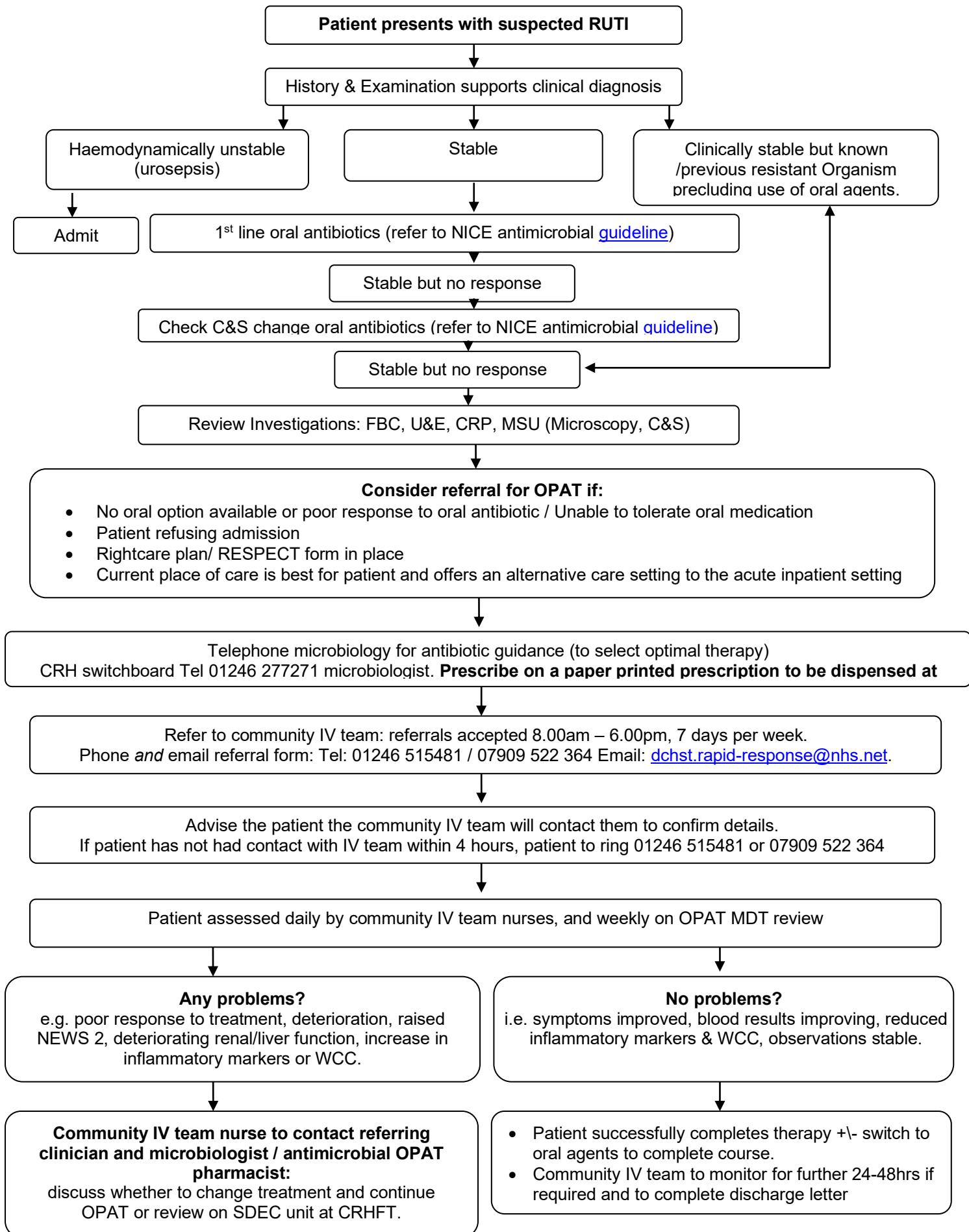
A relapse is defined as: a recurrent infection with the same organism, despite adequate therapy at  $<2$  weeks and should be investigated thoroughly as it may indicate structural abnormalities. Thus, refer to urology.

A re-infection is a RUTI caused by: a different bacterial isolate; or, by the previous isolated bacteria after a negative intervening culture; or, by the previous isolated bacteria after an adequate time period ( $\geq 2$  wks) between infections.

Refer to the guidance on '[Diagnosis and management of lower UTI's](#)' – for advice on when dip-sticking and urine cultures are appropriate in simple UTI's in non-pregnant women.

Important – after UTI, dipstick urine of older people for blood (as many indicate serious bladder problem e.g. tumour).

Other 'red flag' factors requiring specialist referral to urology include (*but not limited to*): neurological disease; renal stones, visible haematuria, or non-visible haematuria not associated with proven UTI.





## Appendix 6: Default prescribing directions

Drug	Dose	Quantity
Ceftriaxone 1g powder for solution for injection vials	Administer 1g intravenously once a day for up to seven days	7
Ceftriaxone 2g powder for solution for injection vials	Administer 2g intravenously once a day for up to seven days	7
Teicoplanin 400mg powder and solvent for solution for injection vials	Body-weight up to 70kg: Initially 400mg intravenously every 12 hours for 3 doses, then 400mg intravenously once a day for up to seven days	8
Teicoplanin 200mg powder and solvent for solution for injection vials	Body-weight between 70 and 100kg: Initially 600mg intravenously every 12 hours for 3 doses, then 600mg intravenously once a day for up to seven days.	24
Teicoplanin 200mg powder and solvent for solution for injection vials	Body-weight 100kg and above: Initially 6mg/kg intravenously every 12 hours for 3 doses, then 6mg/kg intravenously once a day for up to seven days. (Prescriber: Round dose to nearest 200mg for ease of administration. Maximum dose 1.2g)	24
Benzympenicillin 1.2g powder for solution for injection vials	Administer 7.2g intravenously by continuous 24 hour infusion via elastomeric infusor pump for up to seven days	42
Benzympenicillin 1.2g powder for solution for injection vials	Administer 14.4g intravenously by continuous 24 hour infusion via elastomeric infusor pump for up to seven days	84
Flucloxacillin 1g powder for solution for injection vials	Administer 8g intravenously by continuous 24 hour infusion via elastomeric infusor pump for up to seven days	56
Flucloxacillin 1g powder for solution for injection vials	Administer 12g intravenously by continuous 24 hour infusion via elastomeric infusor pump for up to seven days	84
Flucloxacillin 1g powder for solution for injection vials	Administer 4g intravenously by continuous 24 hour infusion via elastomeric infusor pump for up to seven days	28
Ertapenem 1g powder for solution for infusion vials	Administer 1g intravenously once a day for up to seven days	7
Meropenem 1g powder for solution for injection vials	Administer 1g intravenously three times a day for up to seven days	21
Piperacillin 4g / Tazobactam 500mg powder for solution for infusion vials	Administer 18g intravenously by continuous 24 hour infusion via elastomeric infusor pump for up to seven days	28
Piperacillin 4g / Tazobactam 500mg powder for solution for infusion vials	Administer 13.5g intravenously by continuous 24 hour infusion via elastomeric infusor pump for up to seven days	21
Piperacillin 4g / Tazobactam 500mg powder for solution for infusion vials	Administer 9g intravenously by continuous 24 hour infusion via elastomeric infusor pump for up to seven days	14
Ceftazidime 2g powder for solution for injection vials	Administer 2g intravenously three times a day for up to seven days	21