

North Derbyshire OPAT (Outpatient Parenteral Antimicrobial Therapy) Pathway for Primary Care (Step-Up Pathway/Admission Avoidance)

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) Rapid Response Team (RRT).

The OPAT team

The OPAT team is made up of:-

- Consultant microbiologists (CRHFT)
- Rapid Response Team nurses (DCHS)
- Antimicrobial / OPAT nurse (CRHFT)
- Antimicrobial pharmacist & technician (CRHFT)
- Administration support (DCHS)

Step – up OPAT Referral

Follow pathways in Appendices 3, 4 and 5. In general patients requiring treatment for uncomplicated cellulitis (Appendix 3) may be referred directly to the RRT, 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"> • Needs IV antibiotics • Medically fit otherwise • Haemodynamically stable • No social issues that will obstruct OPAT therapy • Patient has consented to treatment • For cellulitis , uncomplicated UTI, chest infection – see pathway (appendix 3,4,5) 	<ul style="list-style-type: none"> • Not registered with NDCCG or Hardwick CCG practice • Patients under the age of 18 years old • Post-operative infection • Pregnancy
<p>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:-</p> <ul style="list-style-type: none"> • Breast feeding • Immunocompromised or on biological therapy • Severe renal impairment eg eGFR < 30ml/ min and haemodialysed patients 	

Treatment location

Intravenous antibiotics can be administered, at the OPAT clinic at Walton Community Hospital if the patient is ambulatory or can be administered in the patient's home if patient is not mobile. Three times a day regimens will generally require patients to attend Ambulatory ward at CRHFT for the 22:00hr dose.

NOTE: Clinical teams should contact the RRT 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, Advanced Clinical Practitioner (ACP), Community Matron or Non-Medical Prescriber. Patients will be reviewed daily by the RRT Nurses for the duration of their IV therapy. For any patients requiring more than a week of therapy, the RRT will arrange a follow-up from the GP or referring clinician at weekly intervals. On completion of IV therapy the patient will be discharged to the care of their GP who will receive a discharge summary letter from RRT.

Prescribing

Either the referring clinician or a RRT non- medical prescriber can prescribe the IV antibiotic/s required. These should be prescribed on FP10 prescriptions and dispensed at local pharmacy or acute hospital pharmacy (open 7 days a week including bank holidays)

Administration

The administration of IV therapy is performed by the RRT.

Formulary

A restricted range of IV antibiotics (see table below) are available for prescribing in the community on a FP10. These maybe 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	Dose if eGFR > 50ml/min	Indication
Ceftriaxone	1g OD 2g OD	First-line agent for cellulitis, Higher dose for gram negative cover. NB does not cover Extended Spectrum Beta-Lactamase (ESBL) producing bacteria)
Ertapenem	1g OD	For ESBLs, and other resistant organism Use only following microbiologist advice
Meropenem	1g TDS	Use dependent on RRT capacity and requires patient to attend Ambulatory Care at CRHFT for 22:00hr dose Option against Pseudomonas in bronchiectasis Use only under microbiologist advice
Piperacillin – Tazobactam if shortage use Cefazidime	4.5g TDS 2g tds (or bd)	Use dependent on RRT capacity and requires patient to attend Ambulatory Care at CRHFT for 22:00hr dose. Use only following microbiologist advice (Respiratory Pseudomonas)

Teicoplanin	Dose depends on weight and renal function	<p>Second line for cellulitis (e.g. if penicillin allergy)</p> <p>Adult body-weight up to 70 Kg Initially 400mg every 12 hours for 3 doses, then 400 mg OD body-weight between 70-100 Kg Initially 600mg every 12 hours for 3 doses, then 600 mg OD body-weight 100kg and above Initially 6mg/kg every 12 hours for 3 doses, then 6mg/kg OD Maximum dose 1.2g</p> <p>Dose in renal impairment: Use normal dose regimen on days 1-4, then use normal maintenance dose every 48 hours if eGFR 30-80 mL/min/1.73m² and use normal maintenance dose every 72 hours if eGFR less than 30 mL/min/1.73m².</p>
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For advice regarding dose adjustments in renal/hepatic impairment, please contact Antimicrobial Pharmacist (see contact below).

Monitoring & Escalation:

RRT are responsible for completing and recording the following monitoring.

FBC, U&E, CRP, ESR, LFT	On initiation of treatment, after 24hrs, after 72hrs, then if stable once weekly
Routine observations, EWS, Sepsis screen, VIP,	Daily
Waterlow, MUST	As per DCHS guidelines
Teicoplanin levels	Check level immediately pre-dose on day 5 of treatment, then weekly. As it can take a number of days for the results to come back Only check levels if treatment is expected to continue beyond 7 days.
OPAT Team review	Weekly
GP review	Weekly (may join in OPAT review above)

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

RRT must raise any concerns regarding patients' response to treatment with the consultant microbiologists, arranging for a medical review on the Ambulatory Care Ward CRHFT as required.

Patients must be advised that they must contact RRT 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

Rapid Response Team (RRT)	Tel: 01246 515481 Mob: 07909 522364 Email: DCHST.Rapid-Response@nhs.net
Consultant Microbiologists	CRH switchboard 01246 277271 bleep 512
OPAT Nurse Specialist	CRH switchboard 01246 277271 bleep 083
Antimicrobial Pharmacist	CRH switchboard 01246 277271 bleep 122 OPAT pharmacist bleep 082 (Mon-Fri 09:00-17:30)
Ambulatory Unit, CRHFT	Tel: 01246 513983

Appendix 1

OPAT Step Up Referral Pathway

Consider referral for OPAT if:

- No oral option available
- Poor response to oral antibiotic / unable to tolerate oral
- Patient refusing admission
- Rightcare plan in place
- Current place of care is best for patient and offers an alternative care setting to acute inpatient setting

Discuss OPAT care setting with patient
DCHS clinic - set time- if patient is ambulatory. Home visit -non- set time

Refer to condition specific pathway if available (cellulitis / respiratory / UTI).

According to the pathway, tel microbiology for antibiotic guidance (to select optimal therapy)
Tel 01246 277271 microbiologist ext 2270 or bleep 512 or OPAT nurse specialist bleep 083

Prescribe appropriate antibiotics on FP10.
(Dispense at local pharmacy or CRH Pharmacy-open 7 days a week including bank holidays)

Refer to RRT: 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.

Advise the patient the RRT will contact them to confirm details. If patient has not had contact with RRT by within 4 hours, to ring RRT on 01246 515481 or 07909 522 364.

- Patient assessed daily by RRT + weekly OPAT MDT
- Observations, EWS, VIP, bloods etc (as clinically indicated)
- Administration of IV treatment

Any problems?

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

RRT nurse to contact referring clinician and microbiologist / OPAT pharmacist:
To discuss whether to change treatment and continue OPAT or review on Ambulatory Care ward at CRHFT.

No problems?

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

- Patient successfully completes therapy + \ - switch to PO agents to complete course
- RRT to monitor for further 24-48hrs if required.
- RRT to complete discharge summary to GP

Appendix 2

Generic Rapid Response and Outpatient Parenteral Antimicrobial Therapy (OPAT) Referral Form

Patient details		Hospital referral:	
Title and first name:		Consultant:	
Surname:		Ward discharged from:	
Address:		Contact number:	
Postcode:		GP / ACP/ NMP Referral:	
Telephone:		Referring Clinician Name:	
DOB		Address	
Height		Postcode	
Weight		Referring Clinician Telephone:	
NHS No:			

Past Medical History: (including history of chronic kidney disease/ factors influencing dosing adjustment)	
Allergies:	

Antibiotic/fluid Therapy:			
Indication for treatment:			
Name of antibiotic 1:	Dose:	Frequency:	Duration of course:
Date commenced & time: Date / time of last dose:			
Name of antibiotic 2:	Dose:	Frequency:	Duration of course:
Date commenced & time: Date / time of last dose:			
Date RRT to start:	IV Access details if in situ:		
Review by:	Date inserted: Dressing due:		
Stop or review date : (inc. oral step down)			

Blood monitoring:	Tick if required:	Standard Frequency:	Additional Frequency
FBC	✓	On initiation, 24hrs, 72hr, then weekly	
U+E	✓	As above	
CRP	✓	As above	
ESR	✓	As above	
LFT	✓	As above	
Teicoplanin level	Only if treatment is expected to continue beyond 7 days	Check level immediately pre-dose on day 5 of treatment, then weekly.	

Tick relevant box:	YES	NO
Is the patient medically stable and is treatment appropriate and manageable in the community setting or DCHS clinic (refer to exclusion criteria in OPAT policy)		
Preferred setting (delete as appropriate): Walton Hospital / Home /Ambulatory Care CRH		
Does the patient/carer understand the treatment, reactions/side effects, the IV cannula /CVAD management and who to contact in the event of complications?		
Does the patient consent to treatment?		
Is the home environment suitable: <ul style="list-style-type: none"> • Is there a telephone/mobile? • Is there warm running water with a suitable place to wash hands? • Adequate carer support? • Is the environment suitable to prepare and administer IV medication? 		
Does the clinical team agree to the patient receiving self-administration training if needed?		

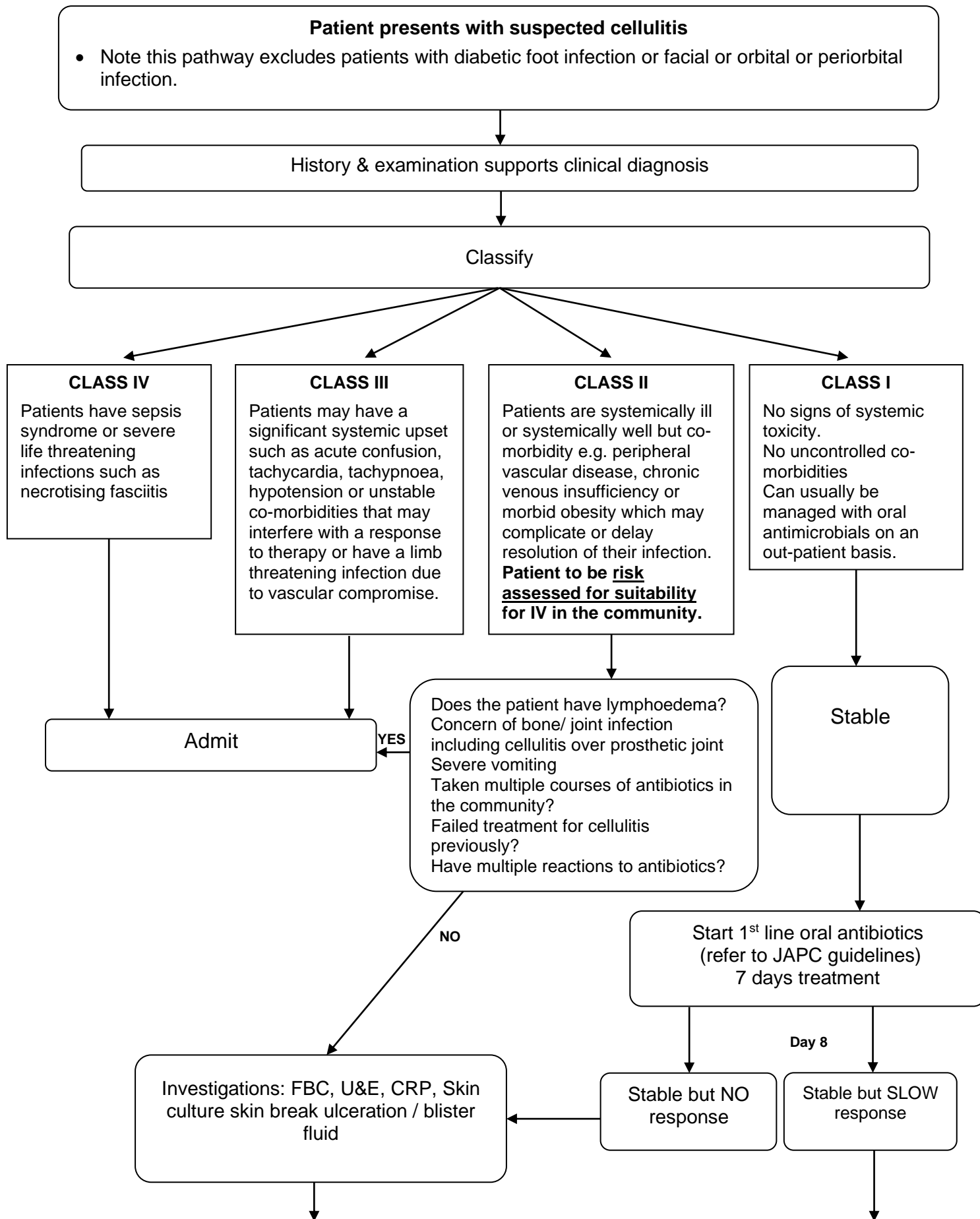
Additional comments/communication:

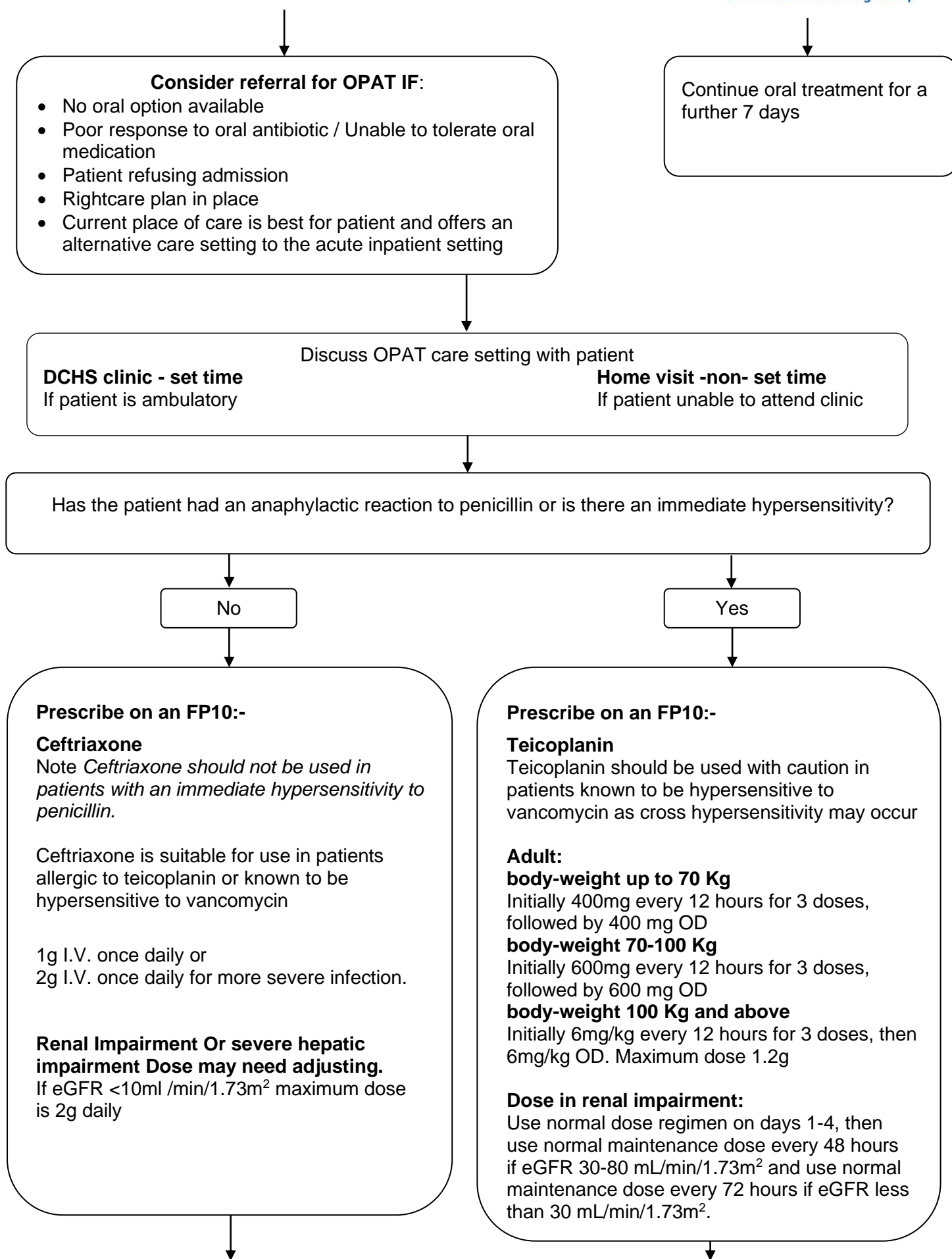
Send the referral form and discharge letter/patient summary to Rapid Response Team (RRT) email below. **Please await confirmation from the RRT that there is capacity to receive the patient before prescribing.**

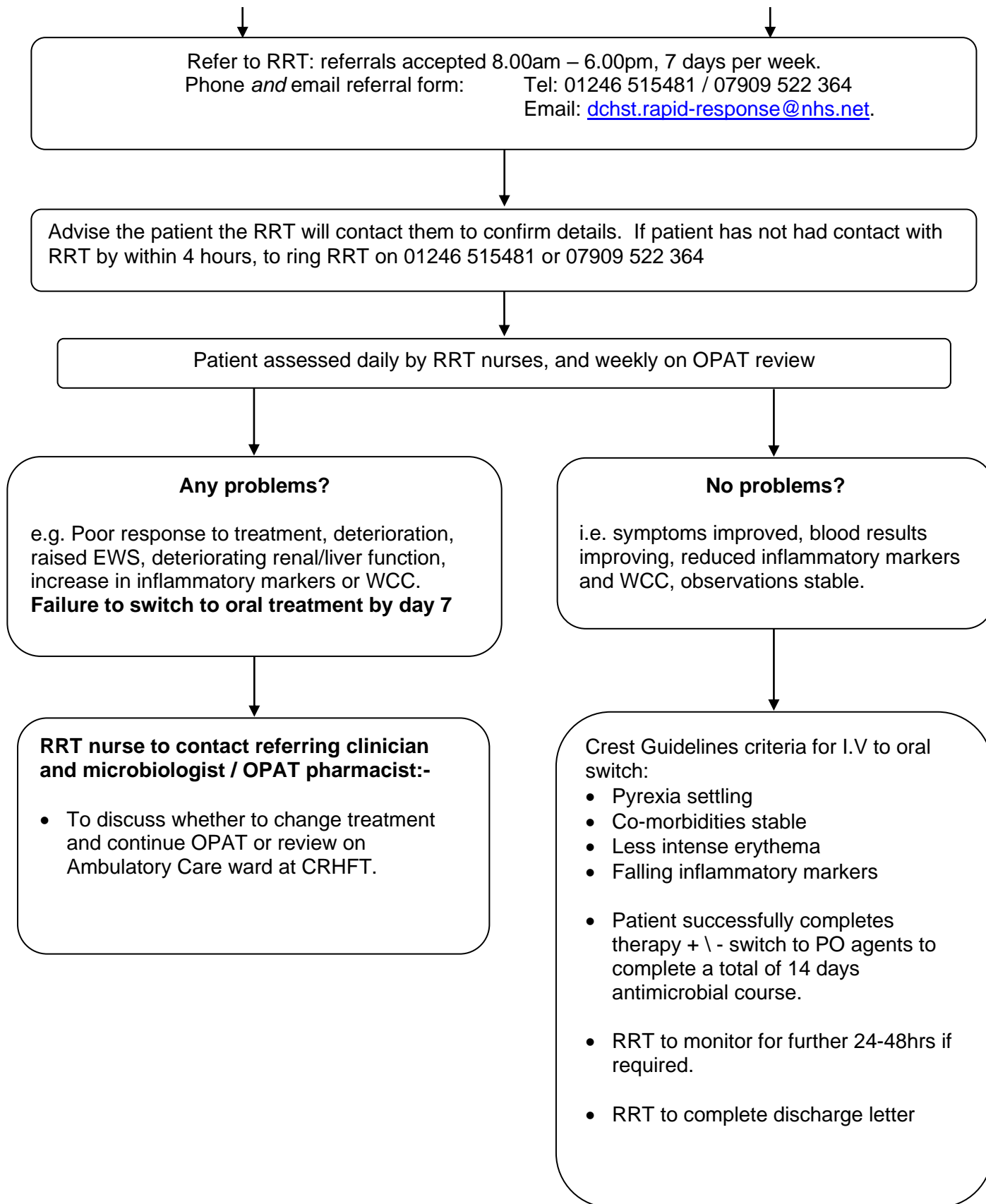
Email: DCHST.Rapid-Response@nhs.net **Tel:** 01246 515481 **Mob:** 07909 522364

Referrer Details. Print Name:		
Signature:	Designation:	Bleep/contact no.:

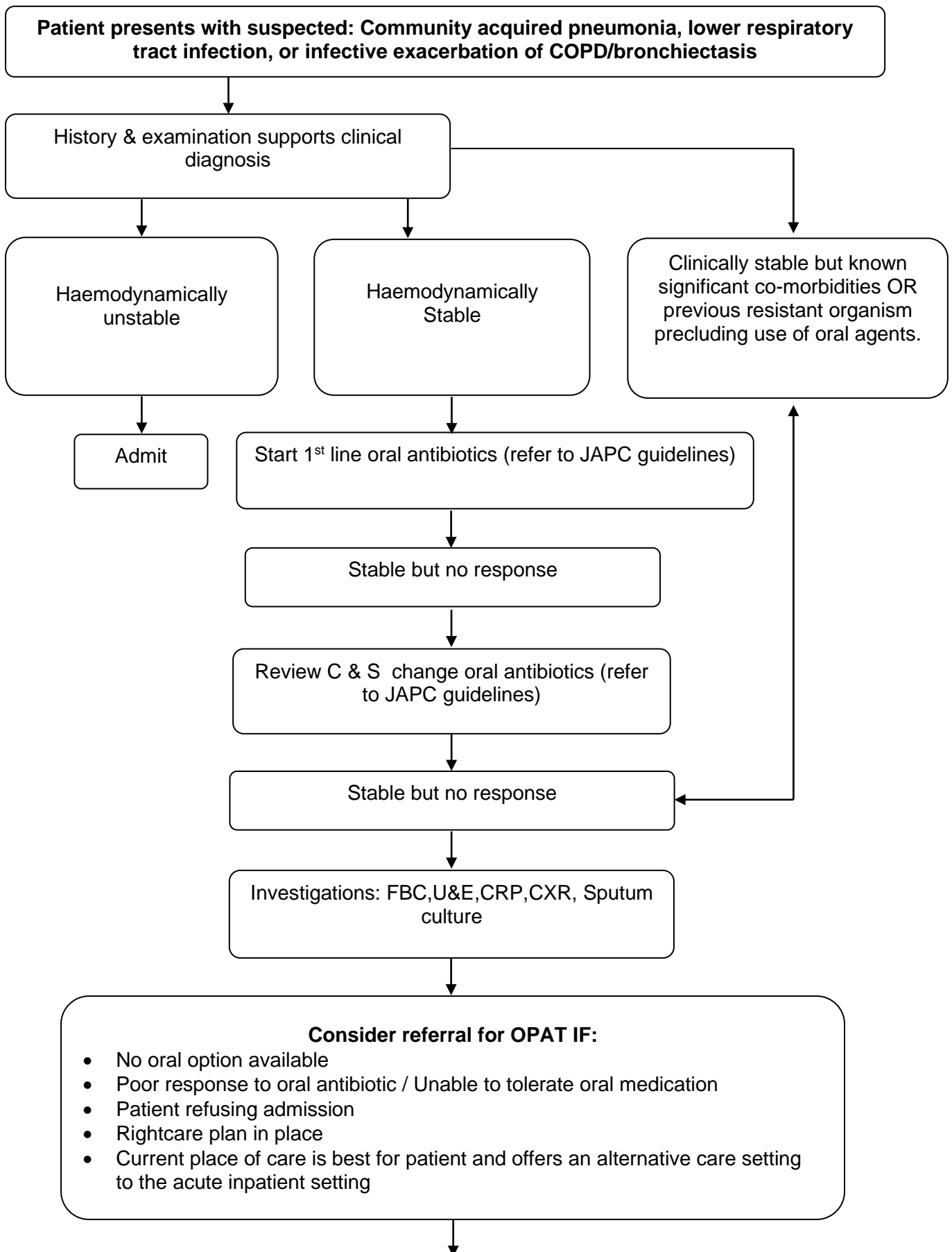
Appendix 3: Uncomplicated cellulitis pathway for OPAT

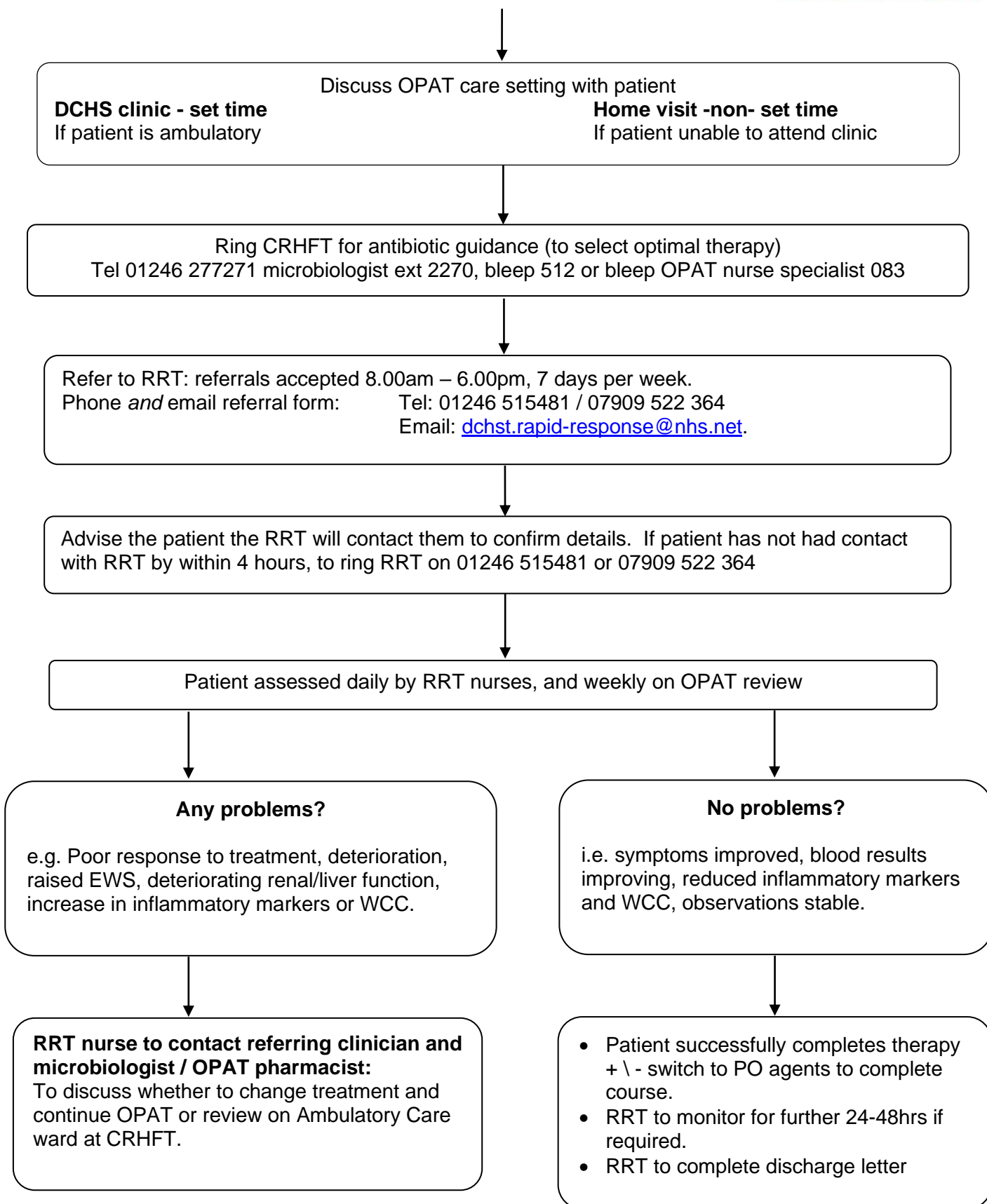






**Appendix 4:
 Respiratory tract infections - Pathway**





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 ≥ 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 (≥ 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.

http://www.derbyshiremedicinesmanagement.nhs.uk/clinical_guidelines

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.

