# MedicinesUpdateAcute

***August 2014 Supplement***

**Summary of Major Changes to NHSGGC Therapeutics Handbook (for adults)**

NHS Greater Glasgow and Clyde

◆ Produced by NHS Greater Glasgow and Clyde Medicines Information Service and PPSU Clinical Governance Team

## Background

The next printed edition of the NHSGGC Therapeutics Handbook will be circulated at the beginning of August to all acute sites and is valid until August 2015. An electronic version is available on StaffNet and on the Greater Glasgow and Clyde Medicines website (www.ggcmedicines.org.uk). An App is also available for Apple mobile devices and will be launched for Android devices by the end of August 2014. The 7th edition of the Handbook has been extensively revised since the publication of the 6th edition. Outlined below are some of the main changes, however, all members of nursing, medical and pharmacy staff are encouraged to familiarise themselves with guidelines relevant to their area of practice.

## General Changes

### Paracetamol

New information has been added on dose adjustment of paracetamol in patients with chronic liver failure.

### Flecainide

Intravenous (IV) flecainide can be used for chemical cardioversion in patients with recent onset of atrial fibrillation (AF) or flutter, provided they are haemodynamically stable and do not have a history of structural or coronary heart disease.

### Phenytoin

The guidance on phenytoin dose calculations now includes the equation for calculating the corrected phenytoin level in patients with low serum albumin concentrations.

### Antidiabetic medicines

There is now general advice on managing inpatients with insulin pumps.

### Glucose

In severe hypoglycaemia and hyperkalaemia, an intravenous (IV) 20% glucose 100 ml vial is now recommended in place of the 50% strength to reduce the risk of phlebitis at the injection site.

### Zoledronic acid

Zoledronic acid IV is now recommended for severe hypercalcaemia.

### Pain management

A new guideline on the general principles of pain management (covering acute pain, pain management in palliative care and persistent pain in the older adult) is included. This replaces the separate acute pain and palliative pain guidelines. The guideline describes general pain management principles and also details the therapeutic management for each of the above types of pain.

## Delirium

The delirium section of the Acutely Disturbed Patients Guideline has the following changes:

- Olanzapine is no longer recommended.
- Intramuscular midazolam can be used, as a second line agent, if the oral route is compromised.

# Infection Section Changes

## Aztreonam

### Properties:

- Aztreonam is a monobactam (monocyclic beta-lactam) antibiotic with activity against gram negative bacteria only.
- It may be used with caution in patients with penicillin/beta-lactam allergy but should be avoided in patients who have experienced anaphylaxis to these agents.
- Aztreonam can be used in patients with renal impairment, ***but*** if eGFR < 30* a dose reduction is necessary (refer to the BNF for dosing advice).

### Recommended indications in NHSGGC:

- Frail elderly or patients with renal impairment (eGFR < 50*) with peritonitis or suspected intra –abdominal sepsis (≥ 2 of SIRS) or biliary tract infection (cholangitis, cholecystitis); prescribe IV aztreonam (in place of IV gentamicin) + IV amoxicillin + IV metronidazole.
- Hospital Acquired Pneumonia [HAP] (within 7 days of discharge from a hospital or ≥ 5 days hospital admission and CURB-65 score ≥ 3 or sepsis): IV aztreonam + IV amoxicillin is now recommended (previously IV gentamicin + IV co-amoxiclav).
- Immunocompromised patients with fever, neutropenia and penicillin/beta-lactam allergy (not anaphylaxis): discuss with microbiology and consider prescribing IV aztreonam + IV vancomycin (previously IV ciprofloxacin + IV gentamicin + IV vancomycin).
- Gentamicin should be reviewed after 3-4 days to reduce the risk of toxicity. Switching gentamicin to aztreonam may be an option for some indications if IV therapy and gram negative cover is required for longer than this. *Please note that this switch should only be made on the advice of a microbiologist.*

## Levofloxacin

Levofloxacin is no longer an Alert Antibiotic and is now recommended as monotherapy for:

- Severe Community Acquired Pneumonia (CURB-65 ≥ 3 or sepsis) and true penicillin/beta-lactam allergy or if Legionella strongly suspected/confirmed (previously IV vancomycin + IV clarithromycin or oral doxycycline).
- HAP (within 7 days of discharge from a hospital or ≥ 5 days hospital admission and CURB-65 score ≥ 3 or sepsis) and true penicillin/beta-lactam allergy (previously IV vancomycin + oral/IV ciprofloxacin).

## Post-op intra-abdominal sepsis

IV co-amoxiclav + IV gentamicin is now recommended (previously IV piperacillin / tazobactam).

**Please note:** Refer to handbook or GGC Medicines App for gentamicin dosing and monitoring details.

## Biliary tract infection (Cholangitis, cholecystitis)

See 'Aztreonam' section above for changes to first line therapy for frail elderly or patients with renal impairment. Second line therapy in this patient group is now IV piperacillin / tazobactam (previously first line).

## Urinary Tract Infections (UTI)

Changes have been made to the management of UTI in pregnancy section of the handbook; please refer to the 2014 Therapeutics Handbook for full details.

Other changes to the UTI section are listed below:

- Upper UTI in men and non pregnant women:
    1. *Without sepsis* – all treatment options (trimethoprim, co-amoxiclav and ciprofloxacin) should now be given for 7 days.
    2. *With sepsis* -total course duration of treatment (IV and oral) is now 7 days (previously 14 days).
- Catheter-related UTI, symptomatic bacteriuria without sepsis: a single dose of 500mg oral ciprofloxacin, 30 minutes before catheter change, can now be prescribed for patients with no venous access.
- Acute prostatitis*:* Duration of treatment, with oral trimethoprim or oral ciprofloxacin, is now 28 days (previously 14 days).
- Nitrofurantoin is now contraindicated if eGFR < 30* or in patients with Glucose 6-Phosphate Dehydrogenase (G6PD) deficiency. It may be used with caution (monitor for efficacy) if eGFR 30 – 44.*
- Trimethoprim: If eGFR < 30*, use with caution as it may exacerbate hyperkalaemia and increase creatinine. Monitor potassium and renal function in these patients. Co-amoxiclav is no longer recommended as an alternative to trimethoprim in renal impairment.

## Immunocompromised with fever and neutropenia

Treatment was previously with IV piperacillin /tazobactam + IV gentamicin. Gentamicin should now only be added if SIRS $\geq$ 2 or NEWS $\geq$ 5.

As mentioned in 'Aztreonam' section above, if penicillin/beta-lactam allergy (not anaphylaxis): discuss with microbiology and consider prescribing IV aztreonam + IV vancomycin (previously IV ciprofloxacin + IV gentamicin + IV vancomycin).

## Other changes (infection section)

*Clostridium difficile*
No severity markers - treat with oral metronidazole for 10 days (previously 10-14 days)
Severity markers (1 or more) - treat with oral vancomycin for 10 days (previously 10-14 days).

*Clostridium difficile relapses*
Please refer to the Therapeutics Handbook for advice on the use of pulsed-tapered vancomycin dosing regimens.

*Brain abscess, upper respiratory tract source (sinus and middle ear)*
Oral metronidazole 400mg 8 hourly is an alternative to IV metronidazole 500mg 8 hourly if the oral route is not compromised (metronidazole is rapidly and almost completely absorbed following oral administration).

*Infections treated by OPAT*
Discitis and prosthetic joint infections can now also be treated by OPAT. Other infections such as osteomyelitis, diabetic foot infections, infective endocarditis and meningitis continue to be treated by OPAT.

**** eGFR units = ml/minute/1.73m$^2$***