Pneumonia and lower respiratory tract infections

The 56-year-old man walked down the corridor from the waiting room holding onto the wall – Ménières? Labyrinthitis? I wondered.

“Oh doctor, I feel awful…”

“He’s all muddled too” chimed in his wife.

He was indeed a bit confused, hypotensive, tachycardic, feverish and clearly unwell, although examination was otherwise unremarkable. I wasn’t quite sure what was going on – encephalitis? septicaemia? Whatever the underlying cause, he was going to hospital! That bit I was sure about! I described his symptoms (he didn’t really have any, except feeling awful) and signs to the medical registrar at the hospital “Oh, I bet he has got Strep. pneumonia” she said. She was right! That was exactly what was on the discharge summary. I was impressed!

However, most of our patients don’t present like this – so how should we manage pneumonia and lower respiratory tract infections?

At the end of 2014, NICE produced guidance on pneumonia (NICE 2014, CG191). I will focus on the aspects relating to community-acquired pneumonia. The guidance does NOT cover children, or those with bronchiectasis. Nor does it discuss whether or not a CXR should be considered in those diagnosed with pneumonia and managed in primary care (an interesting omission I feel!).

**Pneumonia statistics**

- 0.5–1% of adults get pneumonia each year.
- Mortality in those admitted with pneumonia is 5–14%. More than half of all these deaths are in those over 84y.
- The most recent US data suggest the commonest organisms are now rhinovirus, influenza, strep. Pneumoniae, metapneumovirus, RSV (BMJ 2017;358:j2471).

**What is pneumonia?**

This may sound like a daft question, but it is important! Pneumonia is one of a number of conditions that may cause a lower respiratory tract infection. Other conditions that may cause a lower respiratory tract infection include acute bronchitis and exacerbations of COPD. NICE want us to distinguish pneumonia from non-pneumonia lower respiratory tract infections.

NICE defines a **lower respiratory tract infection** as: an acute illness usually with cough as the main symptoms and at least one other lower respiratory tract symptom (fever, sputum production, breathlessness, wheeze, chest discomfort/pain) AND no alternative diagnosis (sinusitis, asthma).

NICE defines **community acquired pneumonia** as: clinical features of a lower respiratory tract infection with features that suggest this is pneumonia (for example, focal chest signs, more severe illness).

The **British Thoracic Society definition of pneumonia** is (and I find this more helpful!):

- **Cough and at least one other lower respiratory tract symptom**
  
  **AND**
  
  **New focal chest signs on examination**
  
  **AND**
  
  **EITHER sweating, fevers, shivers, aches and pains OR fever >38°C**
  
  **AND**
  
  **No other explanation for symptoms.**

**NICE on pneumonia: the key messages**

- When seeing someone with a lower respiratory tract infection, decide whether it is pneumonia or a non-pneumonia lower respiratory tract infection.
- Once a clinical diagnosis of pneumonia is made, use your clinical judgement in conjunction with the CRB65 score to assess risk of death, and thus guide management.
- CRP testing is NOT indicated if a clinical diagnosis of pneumonia has been made, but point of care CRP tests may be useful in those with a non-pneumonia lower respiratory tract infection, if it is unclear whether to give antibiotics.
- Antibiotics: 1st line for those being managed at home with pneumonia: amoxicillin. If allergic to penicillin use a macrolide (e.g. erythromycin) or tetracycline. Do not use the fluoroquinolones (such as ciprofloxacin).
Only use 2 antibiotics together in more severe illness (i.e. in hospital, not primary care).

Clinical picture of a lower respiratory tract infection

Clinical diagnosis of community-acquired pneumonia
- Cough and ≥1 lower respiratory tract symptom (sputum production, breathlessness, wheeze, chest pain)
- AND new focal chest signs on examination
- AND EITHER sweating, fevers, shivers, aches and pains OR fever >38°C
- AND no other explanation for symptoms.

Lower respiratory tract infection but not pneumonia
- Use clinical judgement to decide if antibiotics indicated.
  - If unclear whether to offer antibiotics, consider point of care CRP testing
  - (NICE say insufficient evidence to recommend use of CRB65, but see below for a discussion of this)

Interpreting point of care CRP result
- <20mg/L: do not routinely offer antibiotics
- 20–100mg/L: consider delayed antibiotic script
- >100mg/L: offer antibiotics

No guidance offered on which antibiotic, but presumably follow guidance for low severity pneumonia.

Use clinical judgement with CRB65 to assess mortality risk and guide management.

Score 1 for each of CRB65 criteria:
- Confusion
- Abbreviated mental test score of ≤8/10, or new disorientation in person/place/time
- Respiratory rate: RR ≥30/minute
- BP: SBP ≤90 or DBP ≤60
- Age ≥65 years of age

Low severity
- (approximates to CRB65 score of 0)
- Most can be managed AT HOME

Investigations
- Sputum culture not indicated
- CXR if clinically indicated (NICE don't discuss)

Antibiotics
- Offer a 5d course of a single antibiotic.
- Amoxicillin should be first line.
- If penicillin allergic: use a macrolide (e.g. erythromycin) or tetracycline.
- Do not use: fluoroquinolones (the floxacins, such as ciprofloxacin) or 2 antibiotics together.

Steroids
- Do not use steroids (unless they have another condition such as asthma/COPD).

Safety net
- Ensure patients seek further advice if:
  - Symptoms are worsening.
  - Symptoms do not begin to improve after 3d of antibiotics (consider lengthening antibiotic course to 7–10d).

Moderate and high severity
- (approximates to CRB score of ≥1)
- Consider ADMISSION TO HOSPITAL
- (especially if CRB65 ≥2 or more)

For those admitted:

Investigations
- CXR
- Blood cultures
- Sputum cultures
- Consider pneumococcal and legionella urinary antigen tests

Antibiotics
- Consider 7–10d course.
- Dual antibiotic therapy (amoxicillin and a macrolide) may be considered. In those with more severe illness co-amoxiclav, or a cephalosporin may be used.

Steroids
- Do not use steroids (unless they have another condition such as asthma/COPD) (although a study published after this guidance showed that 7d of oral prednisolone in those admitted with pneumonia reduced length of stay by 1d with no significant harms (Lancet 2015;385:1511)).

Information for patients about recovery phase

Obviously, recovery depends on the severity of the illness, age and co-morbidity, but NICE say the following is what most people can expect in terms of recovery:

After 1 week: fever should have resolved
After 4 weeks: chest pain and sputum production should have substantially reduced
After 6 weeks: cough and breathlessness should have substantially reduced
After 3 months: most symptoms should have resolved but fatigue may be present
The CRB65 score is a tool designed to predict mortality. Scores also correlate roughly with severity and whether patients should be admitted. In hospitals they use the CURB65 score – the U is for urea.

<table>
<thead>
<tr>
<th>Score</th>
<th>Management</th>
<th>Mortality risk (chance of death in next 30d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Home based care for most</td>
<td>Low risk (mortality &lt;1%)</td>
</tr>
<tr>
<td>1 or 2</td>
<td>Consider hospital assessment (especially if 2)</td>
<td>Intermediate risk (mortality risk 1–10%)</td>
</tr>
<tr>
<td>3 or 4</td>
<td>Consider hospital assessment</td>
<td>High risk (mortality risk &gt;10%)</td>
</tr>
</tbody>
</table>

CRB65 in non-pneumonia lower respiratory tract infections

Why not use CRB65 in non-pneumonia lower respiratory tract infections? NICE found insufficient evidence in those without pneumonia. However, the GP Update team don’t see any harm in using it – it will give you some indication of severity and is a good way of documenting key facts that may be useful for another doctor seeing them later in the illness to decide if they are better or worse.

Point of care CRP testing

NICE recommend point of care CRP tests ONLY in non-pneumonia lower respiratory tract infections where there is uncertainty about prescribing antibiotics (see flow diagram above). They suggest:

- CRP <20: do not routinely offer antibiotics.
- CRP 20–100: consider delayed script for antibiotics.
- CRP >100: offer antibiotics.

The DTB reviewed the issue of CRP point of care tests (DTB 2016;54(10):117). CRP can increase to around 40 in rhino-viral infections and 100 for influenza and adenoviral infections. In pneumonia levels are often >100.

Evidence

- Trials of reliability have shown point of care tests to be as good as laboratory CRP tests.
- Many clinical trials have been funded by the manufacturers.
- Some trials have shown reduced use of antibiotics with point of care testing.
- The Cochrane review showed point of care testing reduced antibiotic prescribing (37% vs. 49%, 3300 patients), with no difference in adverse events.
- However, not all trials have been positive:
  - A small (1000 patient) Dutch trial of their use in acute cough showed point of care CRP testing made no difference to prescribing rates, although the authors concluded these were low prescribers to start with and in low prescribers there may be only a limited role for the test.
  - A different Dutch study showed that point of care tests were often used in the wrong groups: only 13% in whom the test was used were in the correct risk bracket (intermediate risk, who should be offered the test), whilst the remainder of the tests were done on the 46% who were at low risk or the 41% who were at high risk, neither of which groups should have been tested!

The DTB highlighted a number of important issues:

- The spectrum of severity is vast, ranging from mild, self-limiting viral infections to severe bacterial infections with a risk of significant complications.
- The fact that it can sometimes be hard to distinguish these clinical presentations without tests that take time, such as CXRs or conventional CRP tests. This is a particular issue for primary care.
- CRP point of care tests should be used when the decision to prescribe antibiotics is unclear. They are not useful when there is a clear indication for antibiotics.
- There would be significant costs associated with widespread rollout to primary care, and the need for regular quality assurance and training in use.
- There is limited experience from use in real life settings. Whether widespread use would translate into benefits in real life and
for each prescriber is not known.

- The test may add to the length of the consultation.
- The use of the device does not help modify patients’ help-seeking behaviour around self-limiting illness (might it make it worse – I’ve got a slight sniffle, I’d better get to the GP to have that test…?!).
- There is little data on the relevance to those with co-morbidity or to children.

### Costs

NICE estimate a single test costs £13.50, including all the equipment.

The DTB summarise the data from NICE on the 2 point of care tests they have assessed (they haven’t given guidance on a preferred one).

<table>
<thead>
<tr>
<th>Analyser</th>
<th>Initial costs</th>
<th>Cost/test kit</th>
<th>Assay time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afinion AS100</td>
<td>£1200</td>
<td>£3.50</td>
<td>4min</td>
</tr>
<tr>
<td>QuickRead go</td>
<td>£1050</td>
<td>£4.30</td>
<td>2min</td>
</tr>
</tbody>
</table>

### What does this mean in practice?

The DTB concluded:

- Point of care CRP testing may reduce unnecessary antibiotic prescribing (see NICE flow diagram above).
- The test should only be used when there is doubt about whether antibiotics should be given, and after a thorough clinical assessment.
- Do not use the test if it is clear from the patient’s condition what action is indicated.
- Do not use if significant co-morbidity (no evidence of reliability).
- Rapid uptake is unlikely unless there is a funded implementation programme.

### In LRTI do antibiotics make a difference?

A cohort study in UK general practice of over 28 000 people with lower respiratory tract infections looked at whether antibiotic prescribing made any difference to outcomes. Those who were admitted that day were excluded from the analysis (BMJ 2017;357:j2148).

- 26% were given no antibiotics
- 61% received immediate antibiotics
- 13% received delayed prescriptions.

Those given immediate antibiotics tended to be older, have major co-morbidities and report more symptoms (shortness of breath, fever, sputum), or have clinical signs (chest signs, low oxygen sats).

Those given a delayed script were often of a severity between those given and immediate antibiotic and those given no antibiotic.

Once severity had been adjusted for, antibiotic prescribing did not reduce the risk of admission or death (which occurred in less than 1% of patients).

- 400 patients would need to be treated to prevent one admission or death.
- Delayed antibiotics (but not immediate antibiotics) significantly reduced the risk of patients re-consulting new, worsening or non-resolving symptoms (and 22% of patients overall came back, so that is significantly adding to primary care workloads!)

The authors concluded that:

- Antibiotics may not reduce hospital admission or death, or do so rarely (1 in 400 times) and if antibiotics are to be used, consider using a delayed script as this reduces re-consultation rates.

The accompanying editorial reminds us (BMJ 2017;357:j2398):

- By 2050 incurable infections are predicted to be the second biggest killer worldwide.
- Despite lack of evidence of benefit for antibiotics, doctors prescribing habits are changing slowly, if at all.

So, if the patient is not sick enough for admission, then no antibiotics, or at least a delayed script, may be the best way forward. Am I doing this in practice?

### How long should the antibiotics be continued for?

For community managed pneumonia, NICE recommend 5 days of treatment.

For those admitted to hospital NICE recommend 7-10 days of antibiotics. A US study looked at this and suggests shorter courses may be just as beneficial in hospital patients too (JAMA 2016;316:2544). In a trial of just over 300 patients, all in hospital with community acquired pneumonia, on day 5 of treatment patients were assigned either to:
Stop antibiotics on day 5 (provided their temperature had been <37.8 for the previous 48hrs)

Usual care (the treating physician could stop the antibiotics when they felt it was the right time).

The trial concluded that stopping on day 5 was associated with no worse outcomes than longer courses of treatment.

From a primary care perspective, the duration of antibiotics in those admitted will normally be determined by the hospital, but we do see people who are getting side effects some days into a course of treatment, or perhaps who are unclear how long to continue. This trial suggests that in those who are afebrile, a 5 day course may be sufficient.

What about the procalcitonin test?

There were no direct trials comparing the procalcitonin test with CRP testing. However, on the data that was available NICE thought that, overall, point of care CRP was a better test (more effective and cheaper).

Would an X-ray guide antibiotic use?

No, there is no evidence to suggest that we should use chest X-rays to guide antibiotic use.

Pneumonia and the risk of developing heart failure

A Canadian cohort study followed people seen in an Emergency Room with community acquired pneumonia. Almost 5000 people and controls were followed over 10 years (BMJ 2017;356:j413). Most were treated as an out patient. Some needed admitting, although this made no difference to the outcomes. The average age was 55 years.

- The incidence of heart failure was:
  - 1.7/100 person years in those who had pneumonia.
  - 0.9/100 person years in the control group.
- The increased risk of heart failure was true in those under 65 years as well as those over 65 years of age. As you would expect, the incidence of heart failure in younger people with pneumonia was quite low but the relative risk was double that of their peers.
- All cause-mortality rates over 10 years were:
  - 5.2/100 person years in those who had pneumonia.
  - 2.9/100 person years in the control group.

What cannot be answered by the research is whether pneumonia is a marker of risk or is causing the heart failure in some way.

The authors suggest we should consider changing our practice in a number of ways in the light of this paper:

- We should be more alert to the possibility of heart failure in younger people who have had pneumonia.
- We should assess and manage CV risk factors in those who have had pneumonia.
- We should consider flu and pneumococcal immunisations in this group (but note would be outside UK policy, and not based on any evidence of effectiveness in this cohort).

Oral steroids for pneumonia?

A BMJ state of the art review reminded us that oral steroids (in the absence of other co-morbidities) should not be used to treat community acquired pneumonia. Although two studies have shown benefit, other trials have not (BMJ 2017;358:j2471).

PPIs and pneumonia

A concern has been raised about the increased risk of community acquired pneumonia and PPIs.

However, a population-based trial has been reassuring. It showed that although data from 160 000 people with a first prescription of PPI does show an increased risk of community acquired pneumonia (RR 1.6, CI 1.55–1.79) the increased rates of pneumonia occurred BEFORE the prescription of PPI and that the actual rate of pneumonia FELL after PPI prescription (BMJ 2016;355:i5813).
### Pneumonia

- When seeing someone with a lower respiratory tract infection, ask yourself: is this pneumonia or non-pneumonia? The BTS definition of pneumonia is probably the most helpful in separating the two.
- If this is pneumonia, calculate the CRB65 score and interpret findings in the light of your clinical judgement, and manage accordingly.
- If this is a non-pneumonia lower respiratory tract infection, use your clinical judgement to decide if antibiotics are indicated. If uncertain whether to give antibiotics, use a point of care CRP test (>100mg/L: offer antibiotics, 20–100mg/L: offer delayed script).
- Do not use point of care CRP tests in pneumonia (they should all be offered antibiotics).
- CRB65 scores don’t have evidence for use in non-pneumonia lower respiratory tract infections (lack of evidence) but we see no harm in using it as a way of prompting you to consider and document vital signs.

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you make a distinction in your clinical practice between pneumonia and other lower respiratory tract infections? Or do you, like many of us, code everyone as having a chest infection and recognise that some are sicker and some less sick and give antibiotics accordingly?</td>
<td>Yes/No</td>
</tr>
<tr>
<td>Do you use CRB65?</td>
<td>Yes/No</td>
</tr>
<tr>
<td>Do you have access to point of care CRP tests?</td>
<td>Yes/No</td>
</tr>
</tbody>
</table>

---

*We make every effort to ensure the information in these pages is accurate and correct at the date of publication, but it is of necessity of a brief and general nature, and this should not replace your own good clinical judgement, or be regarded as a substitute for taking professional advice in appropriate circumstances. In particular check drug doses, side effects and interactions with the British National Formulary. Save insofar as any such liability cannot be excluded at law, we do not accept any liability for loss of any type caused by reliance on the information in these pages.*

*GP Update Limited*  
*October 2017*
OUR AUTUMN 2017 AND SUMMER 2018 COURSES

Our comprehensive one-day update courses for GPs, GP STs, and General Practice Nurses. We do all the legwork to bring you up to speed on the latest issues and guidance.

All our courses are:

- Relevant: Developed and presented by practising GPs and immediately relevant to clinical practice.
- Challenging: Stimulating and thought-provoking.
- Unbiased: Completely free from any pharmaceutical company sponsorship.
- Fun: Humorous and entertaining – without compromising the content!

Are they for me?

Our courses are designed for:

- GPs, trainers and appraisers preparing for appraisal and revalidation or wanting to keep up to date across the whole field of general practice.
- GP ST1, 2 & 3, looking for the perfect launch pad into general practice and help with AKT and CSA revision.
- GPs who want to be brought up to speed following maternity leave or a career break.
- General Practice Nurses, especially those seeing patients with chronic diseases.

What’s included?

- 6 CPD credits in a lecture-based format, with plenty of time for interaction, humour and video clips, to keep you focussed and awake.
- A printed copy of the relevant handbook including the results of the most important research in primary care over the last 5 years and covering the subjects more extensively than possible in the course.
- 12 months’ subscription to www.gpcpd.com. With three times the content of the handbook, it allows you to capture CPD credits as you read on the site and use it in consultations! It also comes with Focused Learning Activities - online learning activities to provide evidence for your appraisal and earn hundreds of further hours of CPD credits.
- Buffet lunch and refreshments throughout the day!

What’s not included?

Our courses contain NO theorists, NO gurus, NO sponsors, NO reps on the day!
Just real-life GPs who will be back at the coal face as soon as the course has finished.

www.gp-update.co.uk
### The GP Update Course – our flagship course!

With the amount of evidence and literature inundating us, it can be hard to know which bits should change our practice, and how. The GP Update Course is designed to be very relevant to clinical practice and help you meet the requirements for revalidation.

We collate and synthesise the evidence for you so you don’t have to! Using a lecture based format, with plenty of time for interaction, the GP presenters discuss the results of the most important evidence and guidance, placing them in the context of what is already known about this topic. The presenters also concentrate on what it means to you and your patients in the consulting room tomorrow.

<table>
<thead>
<tr>
<th>Location</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxford</td>
<td>Fri 29 Sept 2017</td>
</tr>
<tr>
<td>Southampton</td>
<td>Sat 30 Sept 2017</td>
</tr>
<tr>
<td>Cardiff</td>
<td>Wed 4 Oct 2017</td>
</tr>
<tr>
<td>Exeter</td>
<td>Thur 5 Oct 2017</td>
</tr>
<tr>
<td>London</td>
<td>Fri 6 Oct 2017</td>
</tr>
<tr>
<td>London</td>
<td>Sat 7 Oct 2017</td>
</tr>
<tr>
<td>Leeds</td>
<td>Wed 11 Oct 2017</td>
</tr>
<tr>
<td>Liverpool</td>
<td>Thur 12 Oct 2017</td>
</tr>
<tr>
<td>Manchester</td>
<td>Fri 13 Oct 2017</td>
</tr>
<tr>
<td>Birmingham</td>
<td>Sat 14 Oct 2017</td>
</tr>
<tr>
<td>Cambridge</td>
<td>Tues 17 Oct 2017</td>
</tr>
<tr>
<td>London</td>
<td>Wed 18 Oct 2017</td>
</tr>
<tr>
<td>Nottingham</td>
<td>Thur 19 Oct 2017</td>
</tr>
<tr>
<td>Inverness</td>
<td>Wed 1 Nov 2017</td>
</tr>
<tr>
<td>Edinburgh</td>
<td>Thur 2 Nov 2017</td>
</tr>
<tr>
<td>Glasgow</td>
<td>Fri 3 Nov 2017</td>
</tr>
<tr>
<td>London</td>
<td>Fri 9 Mar 2018</td>
</tr>
<tr>
<td>London</td>
<td>Sat 10 Mar 2018</td>
</tr>
<tr>
<td>Leeds</td>
<td>Thur 15 Mar 2018</td>
</tr>
<tr>
<td>Oxford</td>
<td>Fri 16 Mar 2018</td>
</tr>
<tr>
<td>Birmingham</td>
<td>Sat 17 Mar 2018</td>
</tr>
<tr>
<td>Exeter</td>
<td>Wed 16 May 2018</td>
</tr>
<tr>
<td>Bristol</td>
<td>Thur 17 May 2018</td>
</tr>
<tr>
<td>London</td>
<td>Fri 18 May 2018</td>
</tr>
<tr>
<td>London</td>
<td>Sat 19 May 2018</td>
</tr>
<tr>
<td>Newcastle</td>
<td>Wed 6 Jun 2018</td>
</tr>
<tr>
<td>Sheffield</td>
<td>Thu 7 Jun 2018</td>
</tr>
<tr>
<td>Manchester</td>
<td>Fri 8 Jun 2018</td>
</tr>
<tr>
<td>Birmingham</td>
<td>Sat 9 Jun 2018</td>
</tr>
<tr>
<td>Norwich</td>
<td>Wed 13 Jun 2018</td>
</tr>
<tr>
<td>London</td>
<td>Thur 14 Jun 2018</td>
</tr>
<tr>
<td>Reading</td>
<td>NEW LOCATION</td>
</tr>
<tr>
<td>London</td>
<td>Fri 15 Jun 2018</td>
</tr>
</tbody>
</table>

### The MSK and Chronic Pain Update Course - New

MSK problems are the most common reason for seeing a GP and represent 30% of repeat GP visits. We want to help build your confidence. On the course we will tackle:

- The evidence-base for common MSK conditions including osteoarthritis, spondyloarthritis, polymyalgia, fibromyalgia and much more.
- Diagnosis: why waddling like a duck might help; and what to do when there is no diagnosis!
- Why chronic pain is ‘in the brain’ – and more importantly, what we and our patients can do about it.

We will provide you with a new narrative and a tool box of strategies you can take back to the surgery and start using the next day.

<table>
<thead>
<tr>
<th>Location</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manchester</td>
<td>Thur 30 Nov 2017</td>
</tr>
<tr>
<td>London</td>
<td>Fri 1 Dec 2017</td>
</tr>
<tr>
<td>London</td>
<td>Thu 17 May 2018</td>
</tr>
<tr>
<td>Manchester</td>
<td>Wed 6 Jun 2018</td>
</tr>
</tbody>
</table>

### Lead. Manage. Thrive! – The management skills course for GPs

Many of us have chosen to be salaried or portfolio GPs yet feel impotent or looked over when it comes to contributing to the effective running of our practices. We become frustrated and feel that we have little or no influence over what happens. It’s not your fault, most GPs (experienced and new) have had very little training in management and leadership skills for clinical practice.

Here’s the good news, all of us ‘lead’ whether in an official or unofficial role.

Who is this course for? GPs at every stage in their career who aren’t quite sure how to get unstuck! Also highly relevant to anyone who recognises the need to build their personal resilience and leadership skills to meet the demands of modern primary care, i.e. practice managers, nurses, and administrative and support teams.

As usual Red Whale has done all the legwork to bring you a concise, practical and actionable one-day course and handbook. Not only have we trawled through lots of relevant management, leadership and development literature, but we have also distilled its content through the lens of real GPs, enabling you to apply it to the reality of your practice.

<table>
<thead>
<tr>
<th>Location</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southampton</td>
<td>Thur 16 Nov 2017</td>
</tr>
<tr>
<td>Exeter</td>
<td>Fri 17 Nov 2017</td>
</tr>
<tr>
<td>Oxford</td>
<td>Thur 23 Nov 2017</td>
</tr>
<tr>
<td>London</td>
<td>Fri 24 Nov 2017</td>
</tr>
<tr>
<td>London</td>
<td>Fri 18 May 2018</td>
</tr>
<tr>
<td>Manchester</td>
<td>Thu 7 Jun 2018</td>
</tr>
</tbody>
</table>
OUR AUTUMN 2017 AND SUMMER 2018 COURSES

The Women’s Health Update Course

From the pill to pelvic pain, periods and prolapses, the one day Women’s Health Update course is a comprehensive guide to understanding and managing common gynaecological problems in general practice. Using a case-based approach will give you the skills to manage your female patients in a real surgery.

We aim to make the day fun, interactive as well as educational. You will leave the course feeling more confident, knowledgeable and with a much stronger pelvic floor!!!

The day is designed for all GPs and GP STs – not just those with a special interest!

<table>
<thead>
<tr>
<th>Location</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nottingham</td>
<td>Thur 9 Nov 2017</td>
</tr>
<tr>
<td>Manchester</td>
<td>Fri 10 Nov 2017</td>
</tr>
<tr>
<td>Norwich</td>
<td>Wed 15 Nov 2017</td>
</tr>
<tr>
<td>Exeter</td>
<td>Thur 16 Nov 2017</td>
</tr>
<tr>
<td>London</td>
<td>Fri 17 Nov 2017</td>
</tr>
<tr>
<td>Manchester</td>
<td>Thu 7 June 2018</td>
</tr>
</tbody>
</table>

The Cancer Update Course

Within the next 15 years the need for cancer care will double and you will look after as many cancer survivors as diabetics. Shared care follow up will become the norm, and secondary care will pass responsibility to us.

A key 2015 Lancet Oncology commission paper warned that: “GPs are inadequately trained and resourced to manage the growing demand for cancer care in high income countries”.

Education for GPs was one of their five key recommendations – we can help you get ahead of the curve! Established GPs and GP STs can use this course to bridge the gap in traditional GP cancer education which has focussed heavily on referral and end of life care missing out the whole journey in between.

This course is able to look in much more detail at the big picture behind the disease perhaps most feared by our patients and, let’s face it, that 1 in 2 of us will be diagnosed with over our lifetime.

<table>
<thead>
<tr>
<th>Location</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nottingham</td>
<td>Thur 9 Nov 2017</td>
</tr>
<tr>
<td>Manchester</td>
<td>Fri 10 Nov 2017</td>
</tr>
<tr>
<td>Norwich</td>
<td>Wed 15 Nov 2017</td>
</tr>
<tr>
<td>Exeter</td>
<td>Thur 16 Nov 2017</td>
</tr>
<tr>
<td>London</td>
<td>Fri 17 Nov 2017</td>
</tr>
<tr>
<td>London</td>
<td>Wed 23 May 2018</td>
</tr>
<tr>
<td>Manchester</td>
<td>Thu 7 June 2018</td>
</tr>
</tbody>
</table>

Our Consultation Skills Courses

One day small group courses designed for GPs, GP STs and General Practice Nurses. The courses have a practical focus and lots of engaging exercises allowing delegates to rehearse the most effective consultation behaviours.

But don’t worry, there won’t be any role playing in front of everybody!

For more information on each course, please visit www.gp-update.co.uk/courses

<table>
<thead>
<tr>
<th>Location</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manchester</td>
<td>Thu 2 Nov 2017</td>
</tr>
<tr>
<td>Leeds</td>
<td>Fri 3 Nov 2017</td>
</tr>
<tr>
<td>Nottingham</td>
<td>Thur 9 Nov 2017</td>
</tr>
<tr>
<td>London</td>
<td>Fri 10 Nov 2017</td>
</tr>
<tr>
<td>Exeter</td>
<td>Fri 17 Nov 2017</td>
</tr>
<tr>
<td>London</td>
<td>Thu 24 May 2018</td>
</tr>
<tr>
<td>Manchester</td>
<td>Fri 8 Jun 2018</td>
</tr>
</tbody>
</table>

The Telephone Consultation Course

<table>
<thead>
<tr>
<th>Location</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manchester</td>
<td>Fri 13 Oct 2017</td>
</tr>
<tr>
<td>Glasgow</td>
<td>Sat 4 Nov 2017</td>
</tr>
<tr>
<td>London</td>
<td>Thu 17 May 2018</td>
</tr>
<tr>
<td>Birmingham</td>
<td>Fri 8 Jun 2018</td>
</tr>
<tr>
<td>Leeds</td>
<td>Fri 15 Jun 2018</td>
</tr>
<tr>
<td>London</td>
<td>Thu 28 Jun 2018</td>
</tr>
</tbody>
</table>

The Effective Consultation Course

<table>
<thead>
<tr>
<th>Location</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leeds</td>
<td>Wed 4 Oct 2017</td>
</tr>
<tr>
<td>London</td>
<td>Fri 24 Nov 2017</td>
</tr>
<tr>
<td>London</td>
<td>Fri 18 May 2018</td>
</tr>
</tbody>
</table>

The Medically Unexplained Symptoms Course

<table>
<thead>
<tr>
<th>Location</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>London</td>
<td>Thu 19 Oct 2017</td>
</tr>
<tr>
<td>Manchester</td>
<td>Thu 7 Jun 2018</td>
</tr>
</tbody>
</table>
I would like to come on the following course(s) (please write legibly!):

- The GP Update Course (location) ............................................................... (date) ................................
- The MSK and Chronic Pain Update Course (location) ............................................................... (date) ................................
- Lead. Manage. Thrive! Course (location) ............................................................... (date) ................................
- The Cancer Update Course (location) ............................................................... (date) ................................
- The Women’s Health Update Course (location) ............................................................... (date) ................................
- The Telephone Consultation Course (location) ............................................................... (date) ................................
- The Effective Consultation Course (location) ............................................................... (date) ................................
- The Medically Unexplained Symptoms Course (location) ............................................................... (date) ................................

I can’t attend a course, but would like to order your Handbook or DVD:

- GP Update Handbook and 12 months’ access to GPCPD £150
- GP Update Handbook, DVD and 12 months’ access to GPCPD £225
- Lead. Manage. Thrive! Handbook £70
- Women’s Health Update Handbook £70
- Cancer Update Handbook £70

Name.............................................................................................   Address ...........................................................................................

(Please write your email address clearly as we’ll use it to send your confirmation letter and receipt.)

Price as stated in the flyer for each course. If applicable, please provide your discount code here .............................................................

Please send this form with your cheque payable to GP Update Limited to: Red Whale, University of Reading, Reading Enterprise Centre, Earley Gate Entrance, Whiteknights Road, Reading, Berkshire RG6 6BU

BMJ/090917

Please book online at www.gp-update.co.uk or call us on 0333 009 3090 or use the form below.

To book: online at www.gp-update.co.uk or call us on 0333 009 3090 or use the form below.

I would like to come on the following course(s) (please write legibly!):

- The GP Update Course (location) ............................................................... (date) ................................
- The MSK and Chronic Pain Update Course (location) ............................................................... (date) ................................
- Lead. Manage. Thrive! Course (location) ............................................................... (date) ................................
- The Cancer Update Course (location) ............................................................... (date) ................................
- The Women’s Health Update Course (location) ............................................................... (date) ................................
- The Telephone Consultation Course (location) ............................................................... (date) ................................
- The Effective Consultation Course (location) ............................................................... (date) ................................
- The Medically Unexplained Symptoms Course (location) ............................................................... (date) ................................

I can’t attend a course, but would like to order your Handbook or DVD:

- GP Update Handbook and 12 months’ access to GPCPD £150
- GP Update Handbook, DVD and 12 months’ access to GPCPD £225
- Lead. Manage. Thrive! Handbook £70
- Women’s Health Update Handbook £70
- Cancer Update Handbook £70

Name.............................................................................................   Address ...........................................................................................

(Please write your email address clearly as we’ll use it to send your confirmation letter and receipt.)

Price as stated in the flyer for each course. If applicable, please provide your discount code here .............................................................

Please send this form with your cheque payable to GP Update Limited to: Red Whale, University of Reading, Reading Enterprise Centre, Earley Gate Entrance, Whiteknights Road, Reading, Berkshire RG6 6BU

BMJ/090917

Please book online at www.gp-update.co.uk or call us on 0333 009 3090 or use the form below.

I would like to come on the following course(s) (please write legibly!):

- The GP Update Course (location) ............................................................... (date) ................................
- The MSK and Chronic Pain Update Course (location) ............................................................... (date) ................................
- Lead. Manage. Thrive! Course (location) ............................................................... (date) ................................
- The Cancer Update Course (location) ............................................................... (date) ................................
- The Women’s Health Update Course (location) ............................................................... (date) ................................
- The Telephone Consultation Course (location) ............................................................... (date) ................................
- The Effective Consultation Course (location) ............................................................... (date) ................................
- The Medically Unexplained Symptoms Course (location) ............................................................... (date) ................................

I can’t attend a course, but would like to order your Handbook or DVD:

- GP Update Handbook and 12 months’ access to GPCPD £150
- GP Update Handbook, DVD and 12 months’ access to GPCPD £225
- Lead. Manage. Thrive! Handbook £70
- Women’s Health Update Handbook £70
- Cancer Update Handbook £70

Name.............................................................................................   Address ...........................................................................................

(Please write your email address clearly as we’ll use it to send your confirmation letter and receipt.)

Price as stated in the flyer for each course. If applicable, please provide your discount code here .............................................................

Please send this form with your cheque payable to GP Update Limited to: Red Whale, University of Reading, Reading Enterprise Centre, Earley Gate Entrance, Whiteknights Road, Reading, Berkshire RG6 6BU

BMJ/090917