

"GPnotebook – From Input to Output...Origins, GPnotebook and GPnotebook Education"
Jim McMorran Editor-in-Chief GPnotebook

Introducing



a clinical encyclopaedia on the World Wide Web

28000 pages

66000 links 100000 users



General Practice Notebook - a UK medical reference

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welcome

GPnotebook online an encyclopaedia of medicine that provides a trusted immediate reference resource for clinicians in the UK and internationally. Updated continually, our database consists of over 26,000 pages of information. Fast and reliable, many doctors use GPnotebook during the consultation. To browse a clinical chapter just click on a heading to the right. If you medicine know what you are looking for then use the power of our search engine by typing your request into the medical search box.

If you have any comments or criticisms please do not hesitate to contact us.



about GPnotebook orthopaedics cardiovascular (CV) medicine chest medicine dermatology ear, nose and throat endocrinology evidence-based gastroenterology general information general practice geriatric medicine auidelines section gynaecology infectious disease

haematology musculoskeletal medicine neurology obstetrics oncology ophthalmology paediatrics palliative care rheumatology psychiatry public health renal medicine surgery trauma medicine GPnotebook educational module (GEMs)









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Welcome

GPnotebook provides a trusted, immediate reference resource for clinicians in the UK and internationally. Updated continually to incorporate new advances and guidelines as they appear, our database consists of over 27,000 pages of information. Fast and reliable,

Search categories

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Gynaecology
Haematology
Infectious disease
Musculoskeletal medicine



Prescribing information, adverse event reporting, refs Intended for UK healthcare professionals only Boehringer Ingelheim Ltd UK/SPRES-181357 Aug 18 Journal List > Br J Gen Pract > v.64(619); February 2014 > PMC3905431



Br J Gen Pract. 2014 Feb; 64(619): 92-93.

doi: [10.3399/bjgp14X677202]

PMCID: PMC3905431 PMID: 24567602

20 years of GPnotebook: from a medical student project to a national resource

James McMorran, Coventry GP

GPwSI in Diabetes and Cardiovascular Risk, Coventry and Rugby CCG; Honorary Clinical Associate Professor, Warwick University, Coventry. Editor and co-creator of GPnotebook.

Damian Crowther

University of Cambridge, Department of Genetics, Cambridge.

Stewart McMorran

Consultant in Accident and Emergency Medicine and Clinical Director Buckingham Hospitals NHS Trust, Amersham.



Br J Gen Pra

"I was an overnight success all right, but 30 years is a long, long night."

— Ray Kroc

1989 Medical Student Merton College (Tolkein's College) Oxford University

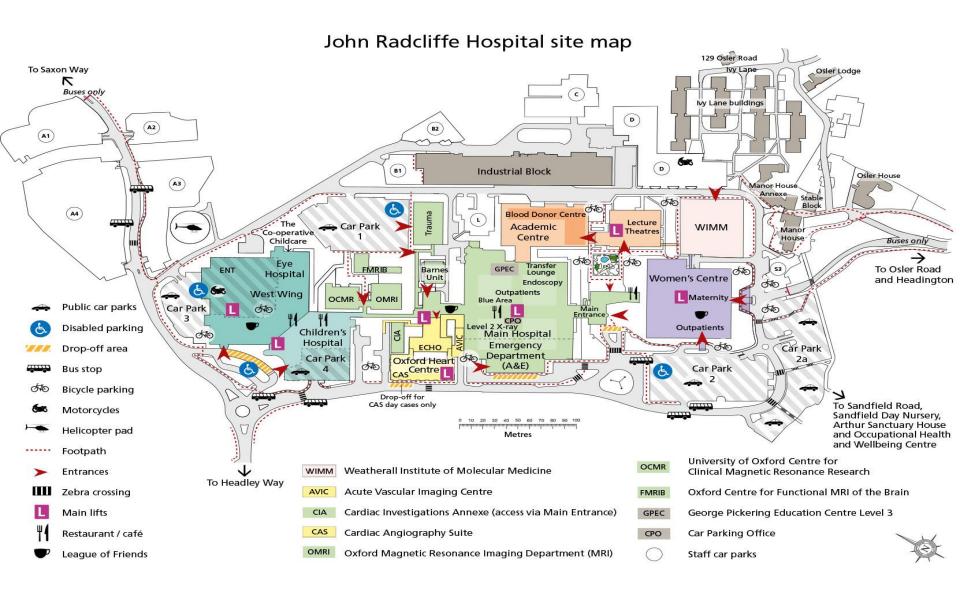
- Pre-Clinical Advisor's
 Scholarship ranked 1st
 out of > 100 graduate
 applicants (Maths)
- Paulo Coehlo's The Alchemist
- "The world as we have created it is a process of our thinking. It cannot be changed without changing our thinking."
 Albert Einstein



"Any fool can know. The point is to understand."

Albert Einstein

1990 – JRH Canteen



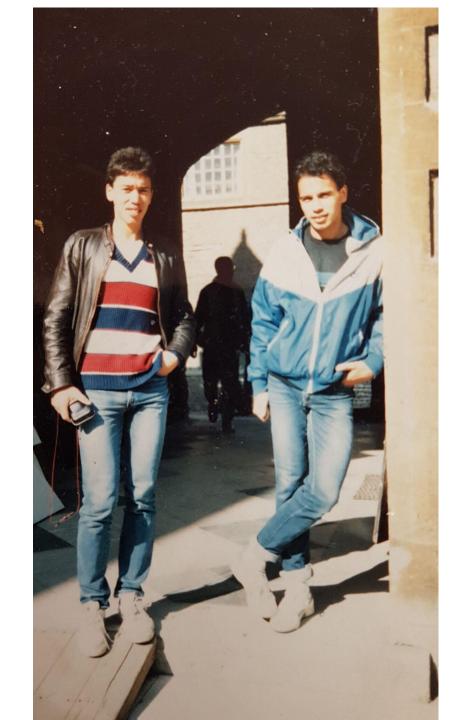
"Medical Knowledge is concomitant and not sequential...medical textbooks are sequential and two dimensional...medical knowledge needs to represented concomitantly and so in a three dimensional decision space..."

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systemic lupus erythematosus (SLE)
                                                                    polyarteritis nodosa
                                                                    syphilis
                                                                    Takayasu's disease
                                                                    rheumatoid arthritis
                                                                    ankylosing spondylitis (AS)
                                                                    infective endocarditis
                                                                    atrial myxoma
                          aetiology of ischaemic heart disease
                                                                    prosthetic valves
                                                                    coronary angiography
                                                                    paradoxical emboli
                                                                    amyloidosis
                                                                    Hurler syndrome
                                                                    pseudoxanthoma elasticum
                                                                    aortic dissection
                                                                    arteriovenous fistula
                                                                    homocystinuria
                                                                    Tako-Tsubo syndrome
                                           smoking
                                           diabetes mellitus
                                           hypertension
                                           cholesterol
                          risk factors
                                           syndrome X
                                           race
                                           family history...
                                           stress and coronary heart disease (CHD)
                                           women and coronary heart disease (CHD)
                                               tachycardia
                          clinical features
                                               assessment and diagnosis.
                                               women and coronary heart disease (CHD)
                                                            ECG changes in myocardial infarction
                                                            echocardiography in myocardial infarction
                                                            cholesterol measurement following myocardial infarction
                          diagnosis and investigations
                                                            troponin I and troponin T (cardiac enzymes)
                                                            cardiac enzymes
                                                            assessment in hospital in patients with acute coronary syndrome
                          assessment in hospital.
                                                         making a diagnosis in ACS
                                                    angina pectoris
                                                    acute pericarditis
                                                    myocarditis
                                                    mitral valve prolapse
                                                    aortic dissection
Myocardial Infarction
                                                    massive pulmonary embolus
                          differential diagnosis
                                                     <u>oesophaqitis</u>
                                                    peptic ulcer
                                                    pancreatitis
                                                    cholecystitis
                                                    Tietze's syndrome
                                                    shingles (zoster)
                                             diagnosis and investigations
                                             management of unstable angina/non STEMI
                                             pre-hospital management
                                             acute in-hospital management STEMI
                          management
                                             further in-hospital management
                                             treatments to avoid
                                             management post-myocardial infarction in primary care
                                             trials of therapeutic intervention in MI
                                                        sudden cardiac death
                                                        arrhythmias after myocardial infarction
                                                        left ventricular failure
                                                        cardiogenic shock
                                              early
                                                        pericarditis following myocardial infarction
                                                        mitral incompetence
                                                        ventricular septal defect
                           complications
                                                        cardiac rupture
                                                            deep vein thrombosis
                                              medium
                                                           pulmonary embolism
                                                           cardiogenic emboli
                                                       left ventricular aneurysm
                                                       Dressler's syndrome
                                              late
                                                       shoulder hand syndrome
                                                       cardioneurosis
                                          LATE trial
                          prevention
                                          management post-myocardial infarction in primary care
                                          factors associated with a poor prognosi
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other asthma syndromes types of asthma common environmental allergens in atopic asthma pathogenesis of atopic asthma acute inflammatory response in asthma delayed inflammatory response in asthma epidemiological trends epidemiology extrinsic asthma (features of) aetiology intrinsic asthma (features of) agents triggering airway hyperactivity general clinical features clinical features of asthma features of a severe attack clinical features of childhood asthma aspirated foreign body lung cancer chronic obstructive airways disease pulmonary embolism differential diagnosis carcinoid syndrome cardiac asthma pulmonary oedema eosinophilic pneumonia if intermediate probability of asthma diagnosis of asthma in adults referral criteria from primary care - specialist opionion... peak expiratory flow rate PEFR monitoring in asthma investigations radiological appearance of asthma other investigations asthma FEV1 non pharmacological management drugs used in asthma management of acute severe asthma in children <2yrs old management of acute severe asthma in children > 2 years management of acute severe asthma in adults management of acute severe asthma in general practice management of acute episodes in young children in the community management of chronic asthma in children under 5 years age management of asthma management of chronic asthma in children aged 5-12 years old management of chronic asthma in adults asthma and lactation treatment of exercise induced asthma asthma in pregnancy bronchial thermoplasty for severe asthma monitoring adult asthma in primary care referral criteria from primary care - specialist opionion... referral criteria from primary care - acute asthma mortality prognosis of childhood asthma prognosis distinguishing asthma and COPD COPD cough cough variant asthma referral criteria from primary care - specialist opionion... referral criteria from primary care - acute asthma

Blues Brothers

Stewart – Cambridge "Blue" Jim – Oxford "Blue"



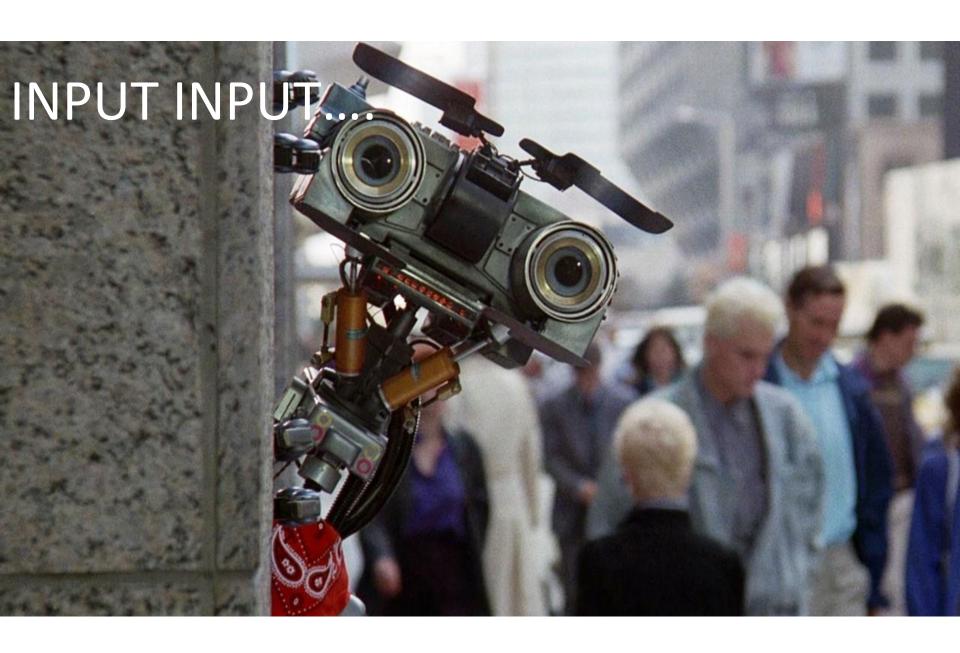
Br J Gen Pract. 2014 Feb; 64(619): 92–93.

James discussed with Stewart McMorran (then a medical student at Cambridge University and a talented computer programmer) this way of representing medical knowledge and between them they created the authoring software to produce linking 'packets' of information in a database. This first authoring software and database was the origin of what today is GPnotebook... It was, in effect, a 'Wiki' over 16 years before the first 'Wiki'!

"Logic will get you from A to Z; imagination will get you everywhere ..."

"I have no special talent. I am only passionately curious..."

Albert Einstein



Teamwork...The Paper Chase...



"Never memorize something that you can look up."

Albert Einstein

The Team..."This has never been done before..."



John Pleat



Damian Crowther



Stewart McMorran





Ian Wacogne

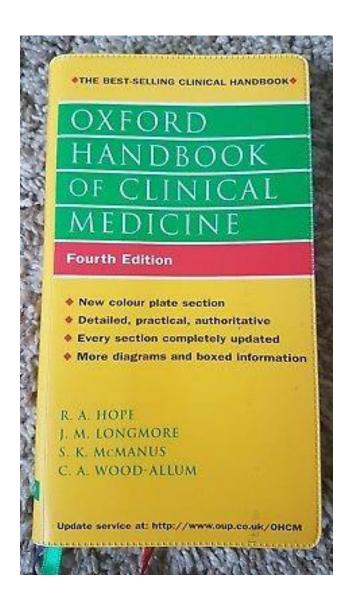


Steven Young-Min



Jim McMorran

1991 – team or individual...



The Team evolves...



John Pleat



Damian Crowther



Stewart McMorran





Ian Wacogne



Steven Young-Min



Jim McMorran



Clive Prince

John Perry Prize 1992 Personalised Medical Reference

A Computerisd Aide Memoire for General Practitioners

Stewart McMorran, Cambridge University Medical School Dr. Clive Prince, Bewdley Medical Centre

Abstract

General Practice is changing. Administration, costings and quality of care are becoming more tightly regulated. Many practices are looking to the computer for assistance.

The greater uptake of computers provides a convenient platform for their use in other capacities. We have developed a flexible, dynamic, up-dateable and structured computerised medical reference system to make information available to the physician within the consultation. Accessed from within the patient record, Personalised Medical Reference (PMR) provides up-to-date information on diseases and conditions encountered both routinely and infrequently in General Practice. PMR can serve both as an aide-memoire and as a channel for conveying current medical thinking. It can also be extended to incorporate local information with additions transferred automatically to successive editions as updates are released.

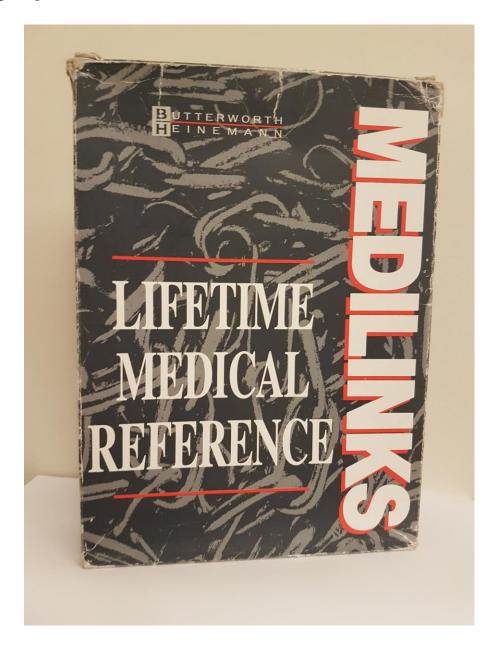
the doctor to treat patients which at one time, might have been referred to specialists.

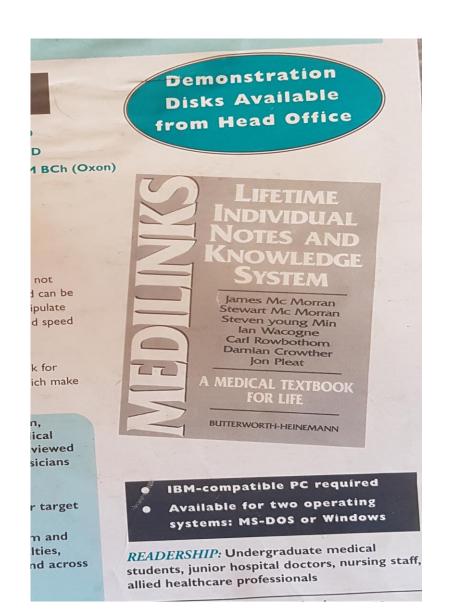
Introduction

The face of General Practice is changing. Increasingly, general practitioners will be administered as a capitation system. The computer will feature more prominently to record transactions and to perform audit whilst also, providing the opportunity for use in other capacities.

General practitioners work in a time constrained environment. Within 6 minutes or less, the physician is expected to identify the cause of the patient's complaint, decide upon a suitable treatment, explain it to the patient, and make a record of the interaction.

Since their widespread introduction in the mid-1980's, computers have provided an opportunity to assist the doctor in this role. The patient's record and assistance with drug prescribing, protocol management etc. are a







"You never fail until you stop trying."

Albert Einstein

1996-2000

- No second edition of Medilinks
- Various "false starts"...ePulse, National Electronic Library for Health...
- Continued to keep up to date Damian became the technical lead for the database and learnt how to program in ColdFusion, mySQL, visualBasic and Java Script
- All progressing with our respective medical careers

2001 – "stick or twist"

- Google and www had become predominant
- Scott Moses "FPnotebook"
- GPnotebook logo based on faxes (Brandon Road and Cambridge) between Damian and I in September 2001
- GPnotebook "led" by Damian and myself...

• First day on www 32 "hits" then ...

November 2018

 17,291 GMC accredited GPs accessed GPnotebook via either Univadis or their own purchased login – approximately 50% of UK GPs signed into GPnotebook in November 2018

Articles

Personalised Medical Reference to General Practice Notebook (GPnotebook) – an evolutionary tale

James McMorran BM BCh PhD DCH DRCOG MRCGP

General Practitioner, Coventry, and Visiting Senior Clinical Lecturer, Centre for Primary Health Care Studies, Warwick University, Warwickshire, UK

Damian Crowther MA BM BCh PhD MRCP

Honorary Registrar in Neurology, Addenbrooke's NHS Trust, and Wellcome Advanced Training Fellow, Cambridge Institute for Medical Research, Cambridge, UK

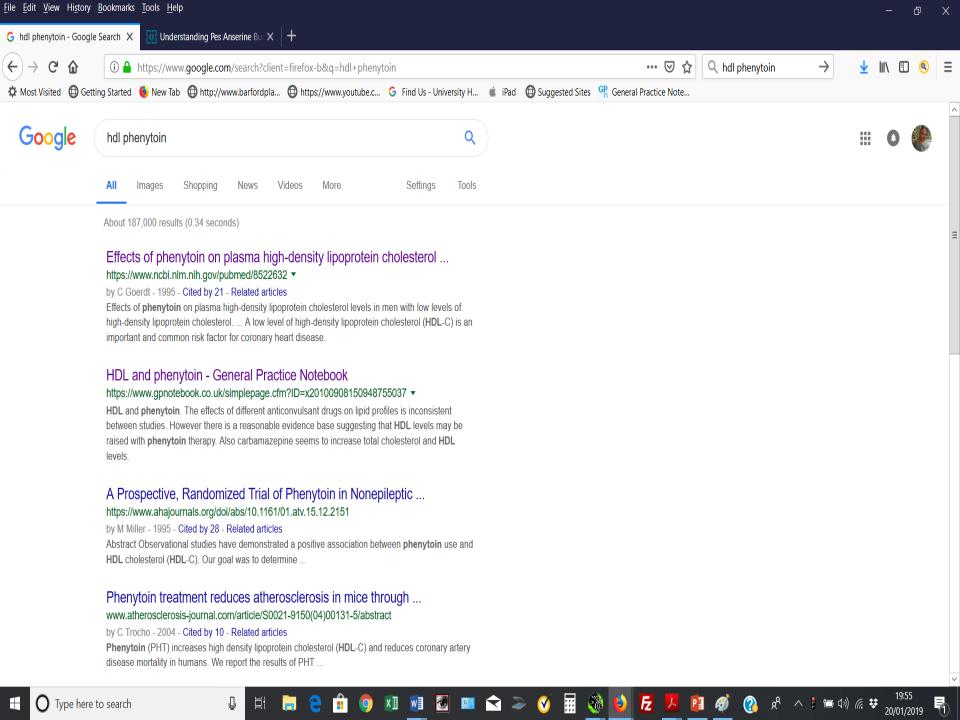
This article describes GPnotebook, the winner of the 2002 John Perry Prize, awarded annually by the PHCSG in memory of Dr John Perry, for outstanding innovation in primary care informatics.

ABSTRACT

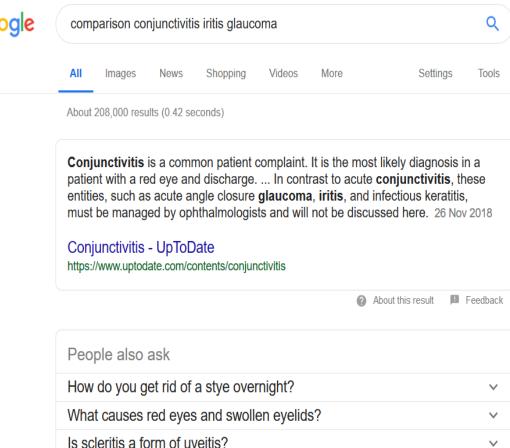
In 1992, a group of medical students and a UK general practitioner were awarded the John Perry Prize for an MS-DOS-based flexible, dynamic, updateable and structured computerised medical reference system. At the time of the award the reference system contained over 4000 index terms and was designed to provide an easy-to-retrieve synopsis of the whole of clinical medicine.

What has happened to this resource now? This brief paper outlines how the developers of the reference resource have improved on the design and content of the medical database. Now the reference resource is an Internet-based resource called General Practice Notebook (www.gpnotebook.co.uk) and is currently attracting 5000 to 9000 page views per day and containing over 30 000 index terms in a complex web structure of over 60 000 links. This paper describes the evolutionary process that has occurred over the last decade.

Keywords: database, Internet-based resource, reference system





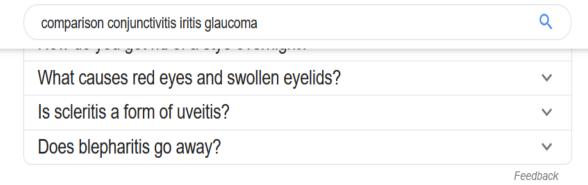


Feedback

[PDF] Red Eye Presentation

Does blepharitis go away?





[PDF] Red Eye Presentation

https://med.virginia.edu/ophthalmology/wp-content/uploads/sites/.../RedEyePPT.pdf ▼
Angle-closure glaucoma. 3. Ocular foreign body. 4. Corneal abrasion. 5. Uveitis. 6. Conjunctivitis. 7.
Ocular surface disease. 8. Subconjunctival hemorrhage.

acute glaucoma(comparison with iritis and conjunctivitis) - General ...

https://www.gpnotebook.co.uk/simplepage.cfm?ID=-1435828217 ▼

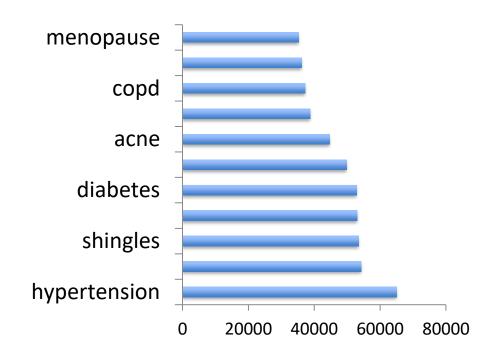
degree of pain, photophobia, discharge, redness, cornea, pupil, intraocular pressure. acute **conjunctivitis**, roughness on lid movements, slight photophobia, clear ...

Causes, complications and treatment of a red eye - BPJ Issue 54

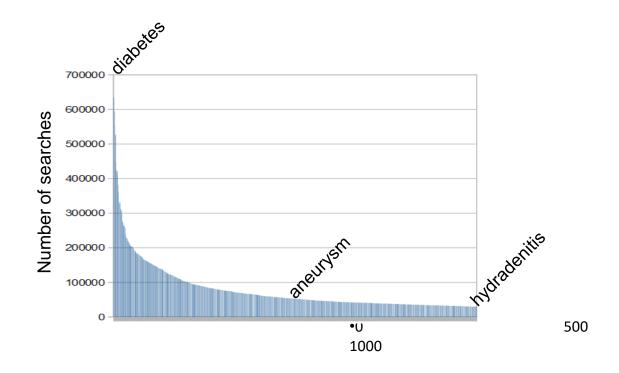
https://bpac.org.nz/bpj/2013/august/redeye.aspx ▼

Causes, complications and treatment of a red eye. Most cases of "red eye" seen in general practice are likely to be **conjunctivitis** or a superficial corneal injury, however, red eye can also indicate a serious eye condition such as acute angle **glaucoma**, **iritis**, keratitis or scleritis.

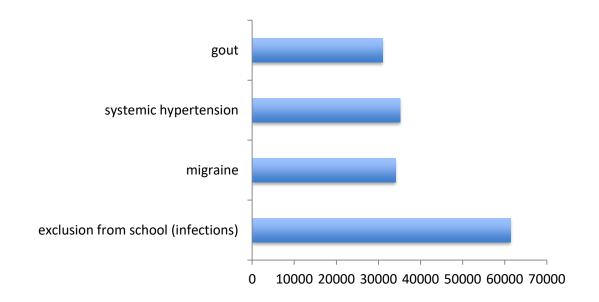
The most common search terms



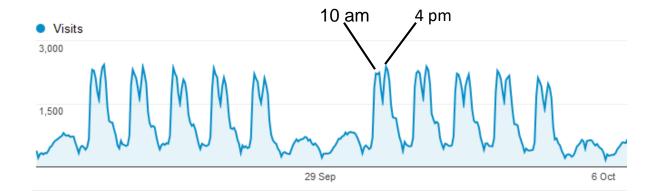
Broad distribution of search term frequencies



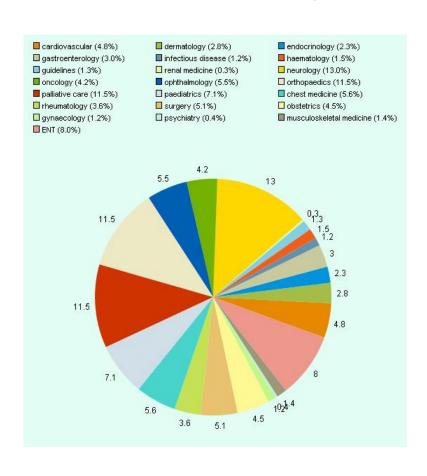
The most frequently visited pages

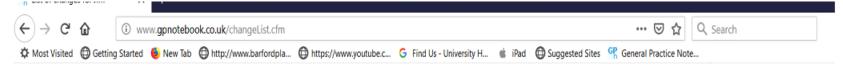


Visits peak during surgery times on weekdays



Personal Knowledge Graphs

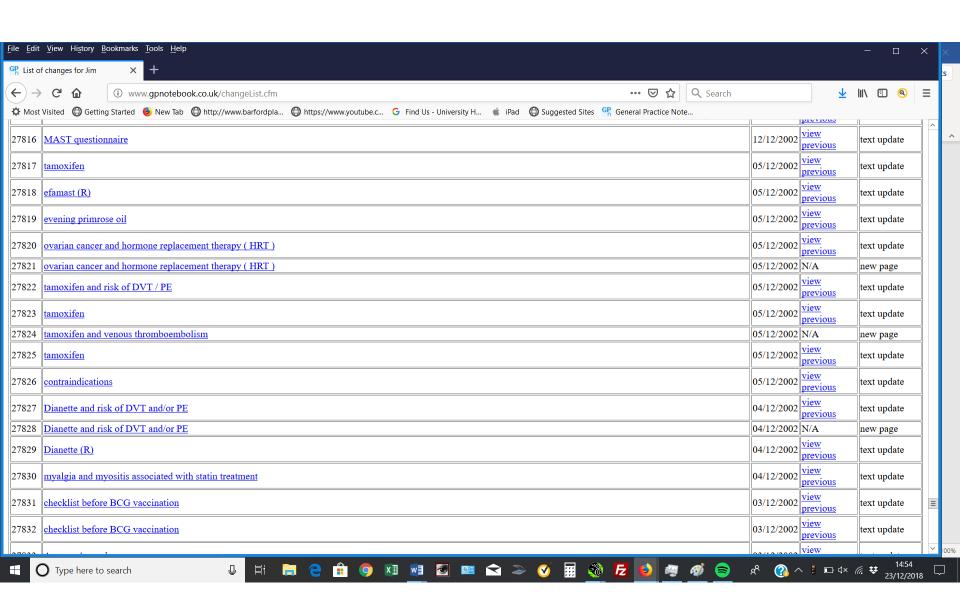


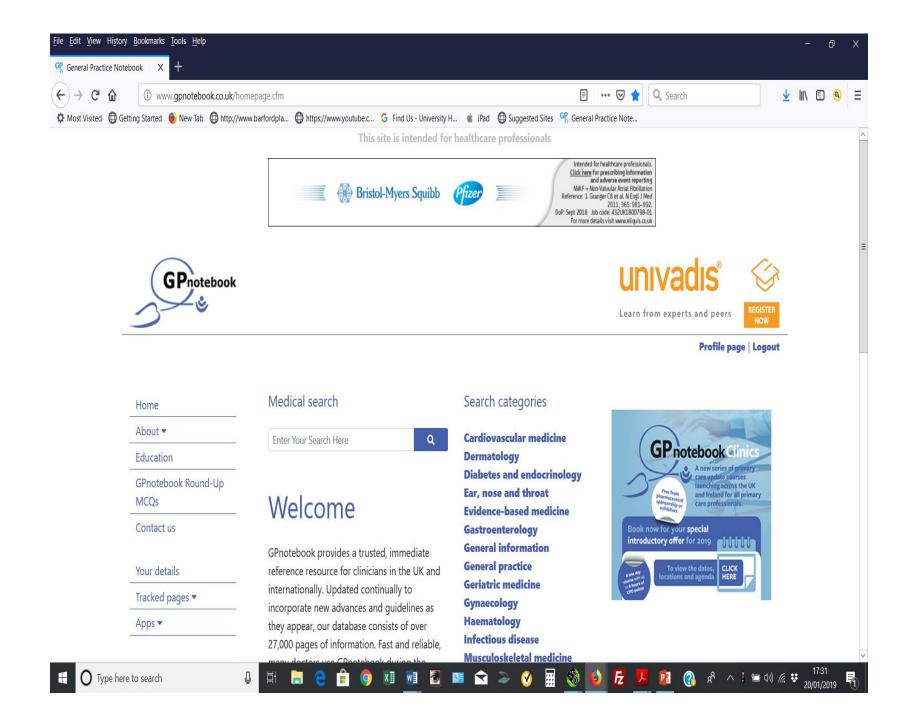


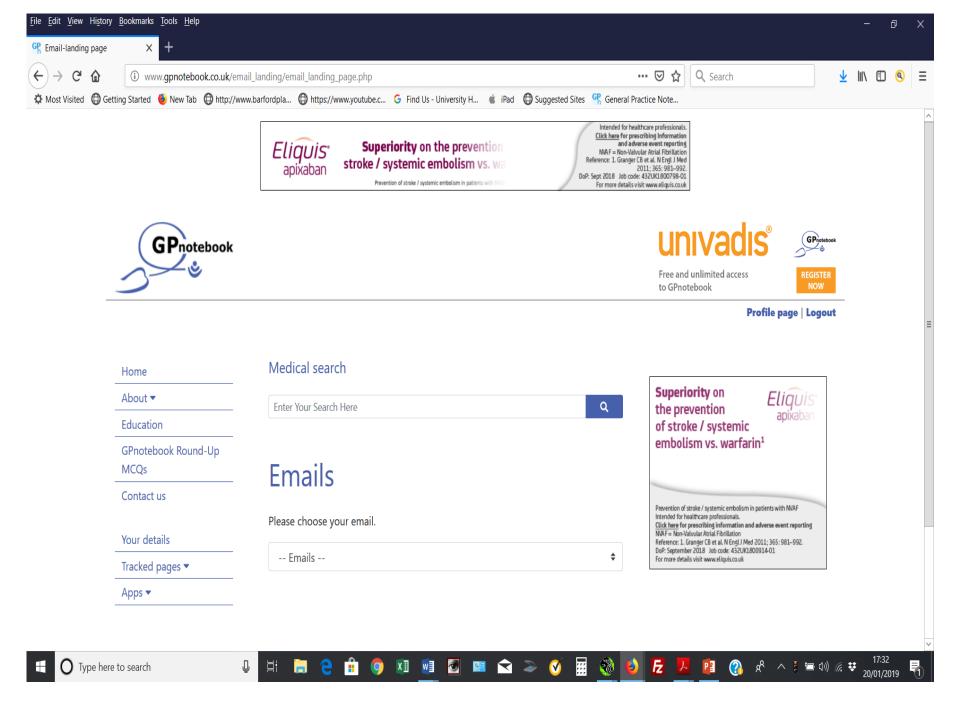
The pages edited by Jim are:

If you want a list of pages deleted by this author then click here

Record	Title of page	Date	View Previou
1	surgical treatment related to voiding symptoms associated with benign prostatic enlargement	23/12/2018	view previou
2	prostate artery embolisation (PAE) for lower urinary tract symptoms caused by benign prostatic hyperplasia (BPH)	23/12/2018	N/A
3	prostate artery embolisation (PAE) for lower urinary tract symptoms caused by benign prostatic hyperplasia (BPH)	23/12/2018	view previou
4	prostate artery embolisation (PAE) for lower urinary tract symptoms caused by benign prostatic hyperplasia (BPH)	23/12/2018	N/A
5	NICE guidance - insertion of prostatic urethral lift implants to treat lower urinary tract symptoms secondary to benign prostatic hyperplasia	23/12/2018	view previou
6	BPH	23/12/2018	view previou
7	urolift procedure (prostatic urethral lift)	23/12/2018	view previou
8	urolift procedure (prostatic urethral lift)	23/12/2018	N/A
9	urolift procedure (prostatic urethral lift)	23/12/2018	view previou
10	urolift procedure (prostatic urethral lift)	23/12/2018	view previou
11	urolift procedure (prostatic urethral lift)	23/12/2018	N/A
12	transurethral resection of prostate	23/12/2018	N/A
13	treatment of benign prostatic hyperplasia	23/12/2018	view previou
14	Transurethral resection of prostate and laser prostatectomy	23/12/2018	N/A
15	transurethral resection of prostate	23/12/2018	view previou
16	UTI in a woman	21/12/2018	N/A













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Round Up Email January 2019

Dear GPnotebook Users, Evidence and Guidance changes – and GPs need to be aware of these as some can lead to significant changes in how we undertake our role. The GPnotebook Round Up series seeks to reflect and highlight these to make the job of GPs easier. In this month's "Round Up" email highlights include:

Update in management of vitamin D insufficiency based on the National Osteoporosis Society guidance from December 2018

1) Which statement regarding management of vitamin D deficiency is false?

\$

1) Which statement regarding management of vitamin D deficiency is false?
O serum vitamin D (25OHD) of 30-50 nmol/L may be inadequate in some people
O NOS recommend checking adjusted serum calcium 1 week after completing the loading regimen or after starting vitamin D supplementation in case primary hyperparathyroidism has been unmasked
\bigcirc oral vitamin D3 (colecalciferol) is the treatment of choice in vitamin D deficiency
NICE COPD guidance from December 2018 states for the first-time states when antibiotic prophylaxis should be used and what investigations need to be undertaken before antibiotic prophylaxis can be started
2) Which statement regarding antibiotic prophylaxis in COPD is false?
O Baseline liver function tests are required before long term azithromycin therapy
O Patients should be advised of possible tinnitus secondary to azithromycin therapy
\bigcirc Baseline echocardiogram is advised before commencing azithromycin therapy

D-mannose for the prevention of recurrent UTIs. What is the evidence for this? Is this NICE approved?
3) Which statement regarding use of D-mannose for prevention of UTIs is true?
O Several fruits and vegetables contain D-mannose, including apples
 NICE advise against non pregnant women using D-mannose to reduce risk of recurrent UTIs
\bigcirc D-mannose can be transformed into glycogen, therefore can be stored in the body
Catheter Associated UTI – what is the management of this condition. GPnotebook combines SIGN and NICE guidance to give a "key facts" guide to management.
4) Which statement regarding catheter associated UTI is true?
O first choice oral antibiotic if upper UTI symptoms is nitrofurantoin
\bigcirc second choice oral antibiotic if no upper UTI symptoms is trimethoprim
\bigcirc do not treat catheterised patients with asymptomatic bacteriuria with an antibiotic

A 40-year-old presenting with hyperglycaemia and osmotic symptoms – could this be type 1 or type 2 diabetes?		
5) Which statement is not suggestive of a diagnosis of type 1 diabetes?		
○ Raised C-peptide levels		
O ketonaemia >=3mmol/l on capillary testing or ketonuria		
O normal or low body weight or rapid weight loss		
Clinical Rarity – a clinic letter stated that chronic pancreatitis was due to – what is this condition?) IgG4 disease	
6) Which statement regarding IgG4 disease is true?		
○ IgG4 disease is associated with alcohol excess		
O IgG4 disease may be associated with sclerosing cholangitis		
O IgG4 disease causes only a focal autoimmune pancreatitis		



Home

About ▼

Education

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Contact us

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MCQs results

Question "1) Which statement regarding management of vitamin D deficiency is false?" has been answered incorrectly

5 / 6 correct

Take Quiz again

May use questions as a prompt for other learning...

1) Which statement regarding management of vitamin D deficiency is false?

O serum vitamin D (25OHD) of 30-50 nmol/L may be inadequate in some people

NOS recommend checking adjusted serum calcium 1 week after completing the loading regimen or after starting vitamin D supplementation in case primary hyperparathyroidism has been unmasked

O oral vitamin D3 (colecalciferol) is the treatment of choice in vitamin D deficiency

NICE COPD guidance from December 2018 states for the first-time states when antibiotic prophylaxis should be used and what investigations need to be undertaken before antibiotic prophylaxis can be started

- 2) Which statement regarding antibiotic prophylaxis in COPD is false?
- O Baseline liver function tests are required before long term azithromycin therapy
- O Patients should be advised of possible tinnitus secondary to azithromycin therapy
- O Baseline echocardiogram is advised before commencing azithromycin therapy
- 1) When is vit D 30-50 nmol/l inadequate?
- 2) Is a pulsed prophylaxis antibiotic regime more effective than daily antibiotics?

When is vit D 30-50 nmol/l inadequate?

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Round Up Email January 2019

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Update in management of vitamin D insufficiency based on the National Osteoporosis Society guidance from December 2018

- 1) Which statement regarding management of vitamin D deficiency is false?
- O serum vitamin D (25OHD) of 30-50 nmol/L may be inadequate in some people
- O NOS recommend checking adjusted serum calcium 1 week after completing the

When is vit D 30-50 nmol/l inadequate?

- o 250HD > 50 nmol/L is sufficient for almost the whole population
- treatment thresholds (1):
 - Serum 250HD < 30 nmol/L: treatment recommended
 - Serum 250HD 30-50 nmol/L: treatment is advised in patients with the following:
 - fragility fracture, documented osteoporosis or high fracture risk
 - treatment with antiresorptive medication for bone disease
 - symptoms suggestive of vitamin D deficiency
 - increased risk of developing vitamin D deficiency in the future because of reduced exposure to sunlight, religious/cultural dress code, dark skin, etc.
 - raised PTH
 - medication with antiepileptic drugs or oral glucocorticoids
 - conditions associated with malabsorption
 - serum 250HD > 50 nmol/L: provide reassurance and give advice on maintaining adequate vitamin D levels through safe sunlight exposure and diet

Is a pulsed prophylaxis antibiotic regime more effective than daily antibiotics?

• implications for practice

- "...use of prophylactic macrolide antibiotics for a period of up to 12 months is likely to reduce the number of patients with one or more exacerbations, exacerbation frequency, increase the median time to first exacerbation and improve health-related quality of life. Benefits appear to be driven by continuous and intermittent macrolide regimens, with pulsed regimens being less effective." (1)
- antibiotic regimes (1):
 - example adult regimes used in clinical trials include:
 - Azithromycin 250 mg daily or
 - Azithromycin 250 mg 3 times a week

Home

About ▼

Education

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Reflective notes

Your PKG

Annotations

CPD diary

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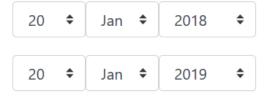
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Liraglutide Effect and Action in Diabetes: Evaluation of Cardiovascular Outcome Results (LEADER) trial

SUSTAIN - 6

DECLARE - TIMI 58 - dapagliflozin and cardiovascular outcomes in type 2 diabetes

CANVAS Program - Canagliflozin and Cardiovascular and Renal Events in Type 2 Diabetes

- clinical features
- treatment and prevention

slapped cheek disease

10/01/2019

Pages tracked:

cortical bone island

09/01/2019

Pages tracked:

trials with respect to lipid lowering

evolocumab and clinical outcomes in patients with cardiovascular disease

pharyngeal cancers

27/12/2018

Pages tracked:

REDUCE - IT

- age and prognosis for breast cancer
- prognosis

breast cancer

staging of breast carcinoma (stage I -IV)

- age and prognosis for breast cancer
- prognosis

staging of breast carcinoma (stage I -IV)

- prognosis

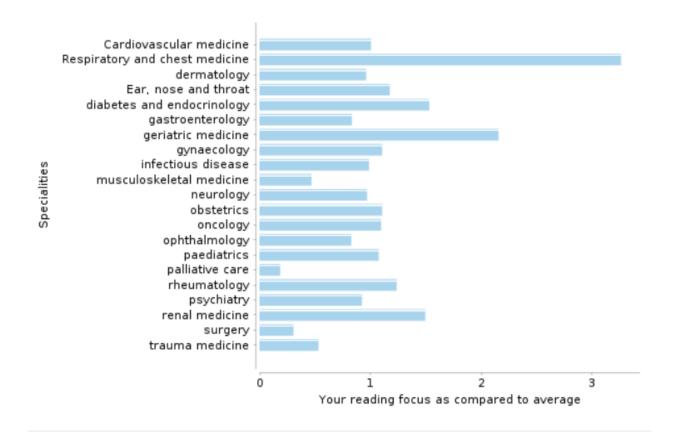
breast cancer

- one, five and ten year survival statistics
- prognosis according to stage of disease
- prognosis
- one, five and ten year survival statistics
- prognosis according to stage of disease
- prognosis

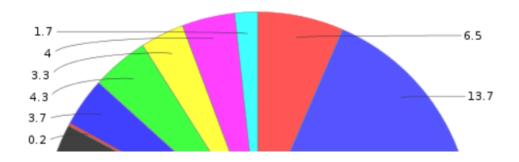
lung cancer



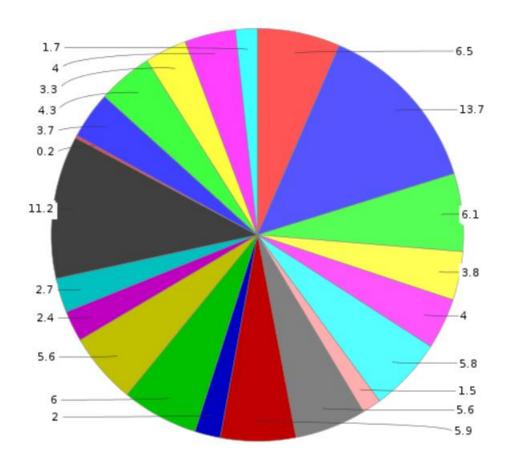




Your personal PKG breakdown



Your personal PKG breakdown







Home

About ▼

Education

GPnotebook Round-Up

MCQs

Contact us

Your details

Tracked pages 📤

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Reflective notes

Your PKG

Annotations

CPD diary

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CPD diary

for Jim Mcmorran 20 Jan 2019

Today this page is a:

- **DEN** (Doctor's Educational Need)
- PUN (Patient's Unmet Need)

Assign

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Annotations

CPD diary

Apps -





Doctor's educational needs (DENS)

1) proteinuria

(assigned as a DEN on: 26/04/2018)

2) cancer (larynx)

(assigned as a DEN on: 27/12/2018)

Annotation linked to this page:

1) Update of prognosis: Updated knowledge of prognosis of laryngeal cancer

3) rhabdomyolysis associated with statin treatment

(assigned as a DEN on: 13/07/2018)

4) Ehlers Danlos syndrome

(assigned as a DEN on: 08/06/2018, 13/06/2018)

5) prognosis of laryngeal cancer

(assigned as a DEN on: 27/12/2018)

6) DOAC - monitoring

GPnotebook Round-Up MCQs

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GEM - cancer educational module

Cancer

- the GP role extends from primary prevention through early diagnosis of cancer to terminal care, and so for family doctors cancer needs to be seen as a patient journey in which they are involved at various stages (1)
- cancer is principally a disease of ageing, and in an ageing population it is becoming more common: 65 percent of all new cancers occur in people over 65 years. During 2000, 270,000 new cases of cancer were registered in the UK (1):
 - o over half of these were form the breast, lung, colon and prostate
 - in 2002, cancer accounted for 26 percent of all mortality in the UK,
 155,180 deaths now greater than heart disease
 - of cancer deaths, lung cancer was responsible for 22 percent and is the biggest cause in both sexes
 - cigarette smoking is the single most important cause for lung cancer and may be linked to one-third of all cancer deaths
 - O for nationts under 65 cancer kills 37 nercent: for women under 65 this

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- for patients under 65, cancer kills 37 percent; for women under 65 this figure rises to 47 percent
- cancer is a clear concern for many patients who consult their doctor and it is, a concern driven by common life experience

With respect to the epidemiology of cancer:

- regarding aetiological risk factors for development lung cancer:
 - o how does passive smoking affect risk of lung cancer?
 - which type of asbestos exposure is principally associated with risk of mesothelioma?
 - o is nickel exposure associated with risk of lung cancer?
 - GPN reference
- regarding risk factors for development of breast cancer:
 - what is the lifetime risk of breast cancer associated BRCA1 gene?
 - GPN reference
 - what are the referral criteria from primary care regarding a family history of breast cancer?
 - GPN reference
 - o how does HRT usage affect the risk of breast cancer development?
 - GPN reference
- regarding risk factors for development of ovarian cancer:
 - o how does family history affect the risk of ovarian cancer?
 - CDM reference

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criteria for referral to secondary care (familial breast cancer)

- Offer referral to secondary care for breast cancer risk estimation if the person meets any of the following criteria:
 - One first degree female relative with breast cancer at <40 years of age or
 - One first degree male relative with breast cancer at any age or
 - One first degree relative with bilateral breast cancer where the first primary was diagnosed at <50 years of age or
 - Two first degree relatives, or one first degree plus one second degree relative, with breast cancer at any age or
 - One first degree or second degree relative with breast cancer at any age plus one first degree or second degree relative with ovarian cancer at any age (one of these should be a first degree relative) or
 - Three first degree or second degree relatives on the same side

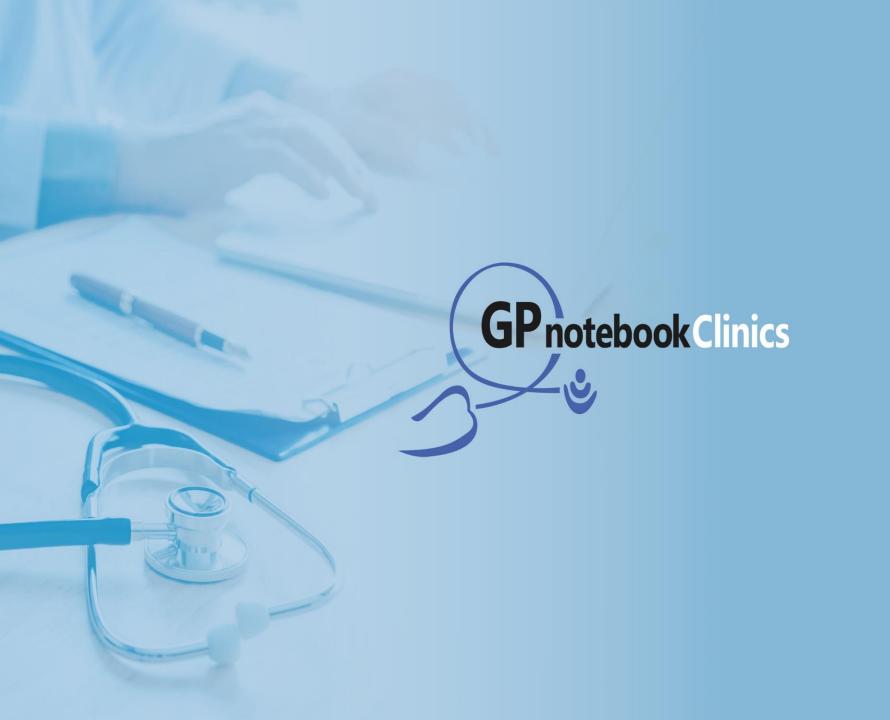
- One first degree or second degree relative with breast cancer at any age plus one first degree or second degree relative with ovarian cancer at any age (one of these should be a first degree relative) or
- Three first degree or second degree relatives on the same side of the family with breast cancer at any age
- Women who do not meet these criteria can be reassured that they are at near population risk of getting breast cancer and do not require referral for specific breast cancer risk estimation.

Breast cancer risk category

	Near population risk	Moderate risk	High Risk *
Lifetime risk	Less than	Greater than 17%	30% or
from age 20	17%	but less than 30%	greater
Risk between		2.00/	Greater
ages 40 and 50 Less than 3%	3-8%	than 8%	

^{*}This group includes known BRCA1, BRCA2 and TP53 mutations and rare conditions that carry an increased risk of breast cancer such as Peutz-Jegher syndrome (STK11), Cowden (PTEN) and familial diffuse gastric cancer (E-Cadherin

- Surveillance for women with no personal history of breast cancer
 - Offer annual mammographic surveillance to women:
 - aged 40-49 years at moderate risk of breast cancer



GPnotebook Clinics:

Half-day event

A typical "Clinic" will mirror our daily work in primary care and use multiple patient case studies to cover the latest clinical guidance, research and hot topics (e.g. SIGN 154 Diabetes 2017 and NICE NG106 Heart Failure September 2018).

Case studies will also include diagnosis and management pearls for more common presentations (e.g. dermatology and musculoskeletal complaints), prescribing & de-prescribing (including drug safety alerts) and also the interpretation of commonly abnormal investigations such as blood tests and spirometry.

Finally, a "Home Visits" section will focus on the management of multi morbidity, frailty and polypharmacy in primary care.



09:30 - 09:45 Introduction

 Overview of meeting, website, resources and workbook

Session 1: Morning clinic

09:45 - 11:10 Patient case scenarios

- Patient case studies to cover the latest clinical guidelines, research and hot topics relevant to primary care
- "Back to Basics" diagnostic & management pearls for commonly encountered conditions & situations in primary care e.g. MSK and dermatology

11:10 - 11:30 Coffee Room chat

Session 2: Clinic admin

11:30 - 11:50 "Docman" inbox

- The management of commonly abnormal blood tests
- Interpretation of abnormal investigations such as ECGs and spirometry



11:50 – 12:05 Telephone consultation and triage

 Practical management tips and common pitfalls including case scenarios

12:05 - 12:25 Prescribing and de-prescribing

- Prescribing pearls
- Drugs safety alerts
- The management of polypharmacy

12:25 - 12:45 Home visits

 Focusing on the clinical and holistic management of our more complex multimorbid patients with polypharmacy

12:45 - 13:00 Practice Meeting

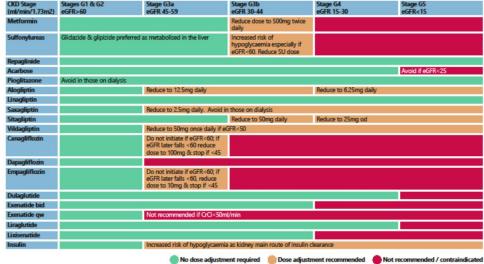
 Systems management where we can share best practice or "GP hacks" to make life easier for us in primary care e.g. system templates and practice based protocols

13:00 - 13:05 Chair's close

GPnotebook Shortcuts







www.gpnotebookeducation.co.uk



- GPnotebook Shortcuts are a series of quickly digestible bite-sized learnings to help us help our patients in primary care
- This GPnotebook Shortcut provides an up-to-date (as of November 2018) summary of dosing recommendations in renal impairment of commonly used hypoglycaemic agents in the UK

Eric



Age	52		
History	Presented with general malaise		
PMH	Nil		
Blood pressure	134/88 mmHg		
Lipid profile (mmol/l)	TC 5.4 TRG 3.7 HDL 0.9 LDL 2.9		
BMI & Weight	33 kg/m² Waist 102cm		
LFTy (U/L)	ALT 62 (10-50), AST 63 (8-50), ALP 85 (40-125) GGT 65 (5- 55) Bilirubin 17 (3- 21)		
HbA1c	42 mmol/mol		
eGFR	>60 mL/min/1.73m²		
Current Medication	Nil		
Social History	IT, non-smoker, social alcohol		

What is the likely cause of his abnormal LFTs?



- 1. Viral hepatitis
- 2. Non-alcoholic fatty liver disease
- 3. Alcoholic liver disease
- 4. Autoimmune liver disease
- 5. Hepatocellular carcinoma

What is your next step with respect to his LFTs?

- 1. Lifestyle advice weight loss and alcohol consumption
- 2. Refer GI/hepatology
- 3. Arrange routine liver USS
- 4. ELF
- 5. Ignore...

Abnormal LFTs & Management of NAFLD

- NICE NG49 2016, British Society of Gastroenterology 2018 & BMJ "Rational Testing" article 2018
- Mortality from liver disease has risen 4-fold since the 1970's...
- Main causes of liver disease:
 - Alcohol misuse
 - Chronic viral hepatitis
 - Obesity/metabolic syndrome which may lead to NAFLD
- If detected early, clinical interventions and lifestyle change may slow or stop progression of liver disease







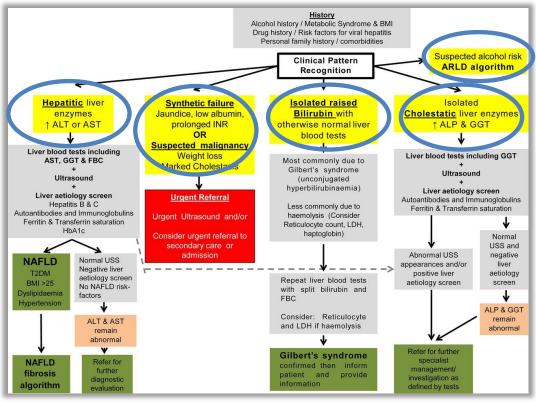
Abnormal LFTs

- Mildly abnormal LFTs are very common!
 - Degree of abnormality does not always correlate with disease severity
 - LFTs often checked for unexplained or non-specific symptoms
 - 1:5 will have abnormal LFTs & most of these individuals will not have significant liver disease
 - BALLETS study BMJ Open 2013
 - n=1290 from primary care with abnormal LFTs and without BMJ Open disease
 - Only 2.5% (n=32) of people with abnormal LFTs had a specific disease of the liver
 - 40% of whole cohort had "fatty liver" on USS
 - 8 malignancies found
 - Repeating entire LFT panel in 1 month is ineffective!
 - ALT & ALP most associated with significant liver disease
 - GGT had a very high false positive rate but was sensitive
 - So, worth having a heuristic at hand to identify those with modifiable liver disease

Interpreting LFTs

- ALT is predominantly liver-specific and is sensitive indicator of liver injury e.g. viral hepatitis
- AST is not as liver-specific but is a more sensitive marker of liver injury particularly alcohol
- Isolated GGT difficult to interpret as raised by multiple factors
 - Alcohol, obesity & several drugs
 - However, GGT best predictor of mortality in established liver disease
- ALP found in liver (key biliary tract enzyme), bone and placenta
 - If raised ALP worth checking GGT if GGT normal think "bone", if GGT high think "liver"
- Isolated raised bilirubin often due to Gilbert's syndrome but sometimes due to haemolysis
- Clotting and platelets can also be abnormal in advanced liver disease

Response to abnormal liver blood tests.



Philip N Newsome et al. Gut 2018;67:6-19



Diagnosis & Management of NAFLD

- Commonest liver disease in Western world
 - 25-30% of adults & 70-90% of those with obesity or T2D
 - Associated with increased risk of CVD & T2D
- NAFLD spans a spectrum of progressive pathological liver changes
 - Hepatic steatosis is an early manifestation
 - Steatohepatitis (NASH) is more serious and associated with fibrosis & cirrhosis
- Consider risk factors & check full liver screen
 - Abnormal ALT best predictor of NAFLD
- Liver USS recommended by BSG 2018

Diagnosis & Management of NAFLD

- NICE NG49 recommends an ELF test for those with NAFLD & Fibroscan for all heavy drinkers (>50 units weekly for men and >35 units for women)
 - Neither of these routinely available in primary care!
- BSG recommends use of NAFLD fibrosis score to aid management: www.nafldscore.com
- AST:ALT can be helpful; ALT should be higher than AST in early NAFLD
 - If ratio <1.0 suggests NAFLD with low risk of progression
 - If ratio >1.0 suggests more serious liver disease & higher risk of progression
 - If ratio >2.0 strongly suggestive of ALD
- Hepatology referral recommended for those at high risk of advanced fibrosis

Diagnosis & Management of NAFLD

 What can we do in primary care for those at lower risk of advanced fibrosis?

- Assess CV risk using QRISK3-2018 https://qrisk.org/three/ & consider statin
- Actively manage any co-existing diabetes, hypertension and alcohol excess
- Strongly encourage and facilitate weight loss where possible
- Re-assess risk after 2-5 years depending on clinical risk and consider referral if:
 - AST:ALT ratio >1.0
 - LFTs >3x normal limits
 - Symptoms or signs of progression of liver disease
 - Any features of atypical disease

Eric



Age	52
History	Presented with general malaise
PMH	Nil
Blood pressure	134/88 mmHg
Lipid profile (mmol/l)	TC 5.4 TRG 3.7 HDL 0.9 LDL 2.9
BMI & Weight	33 kg/m² Waist 102cm
LFTy (U/L)	ALT 62 (10-50), AST 63 (8-50), ALP 85 (40-125) GGT 65 (5- 55) Bilirubin 17 (3- 21)
HbA1c	42 mmol/mol
eGFR	>60 mL/min/1.73m²
Current Medication	Nil
Social History	IT, non-smoker, social alcohol

What is the likely cause of his abnormal LFTs?



Non-alcoholic fatty liver disease

What is your next step with respect to his LFTs?

Lifestyle advice – weight loss and alcohol consumption

Consider further investigation or referral as AST:ALT >1.0

Age	49
History	Recently opportunistically diagnosed with T2D
РМН	None
Blood pressure	129/79 mmHg
Hba1c	58 mmol/mol
BMI & Weight	31 kg/m²
Current Medication	Evening primrose oil
Social history	Teacher, non- smoker

"I read in the Daily Mail that I can reverse my diabetes – is this true?"





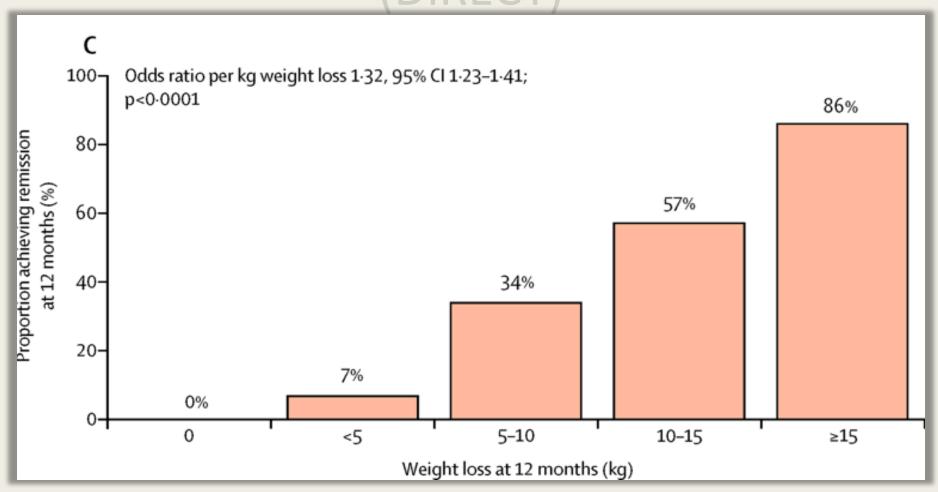
Diabetes Remission Clinical Trial (DiRECT)

- DiRECT published its 12 month results in the Lancet February 2018
 - Can intensive weight management in primary care with a low energy formula diet achieve remission of T2D?
- Study participants (n=306) were aged 20-65 who had been diagnosed with T2D within the previous 6 years with BMI 27-45 and not on insulin
- Intervention (n=150)
 - Withdrawal of antidiabetic & antihypertensive drugs
 - Total diet replacement with a low energy formula diet (around 850kcal daily)
 - Stepped food reintroduction
 - Structured support for long-term weight loss maintenance
- Remission defined as HbA1c <48mmol/mol after at least 2 months off all antidiabetic medication at 12 months



Diabetes Remission Clinical Trial

(DIRECT)



Diabetes Remission Clinical Trial (DiRECT)

- Other challenges:
 - Support required in primary care; nurse or dietitian in each intervention practice received 8 hours structured training
 - There is no international consensus on criteria for diabetes remission: DiRECT vs. ADA
 - Do not code "diabetes resolved" (212H), use instead "diabetes in remission" (C10P) so remain on annual recall
 - These individuals may still experience macrovascular & microvascular complications of diabetes and therefore need continued monitoring
- Very low energy diets are not the panacea for the THE LANCET

Emma



Age	49
History	Recently opportunistically diagnosed with T2D
РМН	None
Blood pressure	129/79 mmHg
Hba1c	58 mmol/mol
BMI & Weight	31 kg/m²
Current Medication	Evening primrose oil
Social history	Teacher, non- smoker

"I read on the BBC website that I can reverse my diabetes – is this true?"





- A change of conversation is now required
 T2D <u>can</u> be a progressive disease; there is opportunity to reverse it with significant weight loss
- Emma you can reverse your diabetes if you lose over 15kg over the next 12 months



Age	47
History	Annual private health screen picks ++ blood on dipstick. Laura is asymptomatic
PMH	No PMH of note
Blood pressure	126/72 mmHg
eGFR	>60 mL/min/1.73m ²
Current Medication	Nil
Social history	Hedge fund manager. Non- smoker. Social alcohol

What is your next step?

- 1. Utter a barrage of expletives aimed mainly at the private GP who under took the health screening
- 2. Repeat the dipstick urine test in 2-3 weeks
- 3. Refer routinely to urology
- 4. Refer urgently to urology
- There is no compelling evidence to support population screening for <u>non-visible haematuria</u> in asymptomatic people
 - Studies suggested 1-4% of those who screen positive for NVH will have serious underlying pathology such as bladder cancer
- Common spurious causes include menstruation and physical exertion especially long distance running



Management of Asymptomatic Non-Visible Haematuria

- British Society of Urological Surgeons & Renal Association 2008 & BMJ "Rational Testing" article 2014, NICE & Scottish cancer guidance 2015
- All those with <u>persistent</u> NVH require primary care follow-up to exclude progressive kidney disease
 - Persistent is defined as asymptomatic NVH that persists for at least 2 out of 3 samples, separated by 2-3 weeks
 - Assess baseline renal status BP, U&Es & urinary ACR
- NB Individuals on aspirin, warfarin or DOACs should managed in the same way as those not on these drugs











Laura



Age	50			
History	Annual private health screen picks ++ blood on dipstick Laura has no urinary symptoms			
PMH	No PMH of note			
Blood pressure	126/72 mmHg			
eGFR	>60 mL/min/1.73m ²			
Current Medication	Nil			
Social history	Hedge fund manager. Non- smoker. Social alcohol			

Do we need to confirm this result with microscopy?

- No. Microscopy only accurate on fresh samples of urine; red cell counts seen on microscopy reduce quickly with time
- We can ignore any trace of blood on dipstick; there must be at least 1+ blood on dipstick for NVH to be present
- It is of no significance if it is haemolysed or nonhaemolysed
- If red cell casts are seen, this is pathognomic of glomerulonephritis



Age	50
History	Annual private health screen picks ++ blood on dipstick. Laura has no urinary symptoms
PMH	No PMH of note
Blood pressure	126/72 mmHg
eGFR	>60 mL/min/1.73m ²
Current Medication	Nil
Social history	Hedge fund manager. Non- smoker. Social alcohol

Laura hands in a repeat sample 3 weeks later which is also positive for blood. What do we do next?



- Laura requires further investigation of her baseline renal function
 - U&Es, BP & urinary ACR
- What we do next depends on the age of the patient
 - Those <40y with normal baseline renal function need annual primary care monitoring
 - » Refer renal if eGFR<60, ACR>30 or BP>140/90
 - Those >40y require referral to urology
 - » NICE 2015 cancer guidelines suggest an urgent referral if >60y & raised WCC. Scottish guidance suggests routine referral
 - There is no need to arrange primary care imaging

Laura



Age	50
History	Annual private health screen picks ++ blood on dipstick. Laura has no urinary symptoms
PMH	No PMH of note
Blood pressure	126/72 mmHg
eGFR	>60 mL/min/1.73m ²
Urine ACR	<3.5mg/mmol
Current Medication	Nil
Social history	Hedge fund manager Non-smoker. Social alcohol

Laura's baseline renal function is normal and a routine cystoscopy did not reveal any underlying malignancy. What do we do next?

- Laura requires annual primary care monitoring of her baseline renal function for as long as her NVH persists
 - U&Es, BP & urinary ACR
- Refer renal if eGFR<60, ACR>30 or BP>140/90
- Laura should be informed to report any urological symptoms or visible haematuria which would trigger a referral to urology

3

Brodie



Age	4
History	Restless and snores loudly through the night. Irritable & hyperactive during the day
PMH	Nil
Weight	90th centile
Examination	Alert, feral
	Normal facies
	Ears nad, turbinates a little swollen
	Throat - large tonsils not infected or inflamed
Social history	Only child, attends nursery, no concerns about developmental milestones

What is the likely underlying diagnosis?

- 1. Simple snoring
- 2. Allergic rhinitis
- 3. Obstructive sleep apnoea
- 4. Laryngeal hypertrophy
- 5. Attention-Deficit/Hyperactivity Disorder (ADHD)

What is your next step?

- 1. Refer paediatric dietitian
- 2. Refer paediatric ENT
- 3. Refer CAMHS
- 4. Reassure parents
- 5. Trial intranasal steroids

Obstructive Sleep Apnoea in Children

- BMJ "10-minute Consultation" 2017 & BJGP "Clinical Intelligence" 2017
- Affects 1-4% of children and can lead to cor pulmonale,
 RVH and systemic hypertension if untreated
- Uncomplicated OSA
 - Adenotonsillar hypertrophy in children with no other significant PMH
- Complicated OSA
 - Secondary to medical condition such as obesity, craniofacial abnormalities (e.g. cleft palate), Down's syndrome and neuromuscular disease (e.g. cerebral palsy)





Obstructive Sleep Apnoea in Children

- Presentation of paediatric OSA is different to OSA in adults
 - More likely to present with behavioural problems, poor attention and reduced academic performance rather than daytime sleepiness

History

- Night: Snoring, disturbed sleep, obstructive apnoeic episodes, secondary enuresis, parental concern
- <u>Day</u>: Irritable or excessively tired during the day, mouth breather, nasal speech, developmental delay or behavioural problems
 - Symptoms of ADHD (25% of OSA) or poor school performance

Examination

 Growth, syndromic or craniofacial abnormalities, neck arching, mouth breathing or stertor, nasal obstruction, tongue & tonsil size, otitis media





Obstructive Sleep Apnoea in Children

Support for you Take action What we do HELPLINE DONATE SEARCH

Obstructive sleep apnoea (OSA) is a breathing problem that happens when your child's asleep.

Overview

What is it?

Causes

Symptoms

Diagnosis

Treatment







Every night I watched my son stop breathing

Milo was diagnosed with OSA aged 4. His mum Rebecca talks about his exhausting experience.



Symptoms of OSA in children

Learn about the common symptoms of OSA in children.



OSA leaflets and booklets

View our collection of leaflets and resources.

Sarah J.



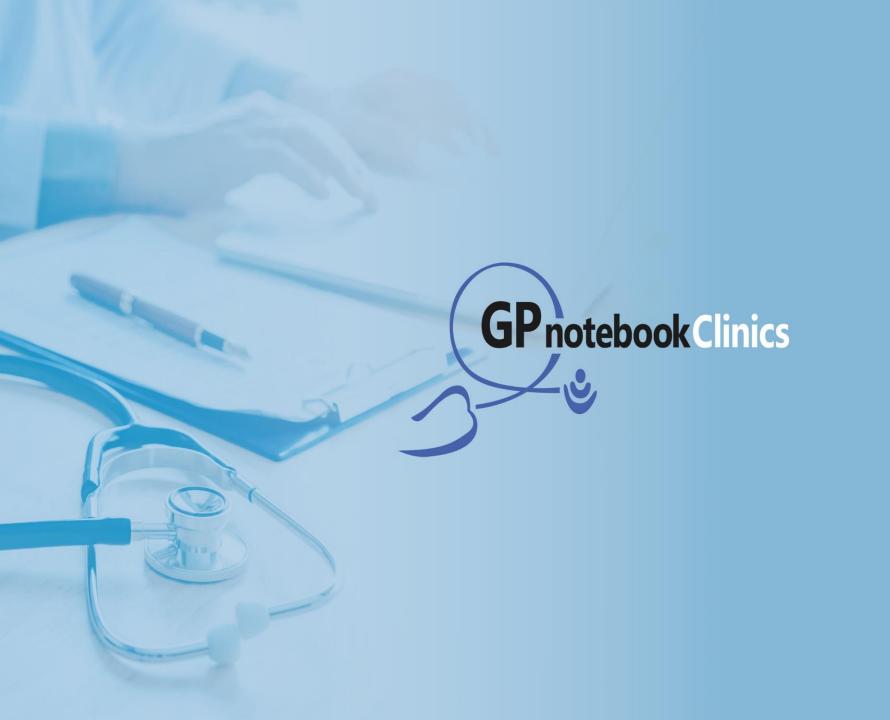
Age	30
History	Presents with severe sore throat last 3 days. No associated cough or cold symptoms, muscle aches or fever
РМН	History of recurrent sore throats
Current Medication	COCP
Examination	Apyrexial. Mild cervical lymphadenopathy Mild inflamed tonsils but no pus

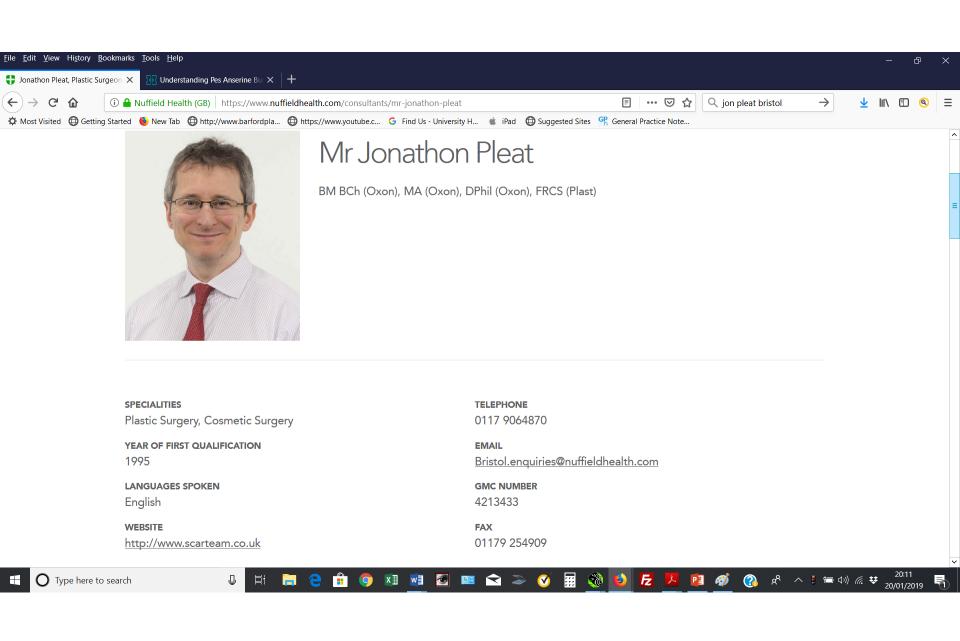
"I have tonsillitis again – Dr Coxon usually gives me antibiotics"

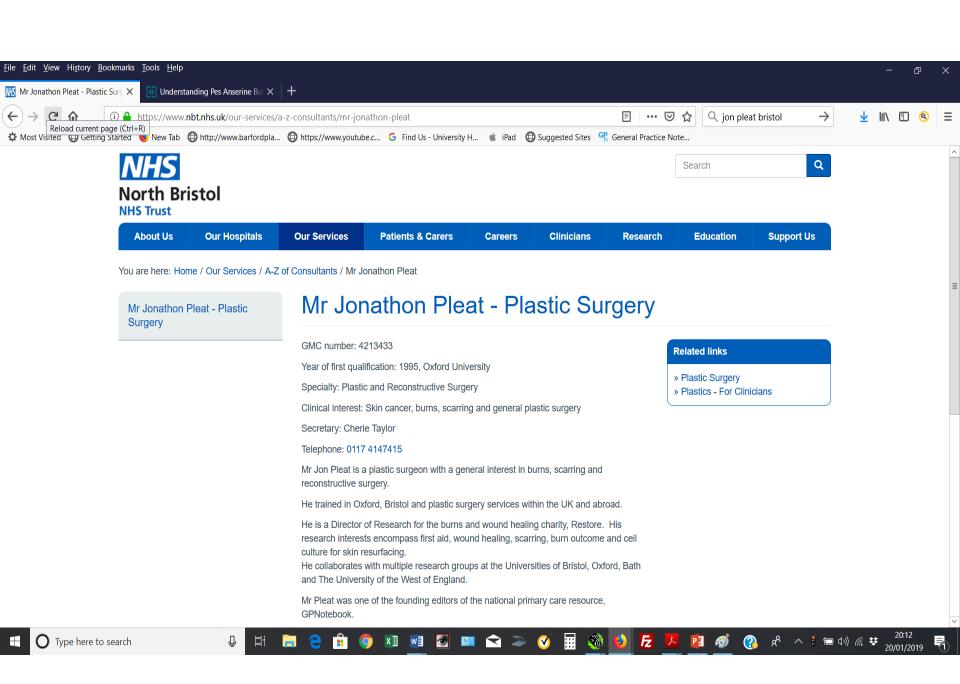
What do you do next?

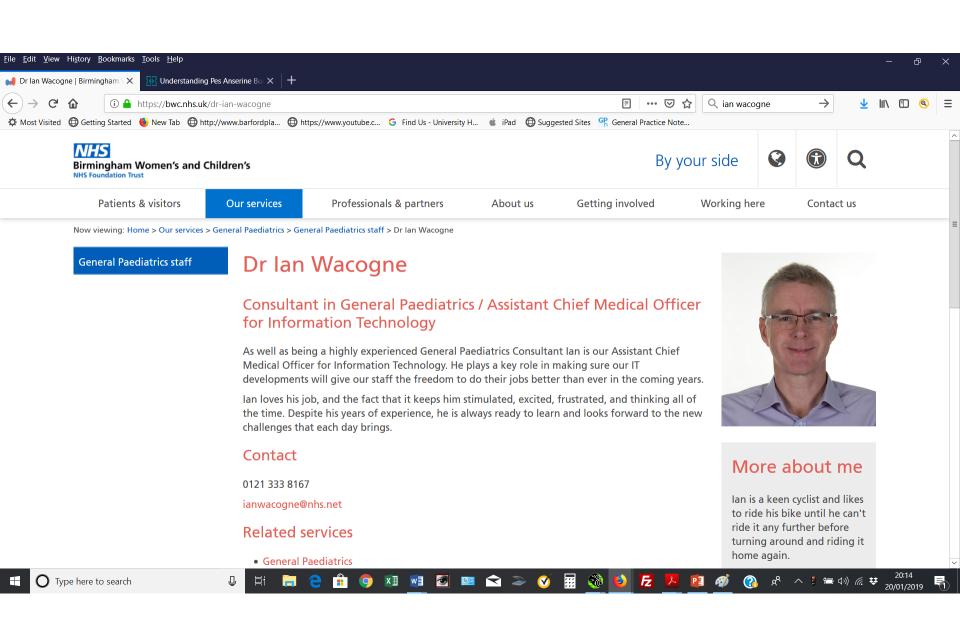
- 1. Tell her to go and see Dr Coxon
- 2. Offer her an immediate prescription of penicillin V for 10 days
- 3. Offer her an immediate prescription of penicillin V for 5 days
- 4. Offer her a delayed antibiotic prescription of penicillin V for 10 days
- 5. Offer her a delayed antibiotic prescription of penicillin V for 5 days

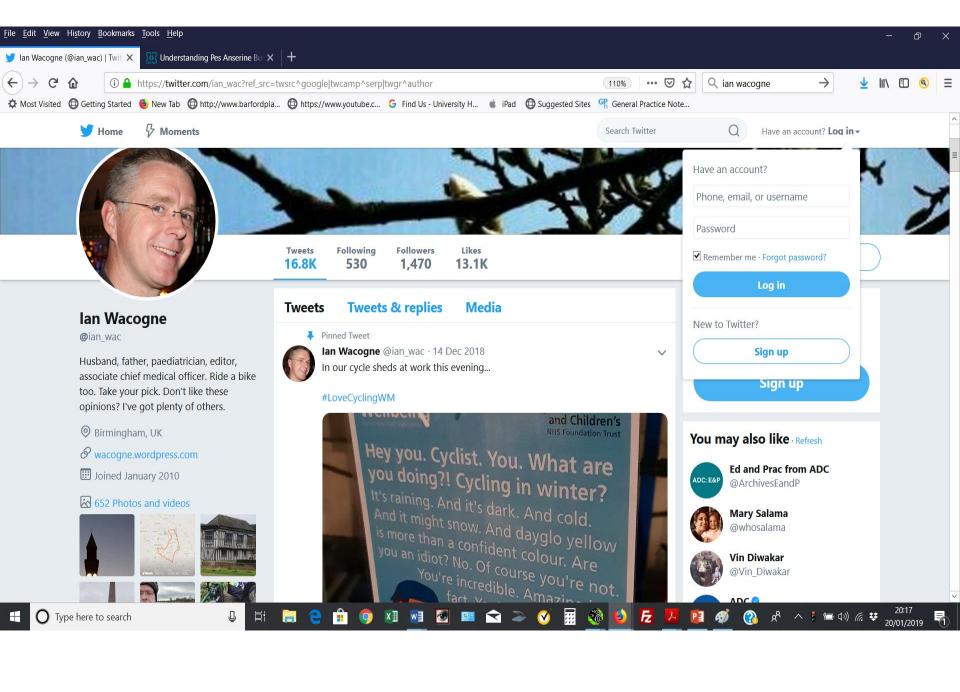


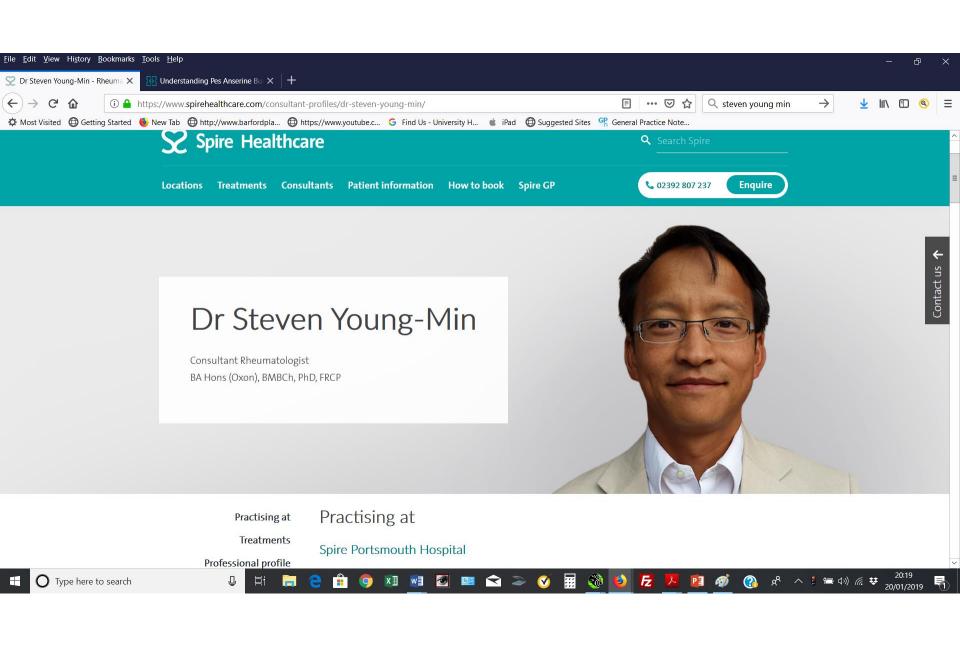


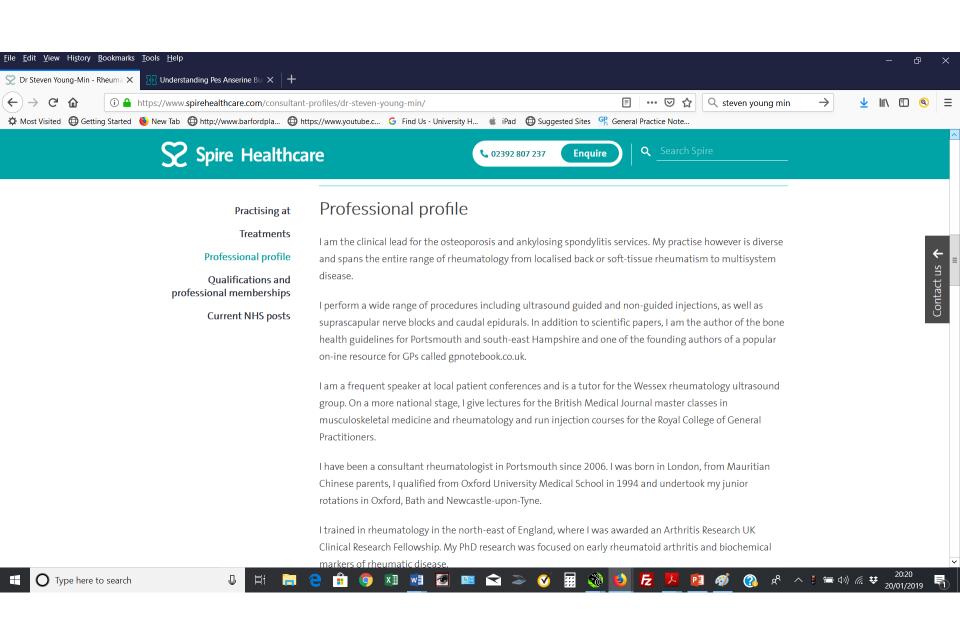














Primary Care Digital Transformation - Regional Conference Midlands and East Region | 19 April 2018 Agenda



Morning session

Exhibition | The NHS teams and clinical system suppliers will be available through the morning to offer advice.

Time slot	Stream 1 - GP Online services	speakers	Stream 2 - Empower the person	speakers	
09:30 – 10:00	Tea/coffee on arrival				
10:00	Welcome	Paul Fleming Regional Head of Digital Technology, NHS England			
10:10	GP online services	Emma Halliday	Empower the person (EtP)	Phillipa-Rose Hodgson	
		Implementation Lead, NHS England	An overview of EtP pillar and roadmap of current and forthcoming digital	Kristen Allin Leanne Summers	
10:40 Nursing appointments and making the most of online appointments	Emma Halliday	services, information and tools for patients and citizens, with a focus on: National NHS Online app rollout Using NHS WiFi in primary care Transforming NHS Choices Apps and standards in primary care Widening digital inclusion to reduce health inequalities Questions and answers	Digital Experience Team,		
	Implementation Lead, NHS England		NHS England		
11:10 – 11:30	Break				
11:30	Test results sharing them with patients	Dr Clive Prince	PPG session	Karen Johnson	
		Digital Clinical Champion, NHS England	Involving your PPG in promoting to patients	Programme Delivery Manager, NHS England	
12:00	Patient centred care and online services	Dr Clive Prince Digital Clinical Champion, NHS England	Online Consultations	Nikki Hinchley Digital Primary Care (GPIT) Programme Lead/SME	
12:30 – 13:30	Lunch, Exhibition and Networking				

Dr Damian Crowther

Cambridge Neuroscience

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- > Neuroscience in Cambridge
- > Introduction by Andrew Huxley
- > A short history
- > Privacy Policy

Research and Collaboration

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University position

Director R&D, AstraZeneca Neuroscience **IMED**

Departments

Department of Genetics and Department of Medicine

Institutes

AstraZeneca Neuroscience IMFD

Email

Interests

The neuroscience group at AstraZeneca has particular interests in neurodegeneration, neuropsychiatry and pain. We are a highly collaborative group and keen to work productively with the Cambridge neuroscience community. More details at: www.azneuro.com

Research Focus

Keywords	Clinical conditions
Alzheimer's Disease	Alzheimer's disease
dementia	Cognitive impairment
animal model	
protein aggregation	

Equipment

genetics

Pohavioural analysis



Damian C. Crowther

✓ FOLLOW

<u>University of Cambridge</u> Verified email at cam.ac.uk - <u>Homepage</u> neurodegeneration

TITLE	CITED BY	YEAR
Intraneuronal Aβ, non-amyloid aggregates and neurodegeneration in a Drosophila model of Alzheimer's disease DC Crowther, KJ Kinghorn, E Miranda, R Page, JA Curry, FAI Duthie, Neuroscience 132 (1), 123-135	325	2005
Endoplasmic reticulum dysfunction in neurological disease BD Roussel, AJ Kruppa, E Miranda, DC Crowther, DA Lomas, The Lancet Neurology 12 (1), 105-118	289	2013
ANS binding reveals common features of cytotoxic amyloid species B Bolognesi, JR Kumita, TP Barros, EK Esbjorner, LM Luheshi, ACS chemical biology 5 (8), 735-740	243	2010
Systematic in vivo analysis of the intrinsic determinants of amyloid β pathogenicity LM Luheshi, GG Tartaglia, AC Brorsson, AP Pawar, IE Watson, F Chiti, PLoS biology 5 (11), e290	187	2007

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