



THE CONTINUING PROFESSIONAL DEVELOPMENT PROGRAMME



This module is suitable for use by pharmacists as part of their continuing professional development. After reading this module, complete the learning scenarios and post-tests taken from a selection of this year's CPD modules at www.pharmacymag.co.uk and include in your learning portfolio. Previous modules in the Pharmacy Magazine CPD Programme are available to download from the website

MODULE 194

Welcome to the one hundred and ninety fourth module in the *Pharmacy Magazine* Continuing Professional Development Programme, which looks at key therapeutic developments in 2011. It is valid until November 2014.

Continuing professional development (CPD) is a mandatory requirement for pharmacists. Journal-based educational programmes are an important means of keeping up-to-date with clinical and professional developments and form a significant element of your CPD. Completion of this module will contribute to the nine pieces of CPD that must be recorded a year.

Before reading this module, test your understanding of the topics covered by this year's CPD programme by completing the pre-test at www.pharmacymag.co.uk. Then after studying the module in the magazine, work through the six learning scenarios and post-test on the website. Record your learning and how you applied it in practice using the CPD report form online or on pviii.

Self-assess your learning needs:

- What warning was issued by the MHRA concerning dronedarone?
- Explain the new recommendations issued regarding dabigatran and the assessment of renal function.
- What POM to P switches took place in 2011?

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CURRENT THINKING ON...

KEY THERAPEUTIC DEVELOPMENTS IN 2011

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Introduction

This module will review some of the most important therapeutic developments of 2011, their implications and the significance of these changes.

Dronedarone safety concerns

Dronedarone (Multaq) is an anti-arrhythmic drug used to treat patients with non-permanent atrial fibrillation (AF). It was launched in the UK in 2010 for use in clinically stable patients with a history of, or current, non-permanent AF to prevent recurrence or lower ventricular rate. Evidence has since emerged about the safe use of dronedarone, and in January 2011 the manufacturer and the MHRA issued a warning about severe liver injury (including two cases where liver transplants were needed) associated with dronedarone.

In October a review of benefits and risks concluded that the benefits of dronedarone continued to outweigh risks for maintenance of sinus rhythm after successful cardioversion in a restricted population of patients with paroxysmal or persistent AF. The new advice states that dronedarone should be prescribed only after other treatment options have been considered. Regular monitoring of cardiac, liver and renal function during treatment is recommended.

Liver function tests are advised before starting treatment, on a monthly basis for six months, at nine and 12 months after initiation, and periodically thereafter. Patients who are already on treatment should also undergo liver function testing based on this advised frequency.

If alanine transferase (ALT) is elevated to greater than three times the upper limit of

FOR THIS MODULE

pharmacy MAGAZINE
FIRST IN PROFESSIONAL & BUSINESS DEVELOPMENT

GOAL: To provide community pharmacists with a review of the major therapeutic developments in primary care during 2011.

OBJECTIVES: After completing this module, you should be able to:

- Identify medicines that were launched and important changes in the indications of other medicines in 2011
- Understand the important safety issues that came to light
- Discuss the new or updated clinical guidelines of importance to practitioners in primary care.



normal, the level should be rechecked within 48-72 hours and, if confirmed, treatment should be withdrawn.

New advice on the routine prevention of fever following vaccination

Fevers over 37.5°C are common in children and are usually mild. The updated "Green Book" contains new advice that routine prevention of fever following vaccination is no longer recommended as it may result in a lower antibody response. The advice is now:

"It is not recommended that [antipyretic drugs] are used routinely to prevent fever following vaccination as there is some evidence that prophylactic administration of antipyretics around the time of vaccination may lower antibody responses to some vaccines."

A previous study had shown that dosing with paracetamol seemed to lower the level of antibodies produced in response to the vaccine and the new advice recommends also avoiding prophylactic use of ibuprofen in this way.

Revised paracetamol doses for children

In June the MHRA issued revised dosing recommendations for liquid paracetamol with narrower age bands and a single dose for each band. For children aged three months to six years, paracetamol 120mg/5ml recommended doses are:

- Three to six months: 2.5ml up to four times a day
- Six to 24 months: 5ml up to four times a day
- Two to four years: 7.5ml up to four times a day
- Four to six years: 10ml up to four times a day.

For children aged six to 12 years, paracetamol 240mg/5ml or 250mg/5ml recommended doses are:

- Six to eight years: 5ml up to four times a day
- Eight to 10 years: 7.5ml up to four times a day
- 10-12 years: 10ml up to four times a day.

Practice point

Parents should be advised that use of paracetamol or ibuprofen to prevent fever following vaccination is no longer recommended. Parents can still be advised on both using paracetamol or ibuprofen liquid to treat a fever and the appropriate doses to use.

The MHRA states: "Changes to paediatric paracetamol dosing have not altered the dose of paracetamol recommended for the treatment of post-vaccination symptoms in children aged two to three months. Paracetamol (120mg/5ml) is licensed for the treatment of post-vaccination symptoms in children from two to three months of age at a dose of 2.5ml. If necessary a second 2.5ml dose can be given after four to six hours. No further doses should be given. If symptoms persist, parents/carers should seek professional healthcare advice."

Type 2 diabetes

NICE guidance for the management of type 2 diabetes

This year saw NICE issue its guideline on type 2 diabetes. An in-depth look at the disease can be found in the August 2011 issue of *Pharmacy Magazine*. Here we provide a summary of the key changes. NICE recommended that:

- Patients are involved in decisions about their individual HbA_{1c} target level, which may be

above the target of 6.5 per cent (48mmol/mol) set for people with type 2 diabetes in general

- A target HbA_{1c} level of 7.5 per cent (58mmol/mol) should be set if multiple drug therapy is required (or higher than 7.5 per cent, based on the individual)

- Patients should maintain their individual target unless the resulting side-effects (including hypoglycaemia) or their efforts to achieve this impair their quality of life

- Highly intensive treatment to levels of less than 6.5 per cent should be avoided

- Priority should also be given to interventions to reduce cardiovascular risk (e.g. smoking cessation, blood pressure control, weight management, statin therapy).

Pioglitazone and the risk of bladder cancer

The European Medicines Agency (EMA) reviewed the benefits and risks of pioglitazone and concluded that it "remains a valid treatment option for certain patients with type 2 diabetes, but only when certain other treatments (met-



NICE issued new guidance on managing type 2 diabetes in 2011

formin) have not been suitable or have failed to work adequately" (i.e. those patients who respond to treatment and have no identified risk factors for bladder cancer), but that action would be needed to reduce "the small increased risk (of bladder cancer) . . . by appropriate patient selection and exclusion".

The relative risk of bladder cancer from three studies ranged from 1.12 to 1.33. A meta-analysis indicated an absolute risk increase of 0.08 per cent (seven cases in 10,212 patients or 0.07 per cent risk in the placebo group versus 19 cases in 12,506 patients or 0.15 per cent in the treatment group). Pioglitazone is contraindicated in patients with active bladder cancer/history of bladder cancer and in patients with uninvestigated haematuria.

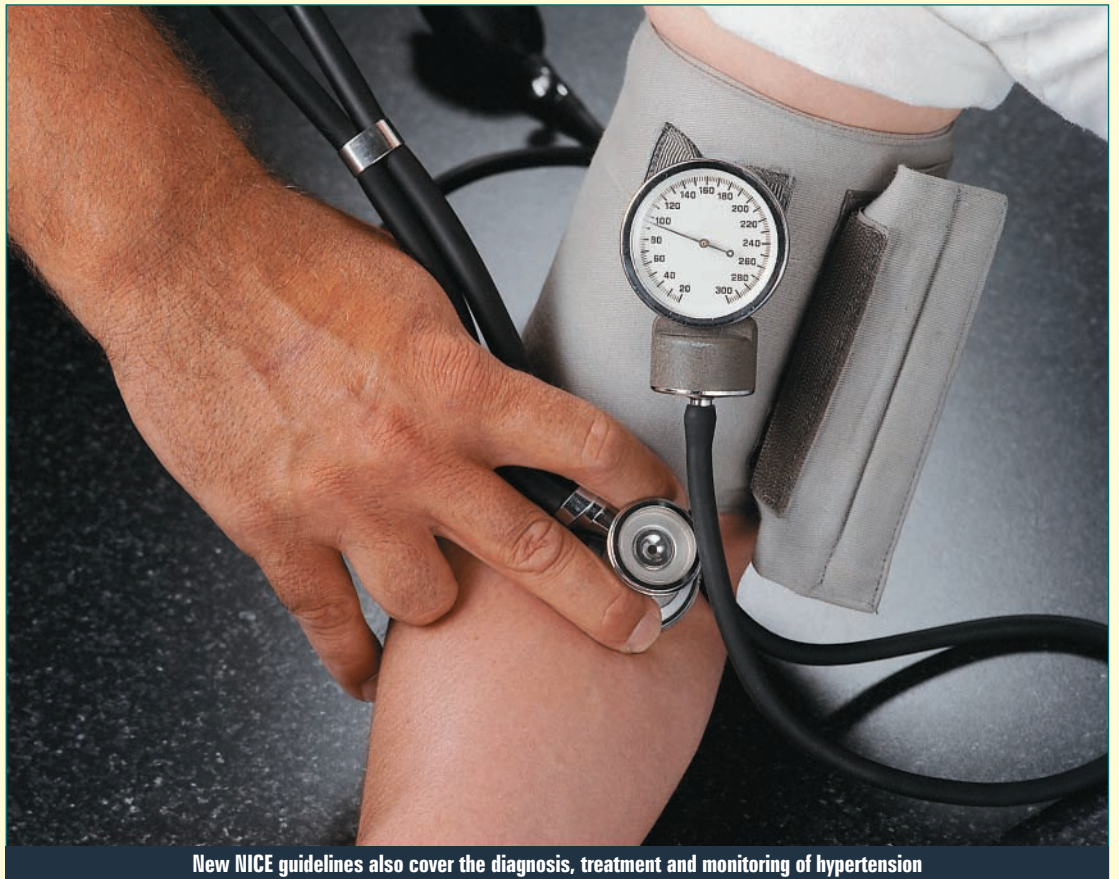
The West Midlands Therapeutic Review and Advisory Committee (MTRAC) also reminded prescribers that, "in the light of age-related risks (bladder cancer, fractures and heart failure), the balance of benefits and risks of pioglitazone should be carefully considered before initiating treatment in the elderly. If pioglitazone is used in these patients, start on the lowest possible dose and monitor regularly".

NICE guideline on hypertension

NICE issued its hypertension guideline in August, replacing the previous 2006 version. The updated guideline includes new recommendations on diagnosis, treatment with antihypertensives and treatment monitoring. Some of the recommendations will lead to significant changes in the diagnosis and management of hypertension. An in-depth look at hypertension (including practical advice on providing the new medicine service for patients with the condition) was published in the November *Pharmacy Magazine* CPD module.

The main differences in the 2011 hypertension guideline are:

- Ambulatory BP monitoring (ABPM) should now be used to confirm diagnosis following two consultation measurements of 140/90mmHg or higher (but if hypertension is severe, consider starting antihypertensive treatment without waiting for ABPM)



New NICE guidelines also cover the diagnosis, treatment and monitoring of hypertension

- An angiotensin-converting enzyme (ACE) inhibitor or a low cost angiotensin-II receptor blocker (ARB) is now recommended for initial treatment in patients aged under 55 years (previous NICE guidance recommended that ARBs should only be considered if ACE inhibitors were not tolerated)

- Calcium channel blockers (CCBs) are the preferred first-line treatment for patients over 55 years of age and black people of African or Caribbean descent of any age

- Thiazide-like diuretics should only be prescribed first if CCBs are not suitable (e.g. because of oedema or intolerance), or if there is evidence of heart failure or a high risk of heart failure

- Thiazide-like diuretics, such as chlorthalidone (12.5mg to 25mg once daily) or indapamide (1.5mg modified-release or 2.5mg daily) are now preferred over bendroflumethiazide or hydrochlorothiazide

- If step 2 treatment is required for black people

of African or Caribbean family origin, a low-cost ARB should be considered in preference to an ACE inhibitor (in combination with a calcium channel blocker), as these patients have a higher risk of developing angioedema with ACE inhibitors.

Contraception

Change in advice about the combined pill and antibiotics

In February new guidance was issued by the Faculty of Sexual and Reproductive Healthcare,

Clinical Knowledge Summaries relaunched

PRODIGY (formerly Clinical Knowledge Summaries) has been relaunched as Clarity Knowledge Summaries at <http://prodigy.clarity.co.uk/home>. The site is a useful resource on common conditions with the emphasis on "practical know-how and evidence-based information". New and updated topics include the common cold, emergency contraception, insect bites and stings, and warts and verrucae.



which changed the advice that health professionals should give to women taking combined hormonal contraception (CHC) and a non-enzyme-inducing antibiotic. The guidance states that additional contraceptive precautions are no longer required during or following courses of these antibiotics unless diarrhoea or vomiting occur.

Over the years there have been theoretical concerns that some antibiotics that do not induce liver enzymes might make CHCs less effective by reducing bacterial flora that recycle ethinylestradiol from the large bowel.

The current BNF states: "Latest recommendations are that no additional contraceptive precautions are required when combined oral contraceptives are used with antibacterials that do not induce liver enzymes, unless diarrhoea or vomiting occur."

Emergency contraception

In September the faculty also issued updated advice on emergency contraception (EC) and recommended that women should be informed of all methods of emergency contraception.

■ The copper-bearing intrauterine device (Cu-IUD) can be inserted up to 120 hours after the first episode of unprotected sexual intercourse (UPSI) or within five days of the earliest expected date of ovulation

■ The efficacy of ulipristal acetate (UPA) has been demonstrated up to 120 hours and can be offered to all eligible women requesting EC during this time period. It is the only oral EC licensed for use between 72 and 120 hours

■ The efficacy of levonorgestrel has been demonstrated up to 96 hours; between 96 and 120 hours efficacy is unknown. Use of levonorgestrel beyond 72 hours is outside the product licence.

Use of aspirin in CVD

Aspirin is well known to be of benefit in the secondary prevention of cardiovascular events with a 15 per cent reduction in further events.



Risks outweigh benefits of aspirin in primary prevention of CVD

The role of aspirin in primary prevention of cardiovascular disease has, however, been the subject of debate. A meta-analysis of risks and benefits of aspirin treatment for the primary prevention of cardiovascular disease confirmed that the risks outweigh the benefits.

Nine studies involving 102,621 patients followed up for an average of seven years were included in the meta-analysis. The results showed a "modest" benefit from aspirin treatment with a reduction in the composite primary outcome of major cardiovascular events (risk ratio [RR] 0.90, 95 per cent CI 0.85-0.96, $P < 0.001$) but there was no significant reduction for the individual outcomes of myocardial infarction, stroke, ischaemic stroke or all-cause mortality.

However the risk of haemorrhagic stroke was increased (RR 1.35, 95 per cent CI 1.01-1.81,

$P = 0.04$), as was the risk of major bleeding (RR 1.62, 95 per cent CI 1.31-2.00, $P < 0.001$). The authors calculated that for every 1,000 patients treated, aspirin would prevent 2.9 major cardiovascular events but cause 2.8 major bleeds.

The authors conclude that "the evidence provides only modest support for a benefit of aspirin in patients without clinical cardiovascular disease, which is offset by its risk". However dealing with OTC requests for aspirin and communicating the risks and benefits of self-medication for primary prevention (an unlicensed use of aspirin) can be challenging, as this customer's experience illustrates:

"I recently visited a chemist in a large supermarket and asked if I could have some 75mg aspirin as I take one every day. The woman serving said she would ask the pharmacist if it was

OK that she sold them to me. The pharmacist then came and asked me why I wanted them. 'Did my doctor know that I took them? How did I know that they would not harm me?'. I said I was 57, slightly overweight and stressed, so I thought it was a good idea that I took them. No, my doctor does not know that I take them, and I have been taking them for the last few years and have had no ill effects.

This was not enough and the pharmacist advised that I visited my doctor to get a prescription and then came back. I asked how it was that I could visit every day of the week and take high strength Nurofen or equivalent and no one would bat an eyelid but she would not sell me low strength aspirin? It was to no effect and I was refused the sale. I left the store and went to a high street chemist and was sold some aspirin, no questions asked. My question is: does the pharmacist have the right to refuse to sell me the aspirin on those grounds? I will add that I was pleasant throughout and gave no reason for concern and was not rude".

NSAIDs and cardiovascular risk

In September the MHRA drew attention to the results of an international study that assessed

Reflection exercise 1

How do you respond when a customer asks to buy low dose aspirin OTC? What explanation do you now give to someone who wants to buy aspirin for primary prevention and does not have a history of existing cardiovascular disease?

the cardiovascular risks of NSAIDs and provided further evidence on their different risk profiles.

Over 17 million prescriptions for NSAIDs were dispensed in England in 2010. Based on data from over 2,700,000 people in 51 studies and 184,946 cardiovascular events, the relative risks of such events were calculated as:

- Naproxen 1.09 (1.02-1.16)
- Ibuprofen 1.18 (1.11-1.25)
- Celecoxib 1.26 (1.09-1.47)
- Indometacin 1.30 (1.19-1.41)
- Diclofenac 1.40 (1.27-1.55); Low dose 1.22
- Etodolac 1.55 (1.28-1.87)
- Etoricoxib 2.05 (1.45-2.88).

The authors conclude that "among widely used NSAIDs, naproxen and low-dose ibuprofen are least likely to increase cardiovascular risk". They expressed concern about the use of OTC diclofenac, although their analysis showed a low risk at doses under 100mg daily.

The National Prescribing Centre has advised

prescribers that "low-dose ibuprofen or naproxen 1,000mg/day would appear more appropriate than other NSAIDs for patients in whom CV risk is a significant consideration in decision-making".

Dabigatran and atrial fibrillation

Atrial fibrillation (AF) is associated with older age and with obesity, so the numbers of patients needing treatment is increasing. The Atrial Fibrillation Association reports that 12,500 strokes a year are attributed to AF, and estimates suggest that appropriate anticoagulation could prevent 4,500 strokes a year in patients with AF.

Someone who has a stroke is likely to be in hospital for at least seven days and possibly up to 21 days. After that they may have substantially reduced quality of life and high support needs. Stroke care in hospitals is improving but effective prevention could also be improved. The risk of developing AF rises sharply with advancing age, roughly doubling with each decade of age, from 0.5 per cent at 50-59 years to almost nine per cent between 80 and 89 years of age.

This time last year we wrote about the oral anticoagulant dabigatran (Pradaxa) when its UK licence was for primary prevention of venous thromboembolic (VTE) events in adults after elective total hip replacement surgery or total knee replacement surgery. Dabigatran's licensed indications now include prevention of stroke and systemic embolism in people with non-valvular atrial fibrillation with one or more of the following risk factors:

- Previous stroke, transient ischaemic attack or systemic embolism
- Left ventricular ejection fraction below 40 per cent
- Symptomatic heart failure of New York Heart Association (NYHA) class 2 or above
- Age 75 years or older
- Age 65 years or older with one of the following: diabetes mellitus, coronary artery disease or hypertension.

Dabigatran is an oral direct thrombin inhibitor and is the first new oral anticoagulant



Dabigatran – no monitoring or dose adjustment needed



Reflection exercise 2

For patients taking anticoagulants, the NMS and targeted MURs can help to support adherence and patient safety for both warfarin and dabigatran. Have you been booking a six-month MUR following provision of the NMS for these medicines? What questions would you explore at the follow-up MUR?

to be licensed for decades. Unlike warfarin, treatment with dabigatran does not require blood monitoring or related dose adjustments and has no recommended dietary restrictions.

A recent *BMJ* editorial said: “Warfarin is cheap and effective, but it doubles the risk of haemorrhage, requires careful monitoring, and has many drug interactions. Compared with warfarin, dabigatran has a wide therapeutic index, so no monitoring or dose adjustment is needed (except in patients with renal disease) dabigatran has the potential to be widely prescribed. The potential economic consequences of widespread use of dabigatran rather than warfarin are profound.”

Dabigatran costs significantly more than warfarin; on the other hand warfarin has additional costs from INR monitoring and dosage adjustment. The cost of dabigatran per day per patient based on the recommended dosage is £2.52 (£920 per year) compared with 4p per day for warfarin (£14.60 plus INR monitoring). The costs of INR monitoring vary and NICE estimates annual costs at between £115-£270. So how should prescribers decide whether to use warfarin or dabigatran?

A new study showed that where INR control was poor, the use of dabigatran was likely to be cost-effective in patients at high risk of stroke. But in people with good INR control with warfarin, there may be little or no additional benefit in terms of effectiveness with dabigatran. The average time in therapeutic range (TTR) for warfarin patients in the UK is estimated as less than 70 per cent – so there is room for improvement.

The new medicine service and targeted MURs could make a difference here. NICE advises that, for patients who are already taking warfarin, the potential risks and benefits of switching to dabigatran should be considered in the light of their INR control.



New antibacterial introduced for travellers' diarrhoea, a commonly occurring condition

The *BMJ* editorial concluded that: “In practice, clinicians should consider additional factors when choosing treatment, such as patient preference and adherence. For patients with a strong aversion to INR monitoring, dabigatran will be more cost-effective than in typical patients. In contrast, for patients with poor adherence to treatment, dabigatran will be less cost-effective because it has a shorter half life than warfarin.”

The West Midlands Therapeutic Review and Advisory Committee (MTRAC) issued guidance

on the use of dabigatran for prevention of stroke in patients with AF in October (see Table 1).

In November the manufacturer of dabigatran wrote to healthcare professionals about new recommendations on the assessment of renal function in patients being considered for, or who are already taking, the drug. Reports of fatal bleeding events in Japan with some patients who were elderly and had severe renal impairment led to the new advice. It is now recommended that:

- Renal function is assessed in all patients prior to initiating treatment

Table 1: MTRAC guidance on use of dabigatran for prevention of stroke in patients with AF

Commissioning guidance:

The committee recommends that warfarin remains the first-line option for anticoagulation in patients with AF at high risk of a stroke. Commissioners should ensure optimal existing warfarin therapy services including access to INR clinics, use of computerised decision-support software, and access to drugs such as acenocoumarol for patients who are allergic to warfarin. In view of the considerable financial implications, dabigatran treatment should only be prescribed for:

- a. Those patients with co-morbidities who are adherent to warfarin monitoring and lifestyle requirements but need frequent co-prescribed medications that interact with warfarin and affect the patient's time in therapeutic range (TTR)
- b. Those patients who are adherent to monitoring and lifestyle requirements but whose TTR remains unacceptable despite attempts to optimise treatment with warfarin.

Commissioners should set the TTR threshold at an affordable level for their local health economy.

Prescribing guidance:

Dabigatran is suitable for prescribing in primary care as a second-line treatment only if a patient's INR cannot be stabilised adequately within the target range over the longer term with a suitable trial of optimised warfarin treatment.

- Dabigatran is contraindicated in patients with severe renal impairment (creatinine clearance less than 30ml/min)
- Renal function should be reassessed where declines are suspected (hypovolaemia, dehydration)
- Patients over 75 years of age and those with existing renal impairment should have annual checks of renal function.

Xifaxanta for travellers' diarrhoea

Travellers to the Middle East, Africa, Central and South America and many parts of Asia are most at risk of developing travellers' diarrhoea, with three to five in every 10 travellers from the UK developing symptoms during a one to two-week stay. Moderate to severe cases (at least three loose stools in 24 hours plus other gut symptoms) or diarrhoea that has not responded to symptomatic treatment can be treated with antibiotics.

Xifaxanta (Rifaximin) was launched in September this year to treat travellers' diarrhoea associated with non-invasive strains of *E. coli* (i.e. not associated with fever, bloody diarrhoea, eight or more loose stools in the previous 24 hours, or presence of occult blood or leucocytes in the stool).

Current first-line empirical antibiotic therapy is ciprofloxacin 500mg twice daily for three days. Azithromycin 500mg daily for three days is used if the patient has been to South East Asia (because campylobacter resistance to ciprofloxacin is prevalent) or he/she is unable to tolerate quinolones.

Reflection exercise 3

Summarise what you have learned from reading this module. Have you encouraged relevant staff to read the version of this module in *Training Matters*? Once they have read the module, which aspects will you discuss with them?

CPD competences

This module supports the following community pharmacy competences:

Competence	Where this module supports competence development
C1c: Reviewing medication with patients to identify difficulties and potential risks	The module summarises information about new drugs, clinical trials, safety alerts and clinical guidelines in 2011 including issues that patients and other healthcare professionals might have questions about. For example, reflection exercise 1 encourages pharmacists to reflect on OTC sales of low dose aspirin and reflection exercise 2 encourages pharmacists to conduct NMS and follow-up targeted MURs for patients newly prescribed an anticoagulant
C1b: Reviewing medication for its clinical effectiveness	Key clinical data (e.g. on aspirin in primary prevention of CVD and dabigatran in stroke prevention) is summarised in the module
C4g: Working across professional boundaries	Evidence-based information that can be used as a source when dealing with queries from other healthcare professionals is provided
C4h: Providing training and education to pharmacy staff	The module provides factual information as well as giving examples of the type of issues that are important for the education of pharmacy staff – in particular dispensing technicians. Reflection exercise 3 involves identifying which information from the module will be shared and used with staff

OTC medicines

The antifibrinolytic, tranexamic acid, became available OTC in 2011 for the treatment of heavy menstrual bleeding (menorrhagia). An estimated one in 10 women of reproductive age has menstrual blood loss meeting the definition of "heavy bleeding" (i.e. exceeding 80ml compared with the average of 30-40ml) and five to 15 per cent of women are thought to be affected by blood loss to a degree that indicates treatment should be considered. In most cases of menorrhagia no underlying cause is found.

Tranexamic acid reduces blood loss by up to 58 per cent. NSAIDs are also effective in reducing menstrual blood loss (by 20-50 per cent) but only mefenamic acid has a licence for this indication.

Tranexamic acid OTC can be supplied to women aged 18 to 45 years with a history of heavy menstrual bleeding over several consecutive menstrual cycles and "regular" periods (21-35-day cycles and no more than three

days individual variability in cycle duration). Treatment starts once bleeding has begun and continues for up to four days.

Treatment can continue in subsequent cycles but referral to the doctor is advised if there is no improvement after three cycles. Royal Pharmaceutical Society advice is that "you can make the supply to someone else (other than the patient directly) if you are satisfied it is a genuine request and the treatment is clinically appropriate for the patient".

Sources & further information

Key sources of information used in this module include the BNF, NICE, UKMI, MHRA, NHS Evidence "Eyes on Evidence", West Midlands Therapeutic Review and Advisory Committee (MTRAC), and 'Prescribing Advice for GPs' blog by Matthew Robinson.



Pharmacy Magazine's CPD modules are now available on Cegedim Rx's PMR systems, Pharmacy Manager and Nexphase. Just click on the 'Professional Information & Articles' button within Pharmacy KnowledgeBase and search by therapy area. Please call the Cegedim Rx helpdesk on 0844 630 2002 for further information.



ASSESSMENT QUESTIONS

PHARMACY MAGAZINE CPD RECORD – DECEMBER 2011

USE THIS FORM TO RECORD YOUR LEARNING AND ACTION POINTS FROM THIS MODULE ON KEY THERAPEUTIC DEVELOPMENTS IN 2011 OR DOWNLOAD FROM WWW.PHARMACYMAG.CO.UK AFTER COMPLETING THE ONLINE LEARNING SCENARIOS

KEY THERAPEUTIC DEVELOPMENTS 2011

1. In new advice for dromedone, regular monitoring of which of the following is recommended?

- a. Cardiac function
- b. Liver function
- c. Renal function
- d. All of the above

2. The updated "Green Book" recommends that:

- a. Ibuprofen but not paracetamol can be used to prevent fever
- b. Paracetamol but not ibuprofen can be used to prevent fever
- c. There is evidence that antipyretic medicines seem to lower the antibody response if used in prevention and treatment of fever
- d. Paracetamol and ibuprofen can be used to treat fever above 37.5°C

3. For children aged two to four years, the recommended dose of paracetamol 120mg/5ml up to four times a day is:

- a. 2.5ml
- b. 5ml
- c. 7.5ml
- d. 10ml

4. In the treatment of hypertension in black people of African or Caribbean family origin, the preferred first-line treatment is:

- a. An ACE inhibitor
- b. A low-cost angiotensin-II receptor blocker
- c. A calcium channel blocker
- d. A thiazide-like diuretic

5. Which NSAIDs are least likely to increase cardiovascular risk?

- a. Diclofenac and naproxen
- b. Low-dose ibuprofen and celecoxib
- c. Low dose ibuprofen and naproxen
- d. Diclofenac and celecoxib

6. INR monitoring costs for one year for a patient on warfarin are typically:

- a. £115-£270
- b. £215-£370
- c. £315-£470
- d. £415-£570

7. A woman taking a contraceptive pill should be advised to take additional precautions if she is taking a:

- a. Combined hormonal contraceptive and ciprofloxacin
- b. Progesterone-only contraceptive and carbamazepine
- c. Combined hormonal contraceptive and metronidazole
- d. Progesterone-only contraceptive and ciprofloxacin

8. Find the TRUE statement regarding tranexamic acid:

- a. It can be recommended for women between the ages of 16 and 45 years
- b. Treatment can begin the day before a period is due
- c. It can only be supplied to the patient
- d. NSAIDs can reduce menstrual blood loss by up to half

Activity completed. (Describe what you did to increase your learning. Be specific) (Act)

Name/date:

Time taken to complete activity:

What did I learn that was new in terms of developing my skills, knowledge and behaviours? Have my learning objectives been met?* (Evaluate)

How have I put this into practice? (Give an example of how you applied your learning. Why did it benefit your practice? How did your learning affect outcomes?) (Evaluate)

Do I need to learn anything else in this area? (List your learning action points. How do you intend to meet these action points?) (Reflect)

* If as a result of completing your evaluation you have identified another new learning objective, start a new cycle – this will enable you to start at **Reflect** and then go on to **Plan, Act** and **Evaluate**. This form can be photocopied to avoid having to cut this page out of the module. Complete the learning scenarios at www.pharmacymag.co.uk

MODULE 194 ANSWER SHEET

ENTER YOUR ANSWERS HERE Please mark your answers on the sheet below by placing a cross in the box next to the correct answer. Only mark one box for each question. Once you have completed the answer sheet in ink, return it to the address below together with your payment of £3.75. Clear photocopies are acceptable. You may need to consult other information sources to answer the questions.

- | | | | | | | | | | | | | | | | |
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Name (Mr, Mrs, Ms) _____

Business/home address _____

Town _____ Postcode _____ Tel: _____ GPhC/PSNI Reg no.

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I am a PM subscriber I confirm the form submitted is my own work (signature): _____

Please charge my card the sum of £3.75 Name on card _____ Visa Mastercard Switch/Maestro

Card No. _____ Start date _____ Expiry date _____

Date _____ Switch/Maestro Issue Number _____

Processing of answers
Completed answer sheets should be sent to Precision Marketing Group, Precision House, Bury Road, Beyton, Bury St Edmunds IP30 9PP (tel: 01284 718918; fax: 01284 718920; email: cpd@precisionmarketinggroup.co.uk), together with credit/debit card/cheque details to cover administration costs. This assessment will be marked and you will be notified of your result and sent a copy of the correct answers. The examiners' decision is final and no correspondence will be entered into.