Renal colic

This was from a BMJ Clinical Review. Much of it will be familiar to you, but there are a few useful points on when to refer or admit, and what investigations should be performed (BMJ 2012;345:5499).

Renal colic statistics

- **Lifetime risk is 1 in 8 for men, and 1 in 16 for women.**

Risk factors

- Obesity.
- Dehydration (producing less than 1 litre of urine a day is associated with a substantially increased risk of stone formation compared with 2 litres/day).
- Previous stone: risk of a second stone is 30–40% within 5y.
- Family history (unclear if due to genetic factors or common environmental factors such as low fluid intake).
- Anatomical abnormality of the renal tract, e.g. horseshoe kidney.
- Diseases: hyperparathyroidism; renal tubular acidosis; myeloproliferative disorders; all chronic diarrhoeal conditions, including colitis (although it is unclear if this is only when they are having diarrhoea and presumably are a bit dehydrated, or whether it applies all the time).

Clinical features

These won’t be a surprise to you:

- Sudden onset severe loin pain often described as being similar to labour pains.
- Occurs around the costo-vertebral angle (where the sacrospinalis muscle crosses the 12th rib; for those for whom the anatomy of the back is a bit hazy, see diagram).
- Pain radiates to flank, groin, testes/labia depending on level. Usually colicky in nature, with waves of pain of varying intensity, followed by being completely pain-free between attacks.
- Patients are often restless with pain – unlike with peritoneal conditions where patients often lie very still.
- If the stone is caught at the vesico-ureteric junction, it may cause strangury (the urgent desire to pass urine), frequency, straining, but only small volumes passed. This is caused by the stone irritating the detrusor muscle (smooth muscle of bladder wall).
- Nausea and vomiting are common.
Visible haematuria may occur – it can then be a challenge to work out if the pain is caused by a stone or a clot caused by some other upper renal tract pathology.

A concomitant infection may also be present – this may cause fevers and sweats. Take a temperature!

Always examine the testes: scrotal conditions can occasionally present purely with abdominal pain. Be aware that some gynae conditions (ovarian pathology, ectopic pregnancy) can sometimes cause similar pain.

A leaking abdominal aneurysm can mimic renal colic – be particularly aware of this in those over 60 who are vascularpaths.

Remember: although stones are the commonest cause, this sort of pain can also be caused by blood, and sloughed renal papilla (sickle cell disease, diabetes, long-term analgesia use). External pressure on the ureter (e.g. from lymphadenopathy) can also cause pain, although this tends to be milder and more constant.

**STONE clinical prediction score**

But, all that aside, it is still hard to know if someone has a stone or not. Researchers have now developed a clinical prediction rule that might help (BMJ 2014;348:g2191). Using over 1000 patients presenting to US secondary care with flank pain who underwent a CT for suspected renal colic, they developed a clinical prediction rule and then tested it on almost 500 patients prospectively.

**STONE score**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Score (maximum 13)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>0</td>
</tr>
<tr>
<td>Male</td>
<td>2</td>
</tr>
<tr>
<td>Timing</td>
<td></td>
</tr>
<tr>
<td>Pain for &gt;24h</td>
<td>0</td>
</tr>
<tr>
<td>Pain for 6–24h</td>
<td>1</td>
</tr>
<tr>
<td>Pain for &lt; 6h</td>
<td>3</td>
</tr>
<tr>
<td>Origin (racial origin)</td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>0</td>
</tr>
<tr>
<td>Not black</td>
<td>3</td>
</tr>
<tr>
<td>Nausea</td>
<td></td>
</tr>
<tr>
<td>No nausea and vomiting</td>
<td>0</td>
</tr>
<tr>
<td>Nausea alone</td>
<td>1</td>
</tr>
<tr>
<td>Vomiting alone</td>
<td>2</td>
</tr>
<tr>
<td>Erythrocytes</td>
<td></td>
</tr>
<tr>
<td>Haematuria absent</td>
<td>0</td>
</tr>
<tr>
<td>Haematuria present</td>
<td>3</td>
</tr>
</tbody>
</table>

Score 0–5: low probability (<10% have a stone).
Score 6–9: moderate probability (around 50% have a stone).
Score 10–13: high probability (almost 90% have a stone).

During the prospective validation phase, when they were testing whether it worked or not:

- About 15% of patients were classified as low probability.
- In those with a high probability score, the chance of another significant diagnosis was low (<2%), whereas in those with a low probability score, the chance was near 4%. This suggests that you will only miss a small number of significant conditions in the high probability group – in fact, the authors think that a CT may be avoided altogether because the chance of a stone is high and the chance of missing something important is very low (or a limited CT with lower radiation doses could be done that looks just for the presence of a stone, measures its size and doesn’t look for other pathology).
- Do remember, though: these were all people who the clinician thought probably had renal colic. It was not just anyone with abdominal pain. So, you need to have reasonable clinical suspicion of a stone before you consider using the STONE scoring tool.

**What does this mean in practice?**

The STONE scoring system needs to be validated on a larger population prospectively, but this study is promising. If larger studies confirm these findings, this may be a really useful clinical prediction tool that may significantly aid our management of those with suspected renal colic.

**Management of renal stones**

If the diagnosis is clear, the patient can be managed at home, provided that you can provide adequate pain relief and there are no complications (fever, obstruction, known renal pathology such as post-transplant, etc.).

Admit if:

- Diagnosis unclear.
- Unable to control pain.
- Fever.
Renal colic in someone with a single kidney or post-transplant.
Suspected bilateral stones causing obstruction.
Acute renal failure.

**Analgesia**

**Warming**

A small community-based trial showed that warming the flank with an electric blanket improved pain relief compared with no warmth – *although one of my patients did manage to set fire to her house doing this…!*

**Drugs**

**NSAIDs are recommended in this clinical review.** The authors suggest that NSAIDs tend to provide better analgesia for this sort of pain than opioids, and without the side-effects of opioids. A Cochrane review did not show superiority of one NSAID over another.

The use of NSAIDs first line is confirmed by a large RCT based in an A&E department in Qatar. People with presumed renal colic were randomised to either diclofenac (75mg intramuscularly) or intravenous paracetamol (1g) or morphine (0.1mg/kg). Over 1600 people were involved. People with known renal disease were excluded. Treatment was started before the diagnosis was confirmed with a scan. It found that (Lancet 2016;387:1999):

- NSAIDs were the best treatment in terms of:
  - Pain relief within 30mins.
  - Pain relief beyond 60mins.
  - Reduced need for any additional medication (only 12% needed a top-up vs. 20% in the other 2 groups).
- Morphine was associated with more side-effects than either of the other two medications.

A reminder that NSAIDs are the preferred treatment for renal colic in the absence of renal disease.

**Investigations**

The British Association of Urological Surgeons/College of Emergency Medicine suggest the following investigations should be undertaken:

- **Urine dipstick.** Haematuria present in about 90% of those with stones, BUT 40% of those with haematuria and flank pain DON’T have stones. If dipstick positive for anything, send for MC&S.
- **Bloods:** check renal function (may not be possible acutely). In recurrent stone formers, check serum calcium and urate.
- **Biochemical analysis of the stone** is suggested in this review for first time stone formers (wee into a sieve, or into a jug and then sieve the urine!).
- **Radiology:**
  - Non-contrast CT is now the investigation of choice. This has similar radiation exposure to an IVU, is quicker and is more accurate.
  - Ultrasound is the first-line investigation in children and pregnant women, but it is not as accurate, and is particularly poor at detecting stones in the ureters; however, it is better at seeing them in the renal pelvis and bladder.
  - A plain film plus ultrasound scan approaches diagnostic accuracy of the CT scan, but is not first line for most patients.

Challenging this move towards non-contrast CT is a US study which randomised 2500 people attending A&E with suspected renal colic to either CT or ultrasound (NEJM 2014;371:1100). Those randomised to ultrasound could then have a CT after the ultrasound, if clinically indicated. Frustratingly, the paper doesn’t tell us how many people this happened to. There were no differences in pain, return visits to A&E/admission or adverse events between the groups, but the ultrasound group had a lower dose of radiation. Importantly, there was no difference in the number of ‘high risk’ diagnoses that were missed – that is, diagnoses that you wouldn’t want to ever miss, such as a rupturing abdominal aneurysm. Overall, the CT scan had a better sensitivity, but this did not result in better clinical outcomes. What does this mean in practice? If in doubt, talk to the radiologists!

**What will happen to the stone?**

There is mixed evidence on how many will pass the stone spontaneously and can therefore be managed conservatively. This in part depends on stone size and position. One recent trial of over 600 people showed that 86% passed the stone spontaneously; although only half did so within 1w, almost 90% had passed it within 1m. Over 40% of stones bigger than 6mm had not passed spontaneously within 2m (at which point they are very unlikely to pass).

The review suggests that most units now manage conservatively those with a stone <10mm, provided there is no sepsis or obstruction, or other complications.

If a stone is passed, no further imaging is required.

**Drug therapies**

Drugs (alpha and calcium channel blockers) are increasingly being recommended to encourage expulsion. A meta-analysis of almost 6000 people found the NNT to pass 1 extra stone was 4 (based on stones of 5–10mm), although the trials were considered to be of low to moderate quality (Lancet 2006;368:1171). The European Association of Urology Guidelines recommend tamsulosin, as it may be slightly more effective than calcium channel blockers (European Urology 2007;52:1610).
However, a UK-based trial of 1136 people with CT-confirmed stones less than 10mm in diameter has just been published. People were randomised to tamsulosin, nifedipine or placebo for 4w (Lancet 2015;368:341).

- After 4w, 80% needed no further treatment, regardless of which treatment they had.
- These findings were not affected by size of stone (< or >5mm), stone location or gender.
- There was also no difference in pain scores, and no difference in time taken to pass the stone.
- Analysis at 12w also showed no difference between the 3 groups.

The authors were confident enough to say that because of their calculations on the quality of their trial and its data, no further trials will be needed and drug therapy should no longer be considered. But read on!

However, a meta-analysis of 55 trials (6000 patients) drew a different conclusion! (BMJ 2016;355:i6112). It found that:

- Alpha-blockers encourage stone expulsion (1.5x more likely to pass) (Risk ratio 1.49, CI 1.39-1.61).
- There was more benefit with larger stones (possibly because the chance of smaller stones passing on their own is higher?).
- Alpha-blockers shortened time to stone passage (4 days shorter) and had fewer episodes of pain, less risk of admission to hospital and less chance of needing surgical intervention.
- The outcome was not affected by stone location.
- There was no difference in adverse risks between the 2 groups.

**Surgical treatment/lithotripsy**

- The main treatments for stones that are large/do not pass are lithotripsy or ureteroscopy.
  - In lithotripsy, a shockwave is generated and focused on the stone. More than one treatment may be required.
  - Ureteroscopy is usually done under general or spinal anaesthetic. A ureteroscope is inserted via the urethra, and the stone can be removed through this.
- A recent Cochrane review suggested that ureteroscopy had a better success rate in terms of removing the stone, but involved a longer hospital stay and greater risk of complications.

**Preventing recurrence**

Recurrent stone formers need further investigations, and some recommend more detailed evaluation of even first time stone formers. The majority of stones are calcium based, including those high in oxalate. Rarer types of stone include uric acid, cysteine stones (usually genetic) and struvite stones (which often form stag horn calculi, which are often associated with infection because of their large size).

- For all stone formers, increasing urinary volume by 500mls/day or to 2l/day reduces recurrence. Any (non-alcoholic!) fluids seem to work, so recommending particular fluids to avoid or to consume is unnecessary (BMJ 2016;352:i52).

Certain dietary restrictions can help, in part based on the type of stone (BMJ 2016;352:i52).

- High dietary calcium doesn’t seem to increase the risk of stone formation. In fact, in younger people (<60y), a high dietary calcium intake was found to be protective against stones (in older people there wasn’t a clear protective effect, but no harms were found either, important in a population increasingly given calcium for their bones!). This may be because calcium binds to oxalate in the gut, making an insoluble compound excreted in stool, and reducing oxalate levels in the urine (a culprit in stone formation). For this reason, if calcium is to be taken with supplements, it may be better taken with meals rather than between meals. Conversely, the WHI study showed an increased risk of renal stones in women on calcium and vitamin D (we think of the WHI study as a being an HRT study, but it also looked at the impact of calcium and vitamin D on fractures, cardiovascular disease, breast and colon cancer).
- Oxalate intake doesn’t seem to have much impact on urinary oxalate. However, chronic diarrhoea and malabsorption conditions can increase the concentration of oxalate in the urine and increase stone risk. Enzyme defects can lead to high levels of urinary oxalate, and in these people strict reduction in dietary oxalate is recommended (this includes avoiding nuts, and some vegetables such as chard, beets, some beans and the peel of citrus fruit).
- High levels of vitamin C supplementation (not dietary vitamin C) increases the risk of stones by increasing urinary oxalate.
- Urinary citrate inhibits calcium stone formation, and high citrate diets (rich in fruit and vegetables) may reduce the chance of developing a renal stone.
- Low sodium diets have been shown to reduce the chance of stone production (high levels of sodium increase urinary calcium and decrease urinary citrate).
- Restricting meat and fish consumption (but not dairy protein) can reduce stone formation in those who make calcium oxalate or uric acid stones.

**Drugs can be used to reduce stone formation in some people.** For example, thiazides can be used in those with hypercalciuria-induced stones and allopurinol for uric acid-related stones. Treatment should be guided by the specialist.

**Do renal stones affect long-term renal function?**

Renal stones can cause obstruction acutely that can cause acute renal failure, but what about long-term renal function? This long-
A long-term cohort study matched 23,000 people in Canada who developed a renal stone with 3 million people who hadn’t, and followed them for a median of 11 years (BMJ 2012;345:e5287). One or more episodes of stones increased the risk of developing end-stage renal disease or CKD 3b or worse (eGFR <45). The risk of developing end-stage renal disease was double that of someone without renal stones (although of course absolute risk is low – 0.2%). The risk of developing CKD 3b or worse was increased about 1.7-fold (HR 1.74, CI 1.61–1.84), with an absolute risk of 4%. The mechanism is unclear, although it may be related to the biochemical abnormality that is causing the stones to form. Impaired renal function was more common in women and those who were younger (<50y) or who had multiple stones. This risk appeared to be independent of other risk factors.

Given the small absolute risk increase, the authors do not suggest any additional monitoring, but do suggest optimising factors that may affect renal stone formation, including dehydration.

Cautionary advice!

The authors suggest that letting someone with a known renal stone fly could be very expensive. They suggest that if they developed colic, the flight may be diverted, and, because they were known to have a stone, their insurance may be invalid! That would be very, very expensive!

### Renal colic

- Renal colic can be managed conservatively in those without complications or risk factors (for example, fever, known renal disease). However, you must be sure of the diagnosis, provide appropriate analgesia and arrange prompt investigations.
- The STONE score may help us better identify those with renal colic.
- The latest meta-analysis suggests alpha-blockers aid stone expulsion and reduce pain and hospital admission.
- For larger stones, lithotripsy or ureteroscopy may be needed.

We make every effort to ensure the information in these articles 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 articles.
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.

London Fri 9 Mar 2018
London Sat 10 Mar 2018
Leeds Thur 15 Mar 2018
Oxford Fri 16 Mar 2018
Birmingham Sat 17 Mar 2018
Exeter Wed 16 May 2018
Bristol Thur 17 May 2018
London Fri 18 May 2018
London Sat 19 May 2018
Newcastle Wed 6 Jun 2018
Sheffield Thur 7 Jun 2018
Manchester Fri 8 Jun 2018
Birmingham Sat 9 Jun 2018
Norwich Wed 13 Jun 2018
London Thur 14 Jun 2018
Reading NEW LOCATION Fri 15 Jun 2018
Oxford Fri 28 Sep 2018
Southampton Sat 29 Sep 2018
Cardiff Wed 3 Oct 2018
Exeter Thur 4 Oct 2018
London Fri 5 Oct 2018
London Sat 6 Oct 2018
Leeds Wed 10 Oct 2018
Liverpool Thur 11 Oct 2018
Manchester Fri 12 Oct 2018
Birmingham Sat 13 Oct 2018
Cambridge Tue 16 Oct 2018
London Wed 17 Oct 2018
Nottingham Thur 18 Oct 2018
Inverness Wed 7 Nov 2018
Edinburgh Thur 8 Nov 2018
Glasgow Fri 9 Nov 2018
Brighton SEE BACK PAGE Fri 23 Nov 2018

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.

London Thur 17 May 2018
Manchester Wed 6 Jun 2018
Leeds Thur 11 Oct 2018
Birmingham Fri 12 Oct 2018
London Thur 18 Oct 2018
Brighton SEE BACK PAGE Wed 21 Nov 2018

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

If you’ve been waiting for a job as a leader to develop your leadership and management skills then you’re missing out! Leadership starts with identifying and taking control over what is in your hands right now! Lead. Manage. Thrive! will give you the confidence to skilfully negotiate, deal with difficult conversations, influence colleagues and bosses, delegate and be proactive about managing your workload.

The course is for anyone who wants to step up, find a better way of working and gain a toolkit of strategies to become a successful and resilient practitioner!

London Fri 18 May 2018
Manchester Thur 7 Jun 2018
London Fri 5 Oct 2018
Nottingham Wed 17 Oct 2018
London Thu 18 Oct 2018
Edinburgh Wed 7 Nov 2018
Brighton SEE BACK PAGE Sat 24 Nov 2018
The Women’s Health Update Course

Our Women's Health Update has ALL NEW CONTENT for 2018! This completely refreshed one day update will arm you with the skills to manage this area of general practice with confidence! Expect the latest on perimenopausal contraception, low libido, fertility, post-coital bleeding and the ‘abnormal’ cervix as well as benign breast disease and lots more! We promise it’ll be interactive, fun and relevant for ALL GPs and GP STs!

London  Thu 24 May 2018
Manchester  Fri 8 Jun 2018
London  Thu 4 Oct 2018
Leeds  Thu 11 Oct 2018
Birmingham  Fri 12 Oct 2018

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.

London  Wed 23 May 2018
Manchester  Thu 7 Jun 2018
London  Sat 6 Oct 2018

Our Consultation Skills Courses

These small group courses have a different feel and flavour to our topic based Updates and are packed with interactive activities designed to review and refine your consultation skills! But don’t worry – we won’t ask you to role-play in front of the group!

Perfect for GPs, GP STs and Practice Nurses. For more information, please visit www.gp-update.co.uk/courses

London  Thu 17 May 2018
Birmingham  Fri 8 Jun 2018
Leeds  Fri 15 Jun 2018
London  Thu 28 Jun 2018

The Telephone Consultation Course

London  Thu 17 May 2018
Birmingham  Fri 8 Jun 2018
Leeds  Fri 15 Jun 2018
London  Thu 28 Jun 2018

The Effective Consultation Course

London  Fri 18 May 2018
Manchester  Thu 15 Nov 2018

The Medically Unexplained Symptoms Course

Manchester  Thu 7 Jun 2018

Prices

GP Update Course:
GP £195 | GP Registrar £150 | Nurse £150
All other courses:
£225 or £210 for members of www.gpcpd.com

 GP Update Course: 
GP £195 | GP Registrar £150 | Nurse £150

All other courses:
£225 or £210 for members of www.gpcpd.com

Prices

GP Update Course:
GP £195 | GP Registrar £150 | Nurse £150
All other courses:
£225 or £210 for members of www.gpcpd.com

GP Update Course: 
GP £195 | GP Registrar £150 | Nurse £150

All other courses:
£225 or £210 for members of www.gpcpd.com

Prices

GP Update Course:
GP £195 | GP Registrar £150 | Nurse £150
All other courses:
£225 or £210 for members of www.gpcpd.com

GP Update Course: 
GP £195 | GP Registrar £150 | Nurse £150

All other courses:
£225 or £210 for members of www.gpcpd.com

Prices

GP Update Course:
GP £195 | GP Registrar £150 | Nurse £150
All other courses:
£225 or £210 for members of www.gpcpd.com

Prices

GP Update Course:
GP £195 | GP Registrar £150 | Nurse £150
All other courses:
£225 or £210 for members of www.gpcpd.com

Prices

GP Update Course:
GP £195 | GP Registrar £150 | Nurse £150
All other courses:
£225 or £210 for members of www.gpcpd.com
Six Updates over four days in Brighton!

Join us for our first ever Update Roadshow event! Red Whale is heading to the beach and pitching up in Brighton for four full days to bring you our most popular courses all in one hit! Choose one, two, three or four Updates and return to your surgery refreshed and invigorated with the latest evidence, guidelines and practical advice on a vast range of topics - all relevant to your practice! All courses will be taking place at The Brighton Hilton Metropole.

For more information about the courses available and to book your place visit: www.gp-update.co.uk/Brighton2018 or call us on 03330 093 090.

* Use discount code 4BRIGHTON2018 if booking online or over the phone 03330 093 090.
Only available for Brighton Roadshow dates. All courses to be taken by the same delegate and booked at the same time. Only one promotion code to be used per booking.

Six Updates over four days in Brighton!

To book: online at www.gp-update.co.uk or call us on 03330 093 090 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
☐ Lead. Manage. Thrive! Handbook £70 (no GPCPD)
☐ The MSK and Chronic Pain Update Course DVD £225
☐ Women’s Health Update Handbook £70 (no GPCPD)
☐ The Cancer Update Course £70 (no GPCPD)

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

Email........................................................................................................................................................................................................

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

Mobile Number (We can’t complete your course booking without this, but it will only be used if we need to contact you urgently about the course.)

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