Chapter 7

Pelvic pain

When confronted with a patient presenting with pain in the abdominal cavity attempt to ascertain if this pain is prominent or stems from a particular region of the abdomen. Asking the patient to point to the area of pain is the simplest way of identifying the main areas affected.

In your case history notes you will then need to convert this into proper terminology by using either the four quadrant or the nine abdominopelvic regions. For diffuse or poorly localised pain, it is best to use the larger quadrants and for focal, well localised pain, to use the nine regions. However, this is the patient's own experience and after physical examination you may need supplement your records on the location of pain with your own findings.

For instance, the patient may have indicated that they are experiencing pain around the umbilical region and on examination you have found that there was pain on palpation of the right iliac fossa.

The anatomical boundaries of the pelvic cavity are:

- Posteriorly: the sacrum
- Laterally: the ilia
- Anteriorly: the symphysis pubis and inferior parts of the abdominal muscles
- Inferiorly: the perineum

The structures and organs found within the pelvic cavity include:

- The sigmoid and rectum
- The vulva, vagina, cervix, uterus, fallopian tubes and ovaries
- The urinary bladder
- The prostate
- The terminal part of the ileum and the caecum

The nerve supply to the pelvic region is from:

a) **Sacral plexus**: formed by lumbosacral trunk (descending ventral rami of L4 and L5 and ventral rami of S1- S4).
b) **Sciatic nerve** (ventral rami of L4, L5, S1, S2, S3
c) **Pudendal nerve** (ventral rami of S2, S3, S4), supplies muscles of perineum, external anal sphincter and is sensory to genitalia.
d) **Sympathetics**: sympathetic chain ends at lumbar region with the ganglion of Walther at the coccyx.
e) **Parasympathetics**: splanchnic nerves from S2, S3, S4

Although most often it will be females that complain of pelvic pain, there are also many instances when a male may present with pelvic pain associated with any of the above structures, other that those belonging to the female reproductive system.

In terms of female incidence of pelvic pain, endometriosis and adhesions are most commonly implicated. For non gynaecological or reproductive causes also bear in mind gastrointestinal, urinary, musculoskeletal, and psychogenic disorders.

When progressing through you line of questioning and subsequent clinical examination, depending on the presentation, you can either aim to build up a case for an emerging theme or attempt to exclude other conditions. It all depends on the type of symptoms, the quality of information obtained and the results of your findings; each case will be unique. In some instances it may be easier to rule out urinary causes of pelvic pain by the quality of case history information, simple physical examination procedures and urinalysis. Likewise musculoskeletal or structural pathophysiological causes can be filtered out (although not always straightforwardly) and leave the diagnosis by exclusion until last, for example psychogenic causes of “chronic unresolved pelvic pain”. Unfortunately this last group of patients is quite significant but NEVER label the patient with this diagnosis until you have explicitly ruled out all organic and treatable causes.

Like other visceral-based presentations, a thorough and extensive case history is important especially in establishing a well thought-out and justified physical examination procedure or instructions for further diagnostic investigations. In addition to establishing the chronicity of pelvic pain, getting a clear description of the character and quality of symptoms is vital in helping you identify the types of tissues involved. In addition to the local tissues that may be generating symptoms, always bear in mind referral mechanisms and patterns. Is it direct spinal referral involving somatic or autonomic nerves? Is it ‘indirect’ referral such as by spinal associations or using other referral routes like the muscles, ligaments and fascia? Remember again the embryological origin and development of pelvic organs and where they have taken their supply of nerves, blood and lymphatics.

Having taken the case history and you are satisfied that all possible information has been extrapolated, you will need to decide which physical examination procedures you are going to perform, in what order and what you might expect to find. Subsequently, if none of your examinations yield useful or positive findings you will then need to consider even more carefully the types of investigative procedures for which the patient should be referred. A laparoscopic investigation may not be your first choice in your diagnostics algorithm unless you have considered the suitability of more general and less intrusive procedures.

Your choice of diagnostic procedures will also be determined from what has already been done in the past, the results from these and the period elapsed between those tests and the current date.

If you find that the symptoms stem from uterus, fallopian tubes and ovaries consider PID, dysmenorrhoea, pelvic congestion and ectopic pregnancy. Less pain-producing pathologies, especially in their early stages include; neoplasia and fibroids.

Causes of pelvic pain

Uterine causes

- Dysmenorrhea (primary or secondary,
- Adenomyosis
- Leiomyomata/ fibroids
- Organ malposition / prolapse
- Pelvic congestion

Adnexal causes (appendages/accessory structures of organs)

- Adhesive disease (infection, postsurgical)
- Neoplasm
- Ovarian cysts
- Endometriosis

Peritoneal causes

- Endometriosis
- Adhesive disease

Gastrointestinal causes

- IBS
- Other bowel disease (eg, colitis)
- Iliocaecal disorders
- Sigmoid colon pathologies

Other causes of pelvic pain

- Urinary
- Prostatic disease
- Musculoskeletal (lumbar, sacral/sacroiliac)
- Psychogenic
- Congenital/anatomic variants
- Neurological and referral
- Infections

GI

- IBS
- Other bowel disease (eg, colitis)

Urinary

Musculoskeletal

Psychogenic (eg, sexual abuse)

Congenital/anatomic

Neurologic (eg, neuroma)

Infectious

Pelvic pain - differential diagnosis scenarios

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Attempt to identify the pathologies described for patients W & X

Condition W

- Female of reproductive age
- Lower abdominal pain
- Cyclical pain pattern, increasing during menses
- Ovulation pain
- Dysparunia
- Dysuria
- Bowel pain
- Menorrhagia
- Changes in bowel habit
- Spotting between periods
- Tiredness
- Infertility

Answer: Endometriosis

Condition X

- Female of reproductive age
- Lower abdominal pain
- Pain radiate to the thighs and lower back.
- Pain with the onset of menstrual cycle

Other symptoms:

- nausea and vomiting,
- diarrhoea,
- headache,
- fainting and fatigue

Answer: Dysmenorrhoea

Attempt to identify the pathologies described for patients Y & Z

Condition Y

- Difficulty voiding urine.
- Urinary retention, hesitancy and frequency.
- Arthralgias and myalgias.
- Frequent UT infections.
- Dysuria.
- Feeling of rectal fullness.
- Back and rectal pain.
- Changes in libido.
- Possibly other systemic symptoms when advanced.

Answer: Prostatitis

Condition Z

- Changes in bowel frequency.
- Feeling or rectal fullness.
- Feeling of incomplete defecation (tenesmus).
- Bloody stools or rectal bleeding.
- Stools with mucus.
- Possibly other systemic symptoms.
- Possibly urinary symptoms when advanced.

Answer: Colorectal cancer

BOX chart EXERCISE

Attempt to fill in the missing information using the guidelines provided in the completed box(es).

Question sheet

DYSURIA AND/OR DISCHARGE

CLINICAL FEATURES	EXAM FINDINGS	DIAGNOSIS
• Dysuria • Urgency • Frequency • More common in women • Acute onset • Possibly haematuria • Nocturia		
• Dysuria • Vaginal pruritus • Possibly evidence of candida • Common in diabetics	• Vaginal discharge • +ve cultures	
• Frequency dysuria • Nocturia anuria • Hesitency • Incomplete emptying • Low back or rectal pain • Fatigue • In men only		
	• Possibly +ve urinalysis • Possibly +ve cultures	• Urethritis
• Dysuria • Hesistency • Retention • Most commonly seen in children	• Little physical evidence • In severe cases possibly evidence of dysplasia	
Construct your own chart for these conditions		• Chemical vaginitis • Prostate cancer • STD • Urolythiasis • Divertoculitis • Reactive arthritis • Endometriosis

BOX chart EXERCISE

Attempt to fill in the missing information using the guidelines provided in the completed box(es).

Answer sheet

DYSURIA AND/OR DISCHARGE

CLINICAL FEATURES	EXAM FINDINGS	DIAGNOSIS
• Dysuria • Urgency • Frequency • More common in women • Acute onset • Possibly haematuria • Nocturia	• Tenderness over pubic region • Fever, usually low grade esp. in elderly • +ve urinalysis	• Cystitis
• Dysuria • Vaginal pruritus • Possibly evidence of candida • Common in diabetics	• Vaginal discharge • +ve cultures	• Vaginitis
• Frequency dysuria • Nocturia anuria • Hesitency • Incomplete emptying • Low back or rectal pain • Fatigue • In men only	• Acute: fever, arthralgias and myalgias • Perineal pains • Mucoid discharge • Urinalysis may be normal • Palpable enlarged prostate	• Prostatitis
• Dysuria of varying severity • Urgency • Frequency • Worse at beginning or ending of urination • Urethral discharge	• Possibly +ve urinalysis • Possibly +ve cultures	• Urethritis
• Dysuria • Hesistency • Retention • Most commonly seen in children	• Little physical evidence • In severe cases possibly evidence of dysplasia	• Meatal stenosis
Construct your own chart for these conditions		• Chemical vaginitis • Prostate cancer • STD • Urolythiasis • Divertoculitis • Reactive arthritis • Endometriosis

BOX chart
EXERCISE

Fill the empty boxes

Question sheet

	CLINICAL FEATURES	EXAM FINDINGS	DIAGNOSIS

PAIN patterns
EXERCISE

Describe the nature of pain and general clinical features associated with the follow conditions.

Identify the distribution of pain and referral pattern produced.

Question sheet

OVIDUCT/FALLOPIAN TUBE PAIN

CHARACTERISTICS OF PAIN:

A .....

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B .....

.....

C .....

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D .....

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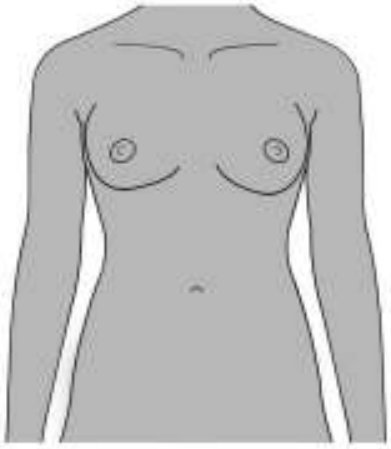
REFERRAL PATTERN:

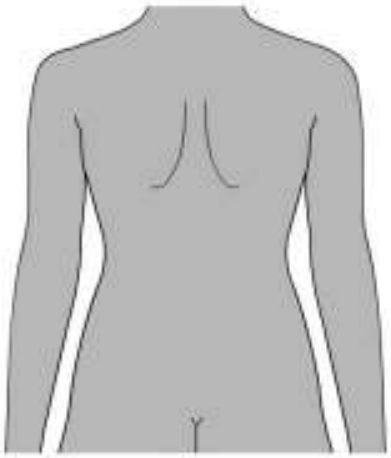
A .....

B .....

C .....

DRAW ON THE REFERRAL PATTERN:





PAIN patterns

EXERCISE

Describe the nature of pain and general clinical features associated with the follow conditions.

Identify the distribution of pain and referral pattern produced.

Answer sheet

OVIDUCT/FALLOPIAN TUBE PAIN

CHARACTERISTICS OF PAIN:

A Ache in the lower abdominal quadrant and iliac fossa

B Colic pain

C Fever nausea and vomiting

D Dyspareunia, pain on ovulation, vaginal discharge

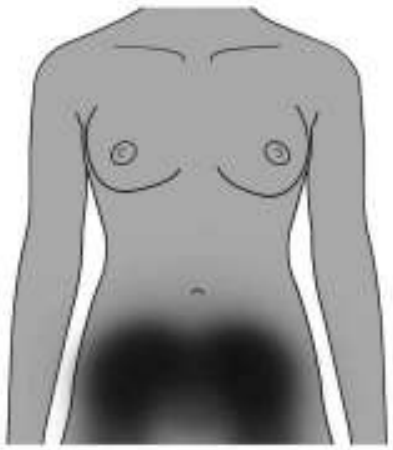
REFERRAL PATTERN:

A Low back pain

B Pelvic / iliac ache

C In ectopic pregancy may refer to the vagina, rectum and leg

DRAW ON THE REFERRAL PATTERN:



PAIN patterns

EXERCISE

Describe the nature of pain and general clinical features associated with the follow conditions.

Identify the distribution of pain and referral pattern produced.

Question sheet

RENAL PAIN

CHARACTERISTICS OF PAIN:

A .....

.....

B .....

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C .....

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D .....

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E .....

.....

REFERRAL PATTERN:

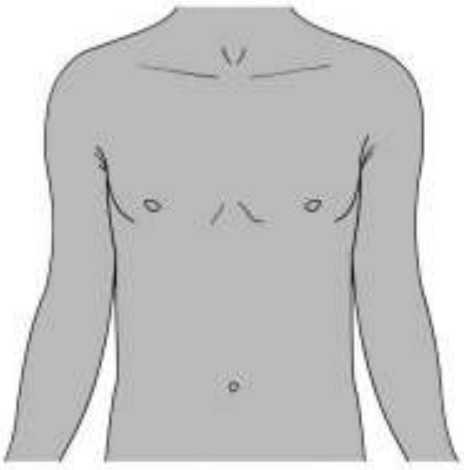
A .....

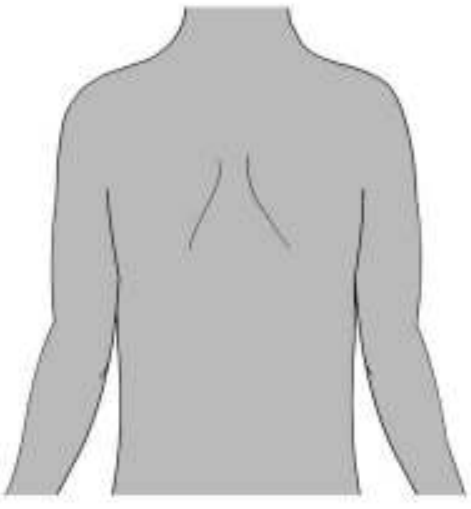
B .....

C .....

D .....

DRAW ON THE REFERRAL PATTERN:





PAIN patterns

EXERCISE

Describe the nature of pain and general clinical features associated with the follow conditions.

Identify the distribution of pain and referral pattern produced.

Answer sheet

RENAL PAIN

CHARACTERISTICS OF PAIN:

A Colic like pain

B Upper lumbar / loin pain

C Can be persistent dull boring ache

D Dysuria and frequency

E Fever, chills and malaise

REFERRAL PATTERN:

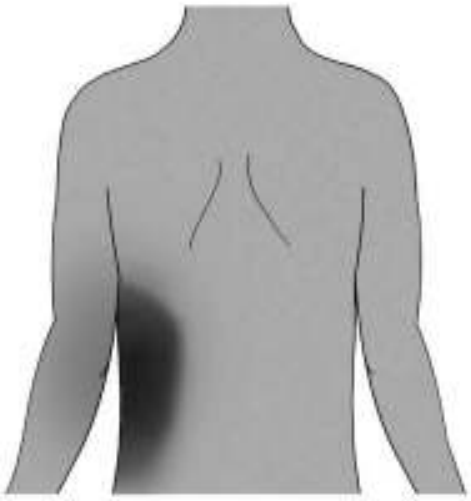
A Low back, flank / loin and iliac fossa

B Tenderness over the kidney

C Inner thigh

D Genital region

DRAW ON THE REFERRAL PATTERN:



Case history – pelvic pain

Mr Roland, a 45 year old businessman, presents to his GP with urinary frequency and mild dysuria. He said the symptoms started 3 days ago for no apparent reason. His GP asked him whether it is possible that he may have contracted a sexually transmitted infection. Mr Roland thought that was very unlikely as although he was single he had not had any sexual relationships for the last six months. Onsite urinalysis was clear and a further sample was despatched for a lab analysis, which turned out to be negative. His GP advised him to return in a few days if the symptoms persisted or became suddenly worse.

Two days later whilst Mr Roland was on a business trip to Eastern European countries, he developed acute dysuria especially towards the end phase of urination, with a "slimy" discharge from his penis. He also developed fever, aches and pains and headache. He was seen by the company's doctor when he arrived in Prague but due to language problems a full history was not taken. Mr Roland also tried to explain to the doctor that he also experienced a deep ache in his groin and around his anal passage. As he was returning back to the UK the following day he was given a week's worth of antibiotics and asked to see his regular doctor.

His GP immediately referred the patient to a urologist and after several diagnostic procedures he was given a 6 week's course of trimethoprim antibiotics.

Questions

Q1. In view of the overall presentation briefly discuss all the important and common causes of dysuria and frequency.

Q2. In the light of the case history, discuss with reasons your differential diagnosis. For each of your differentials provide reasons both FOR and AGAINST.

Q3. For which type of conditions is trimethoprim usually prescribed?

Q4. What is the most probable diagnosis/ses and why?

Q5. If Mr Roland does not improve satisfactorily, what further investigations should be considered and why?

References, Bibliography and Recommended reading

Jamison J R (2007), Differential Diagnosis for primary Practice, 2nd edn., Churchill Livingstone. (ISBN-13: 978-0443102875)

Goodman C G, Snyder T K (2007), Differential Diagnosis for Physical Therapists: Screening for Referral, 4th edn, Saunders. (ISBN: 978-0721606194)

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Beck R, et al (2003), Tutorials in Differential Diagnosis, 4th edn., Churchill Livingstone. ISBN: 978-04430615-7-8

DVD-VIDEO recordings
Syrimis A (2007), Clinical Examinations DVDs, Bloomsbury Educational Ltd,
ISBNs:

- Respiratory system examination: 978-0-9551291-0-0
- General system examination: 978-0-9551291-1-7
- Cardiovascular system examination: 978-0-9551291-2-4
- Abdominal system examination: 978-0-9551291-3-1
- Peripheral nervous system examination: 978-0-9551291-4-8
- Cranial nerves examination: 978-0-9551291-5-5
- Musculoskeletal examination: 978-0-9551291-6-2
- Case History Taking: 978-0-9551291-7-9
- Clinical Examinations: Complete DVD series: 978-0-9551291-9-3

http://www.clinicalexams.co.uk/student-resources-section.htm
(For additional lecture notes, Q&As and images, Username & Password provided in class)

Boon N A, Colledge N R, Walker, B & Hunter J A A (2006), Davidson's Principles and Practice of Medicine. 20th Edition, Churchill Livingston ISBN: 978-0-4430703-5-8

Bickley, L. S.; Szilagyi, P. G.; 2003; ***Bates' Guide to Physical Examination and History Taking****;* (8th Ed); Lippincott; New York.

Epstein, O.; et al.; 1997; *Clinical Examination;* (2nd Ed.); Mosby; London. (similar to Bates but presents the information in a different but equally good way. Some very good photographs and is user friendly).

Marsh J; 1999 *History and Examination;* Mosby London. (a great 'crash course' book with sample questions. Very user friendly. I recommend it).

Forbes, C. D.; Jackson, W. F.; 1998; *Color Atlas and Test of Clinical Medicine;* (2nd Ed.); Mosby; London. Excellent reference book for photographs of various pathologies.

Haslett, C.; et al.; 1999; *Davidson's Principles and Practice of Medicine;* (18th Ed.); Churchill Livingstone; Edinburgh. (Use to put your clinical findings into context of general medicine).

Bradley J, Rubenstein D, Wayne D, The Clinical Manual, Blackwell Scientific publications. ISBN 0-632-03312-6. This is another very good pocket size book but you may have to order it. I find this book very useful because it also had a summary of the main pathologies and their signs and symptoms.