



**TASMANIAN UNIVERSITY MEDICAL  
STUDENTS' SOCIETY**



# **HOW TO 3RD YEAR**

**YOUR SAVIOUR ON THE WARDS**

[www.tumss.org.au](http://www.tumss.org.au)

# Are you the Brainiest and Brawniest of them all?

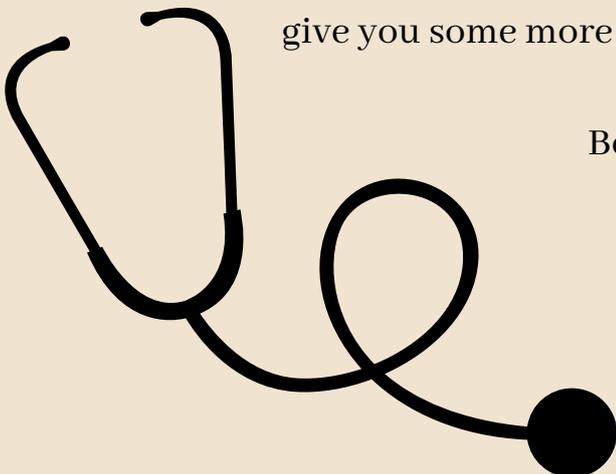
You've made it! Its your final pre-clinical year, and the biggest challenge of them all awaits you – the Brain. How you ever figured that when you learn about the brain, it's just your brain learning about itself – talk about self-discovery!

As a 3rd year, this is going to be a radically different learning year; you learn on your feet in a hospital, so much of classroom time is cut down. It's no longer just Professors and Lecturers backing you, you got Consultants and registrars that will become your greatest teaching weapon.

We at TUMSS sincerely hope that this guide can be your secret weapon on the wards and throughout the course of the year; providing you a roadmap when in doubt about how to proceed. It contains high yield, highly examinable points, handy resources, and study tips and tricks! Please note that this has been made based on course content over the last couple of years, so of course, things can change a little each year, plus this does NOT include everything, there are of course things we've missed, so listen to what your lecturers tell you :)

We hope you enjoy and that this guide helps give you some more direction for the year ahead!

Best of luck!



- TUMSS  
XOXOX

# The Team

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# CAM304

*The two big topics for CAM304, as you'd know, are Neurology and Endocrinology. And there sure is a fair bit of content in both of those and you might have heard from those in years above that neuro can be tricky, so we've got some tips and tricks to help you out!*

*Study smart, not hard. Allocate time based upon allocated marks, not how much something freaks you out.*

## **Neurology**

- **Neuroanatomy**
- **Neurophysiology**
- **Neuropathology**

## **Endocrinology**

- **Physiology**
- **Pathology**

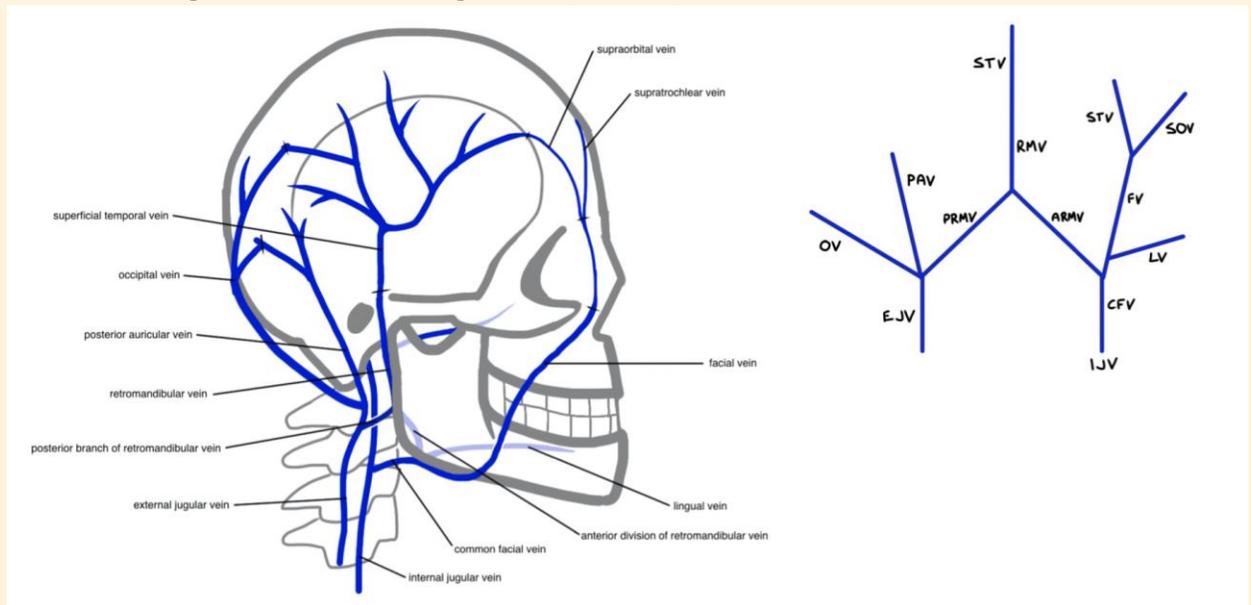


# Gross Anatomy of the Head and Neck

## Neurology

### High Yield Content

- Foramina of the skull
  - Derek loves to ask questions about the foramina of the skull and what passes through each, you could make your own mnemonics
- Branches of the:
  - Facial artery
  - Facial nerve
  - External carotid artery (Some Anatomists Like Freaking Out Poor Med Students)
- Venous drainage of the face and scalp to the IJV and EJV



- Triangles of the neck

### Mnemonics

Facial nerve terminal branches (Two Zebras Bit My Coccyx)

- T = temporal nerve
- Z = zygomatic nerve
- B = buccal nerve
- M = marginal mandibular nerve
- C = cervical nerve



## TASMANIAN UNIVERSITY MEDICAL STUDENTS' SOCIETY (TUMSS)

### Subclavian artery branches (Vitamin C,D = V I T C D)

- V = vertebral artery
- I = internal thoracic artery
- T = thyrocervical trunk
- C = costocervical trunk
- D = dorsal scapular artery

### External carotid artery branches (Some Anatomists Like Freaking Out Poor Med Students)

- S = superior thyroid artery
- A = ascending pharyngeal artery
- L = lingual artery
- F = facial artery
- O = occipital artery
- P = posterior auricular artery
- M = maxillary artery
- S = superior temporal artery

### Anatomical layers of the SCALP:

- Skin
- Connective Tissue
- Aponeurosis
- Loose connective tissue
- Periosteum

### *Handy Resources*

- Derek's anatomy videos
- In pre COVID times, going to the model room at Menzies is great, to look at models, such as the skull, take Netters with you and practice identifying foramina and structures
- Teach Me Anatomy is always a winner
- Radiopaedia always good for imaging

### *Study Tips and Tricks*

- Draw simple branch diagrams of the arteries and nerves and their branches, review regularly
- I printed a picture of the skull with all its foramina in the lead up to exams and labeled each, noting the structures passing through, repeat



# Neuroanatomy

## *Neurology*

### *High Yield Content*

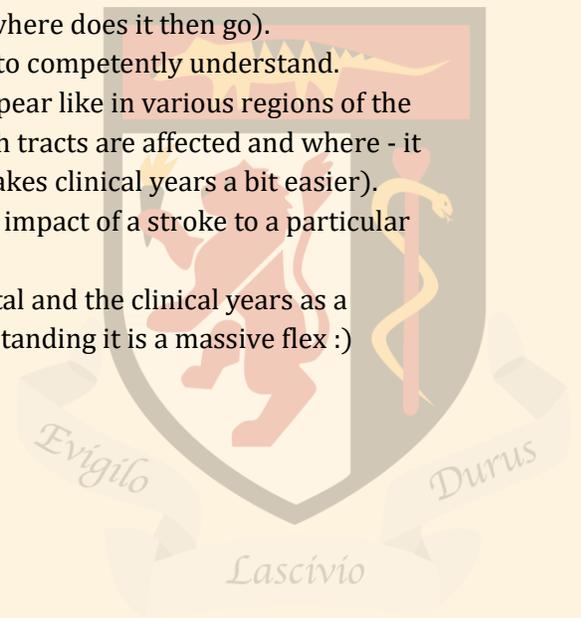
- CNS vasculature (i.e. Circle of Willis, cerebral/cerebellar arteries)
- Venous sinuses
- Brain stem sections, impact of stroke through certain sections (know arterial distribution)
- Cranial nerves - location
- Pathway → basal ganglia + cerebellum
  - Derek's lectures - he often likes to ask exam questions about these
  - Know the pathways for Huntington's and Parkinsons, and understand how the symptoms have been caused i.e. activation or inhibition of which structure
- Ear and hearing

### *Handy Resources*

- Neuroanatomy imaging atlas with brain stem sections
- 2-minute neuroscience - dumbed down to a level that's probably more relevant for passing
- LITFL Brainstem Rules of 4 → google this

### *Study Tips and Tricks*

- Nolte imaging atlas is great for looking at structure location
- Remember that the neurology topics are only a fraction of passing!
- Do a little bit every day - neuro tracts are like memorising a story.
- Attempt to relate it to something functional (e.g. which muscles do I use to look up, which nerves/muscles are used, which arteries supply the eye, if moving eyes were a conscious decision, which lobes/cortices initiate the function, and where does it then go).
- Basal ganglia and cerebellum are often the most difficult to competently understand.
- When confident, experiment with what deficits would appear like in various regions of the brain (e.g. subthalamic nucleus, PICA) - think about which tracts are affected and where - it really hurts but seriously solidifies your learning (and makes clinical years a bit easier).
- Practice labeling brain stem sections, consider functional impact of a stroke to a particular artery - know arterial distribution
- Use the fact that this info will come in handy in the hospital and the clinical years as a motivation to study it - Neurology is plain hard so understanding it is a massive flex :)



# Neurophysiology

## *Neurology*

### *High Yield Content*

- Neurological pathways → what they are responsible for, what side of the body, WHERE they cross over to therefore work out deficit
  - Corticospinal
  - Spinothalamic
  - Dorsal column/medial lemniscus
- Cranial nerve → function
- Other structures worth knowing about
  - Internal capsule → produces PURE motor symptoms in a stroke
- Visual pathways
  - Impact of deficits
  - High yield for neuro and also Medicine rotation
  - Be familiar with the visual pathway and what pathologies will give a particular lesion i.e. Bitemporal hemianopia = pituitary adenoma + other DDx

### *Handy Resources*

- LITFL Brainstem Rules of 4 → google this
- Learning the homunculus can be useful in associating motor deficits with brain lesions.
- Nice resources in CAM304 lab manual, some good tables and notes, worth a look!

### *Study Tips and Tricks*

- Draw out simple diagrams of the pathways
- Make a table about the deficits if you were to damage a particular brainstem structure

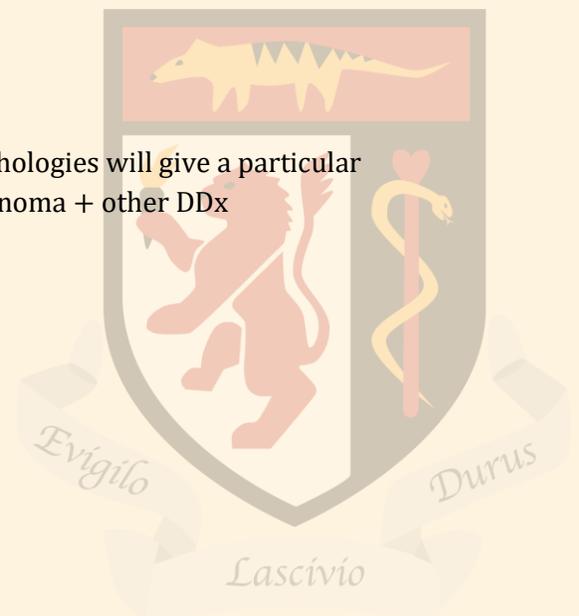


# Neuropathology

## *Neurology*

### *High Yield Content*

- Strokes and localising them based on symptoms
  - Big overlap with neuroanatomy/neurophysiology
- Headache types
  - Be really familiar with red flag headache symptoms → thunderclap headache, meningism, signs of raised ICP
  - Also be familiar with the common, primary headache disorders i.e. Migraine,
- Neurodegenerative disease, particularly Alzheimer, Huntingtons, Parkinsons and ALS
  - Make sure to know the clinical features
    - TRAP → parkinsons
    - ALS
    - Huntington's → chorea, personality/behaviour change
- Spinal Cord Lesions, particularly their signs and symptoms
- Cranial Nerve Lesions and their signs and symptom
  - Focus study on cranial nerve examination and what each sign represents
  - Big overlap with neuroanatomy/neurophysiology
- Peripheral neuropathy
  - CIDP, CMT, diabetic peripheral neuropathy
- MS
  - Separated in space and time
- Seizures → don't need to know in a huge amount of detail, but know what could constitute a seizure, know the difference between generalized vs. focal
  - Clinical Features of a typical seizure
    - BRIEF 1-3 minutes, self-limited
    - Same or similar each time
    - SLOW return to consciousness
- Vision
  - High yield for neuro and also Medicine rotation
  - Be familiar with the visual pathway and what pathologies will give a particular lesion i.e. Bitemporal hemianopia = pituitary adenoma + other DDx



## *Handy Resources*

- Osmosis pathology videos
  - Highly recommended, may even be worth getting a subscription if you can get it on sale.
- Ros's notes
- Lots and lots of youtube videos. Helped me greatly in being able to localise brain lesions.
- AMBOSS has nice summaries of the degenerative conditions such as Parkinson's, Huntington's etc

## *Study Tips and Tricks*

- Make a mindmap for strokes that splits into ischemic and hemorrhagic strokes and then do subtypes, clinical features etc. Breaking things down like this can stop them from becoming overwhelming



# Anatomy

## *Endocrinology*

*Anatomy isn't a huge part of endo, but we've just added it in here so you don't forget about it,*

### *High Yield Content*

- Thyroid + its blood supply - part of neck anatomy

### *Handy Resources*

- Derek's lecture notes will cover the thyroid just fine!
- If you want any more reading, teach me anatomy is always good



# Physiology & Pathology of the Endocrine System

## *Endocrinology*

*The Endocrine system is heavily based on physiology and understanding pathways, with pathology just really physiology gone wrong. So, it makes sense to think of physiology and pathology together.*

- 1. Master what is normal FIRST → what is the normal role of the gland, what is the normal feedback pathway*
- 2. Build in pathology on top of this → what goes wrong with feedback loops, what does this result in clinically, what do the lab tests show*

### *High Yield Content*

Interpreting lab tests

- Hyperthyroidism (TSH ↓ T3/4 ↑), hypothyroidism (TSH ↑, T3/4 ↓)

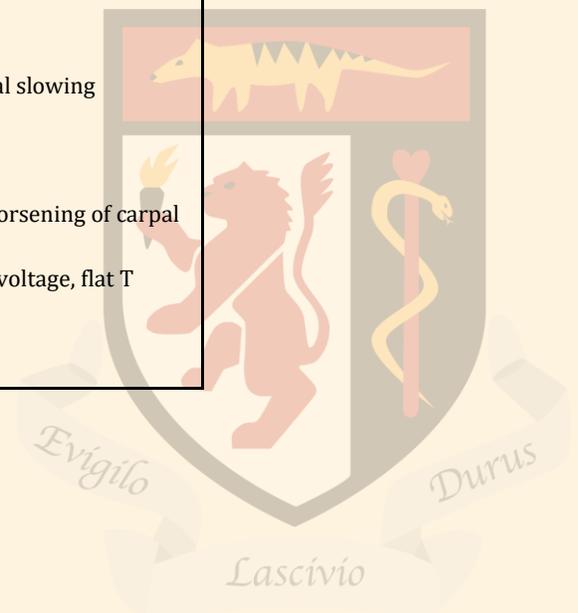
Diabetes

- *Note, T2DM and T1DM has received more of a focus in year 2 with Renee's teaching, but an Endocrinologist typically does a once off lecture about it, so don't forget diabetes!*

Thyroid - graves, hashimotos, toxic multinodular goitre, thyroid nodules

- Know how to interpret tests
- Clinical signs
- Pathway for thyroid nodule investigation

Hyperthyroidism	Hypothyroidism
Triad: anxiety + weight loss + weakness Features: <ul style="list-style-type: none"><li>- Heat intolerance</li><li>- Sweating including hands</li><li>- Muscle weakness</li><li>- Palpitations/tachycardia</li><li>- Weight loss despite normal/increased appetite</li><li>- Emotional lability, anxiety</li><li>- Loose bowel motions</li></ul>	Features: <ul style="list-style-type: none"><li>Weight gain</li><li>Fatigue – physical and mental slowing</li><li>Cold intolerance</li><li>Constipation</li><li>Loss of hair</li><li>Puffiness of face and eyes, worsening of carpal tunnel</li><li>ECG sinus bradycardia, low voltage, flat T waves</li></ul>



TSH	T4	T3	Pattern
↓	↑	↑	Hyperthyroidism
↑	↓	↓	Hypothyroidism
↑	↑	↑	Central hyperthyroidism (pituitary)
↓	Normal	Normal	Subclinical hyperthyroidism
↑	Normal	Normal	Subclinical Hypothyroidism
↓	↓	↓	Central (pituitary) hypothyroidism
Normal	↑	↑	Exogenous – patient taking lots of thyroxine on day of blood test

Adrenal - Addison's, Cushing's, Conn's

Parathyroid

- Pathology
- Hyperparathyroidism (primary, secondary, tertiary)
- PTH and Ca receptor

Calcium

- Causes of hypercalcaemia
- Signs of hypocalcaemia and hypercalcaemia
  - Hypercalcaemia → 'ones'
    - Stones, bones, abdominal groans, psychiatric moans
  - Early signs hypocalcaemia → : tingling around mouth (peri-oral) and extremities (i.e. fingers)

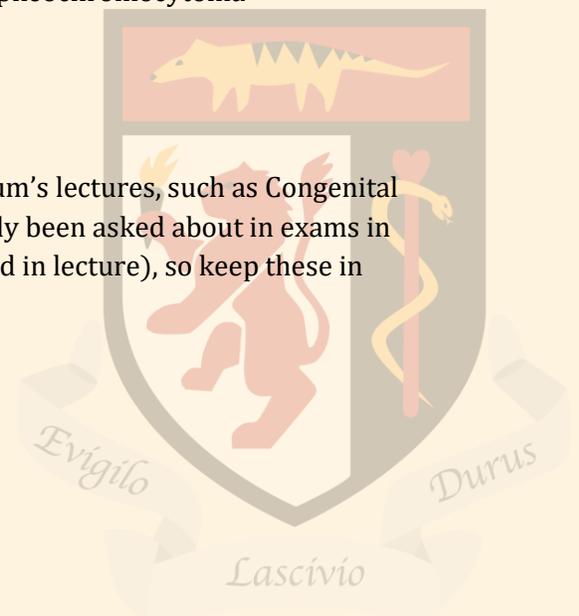
MEN → no need to know in a huge amount of detail, but be familiar with what constitutes each type of MEN

- MEN 1 (Common one in Tasmania) → THREE P's → pituitary, parathyroid, pancreas
- MEN 2 → Parathyroid, medullary thyroid cancer, pheochromocytoma

Pituitary

- Prolactinoma
- acromegaly/gigantism

There are often some niche, rare conditions in Dr McCallum's lectures, such as Congenital Adrenal Hyperplasia, Klinefelters etc which have definitely been asked about in exams in the past (in terms of what lab results to expect, mentioned in lecture), so keep these in mind, but it's one MCQ at most so don't stress



## *Handy Resources*

- Ros' Notes - She does an endocrinology summary/overview powerpoint towards the end of semester
- Geeky Medics
- Amboss (UTAS students had a free subscription in 2020)
- You-Tube videos
  - Khan Academy always good
  - Try googling Endocrinology for Medical Students and you will get plenty of results, find a you-tuber that works for you
- <https://docs.google.com/presentation/d/1ZmIk9v84lh2E9ZvlC1vrLguTx4e-jvXxQ4JR0ipeMJM/edit?usp=sharing> → This is an endocrinology crash course some year students did for year 3's during COVID 2020

## *Study Tips and Tricks*

- Looking at pathologies works best when you have good foundations of what is normal
- Know pathways well, assist in interpreting lab tests
- Know clinical signs → Hyper and Hypothyroidism, hypercalcaemia and hypocalcaemia



# CAM305

*CAM305 is a little different to the semesters you've had for the last 2.5 years, for a start, it's split into 'modules' with lectures within each. Overall, the semester isn't as content heavy as say second year, but it can be challenging considering it's almost 100% lecture based with minimal pracs, tutorials and no mid sem exam + you're so close to waving the lecture theatre goodbye and heading out to the clinical schools! We know that it can be hard to keep the motivation going to get through CAM305, so these handy tips are designed to guide you!*

*We note that CAM305 is constantly undergoing development to make it more engaging, so therefore, there may be some changes in the content from year to year, so make sure to check in your unit outline that there's not a new module that they've added in for you since 2019!*

## Modules

- Immunodeficiency and Infectious diseases
- Cancer
- Genetics
- Ophthalmology
- Mental Health
- Pain
- Global Health
- Domain 4
  - Palliative care, legal + others



# *Infectious Diseases & Immunodeficiency*

## *High Yield Content*

- HIV
  - Especially opportunistic infections occurring in the immunocompromised and the approximate CD4 count they appear in - indicates stage of disease!
- Malaria
- Meningitis
- Infections in the immunocompromised host
- Neonatal infections - Peter Dargaville lecture

## *Study Tips and Tricks*

- There is enough content in the lectures, no need for further reading unless you are super interested, lecture slides best guide as to what will be on the exam
- Try to make a lecture summary for each lecture with clinically relevant points



# Cancer

## High Yield Content

- Hallmarks of cancer
- Leukaemias (acute myeloid, chronic myeloid, acute lymphoid, chronic myeloid)
- Multiple myeloma (three stages)
- Lymphoma (Hodgkins vs non-Hodgkins)
- myeloproliferative disorders (polycythaemia vera, essential thrombocytopenia, primary myelofibrosis)
- Difference between and indications for autologous vs allogeneic transplants

## Handy Resources

- Ros' Haematological Malignancy summary notes
- Lecture slides are your best guide

# Genetics

## High Yield Content

- Basics of cancer genetics as lectured by Kate Brettingham Moore (don't spend too much time on it), her lectures are short and sweet, not overly complicated
- Some lectures from genetics clinician, these can be quite complicated, if you understand that great, if not, don't dwell on it, might be 1-2 MCQ's at most

## Handy Resources

- The lectures were generally all you needed



# Ophthalmology

*Do NOT need to know in detail (unless you are super keen/interested)*

## *High Yield Content*

- Sudden loss of Vision
  - Know very basic clinical presentation/features, whether painful or not painful etc
    - Retinal a occlusion
    - Central retinal v occlusion
    - Retinal detachment
    - Vitreous haemorrhage
    - Macular degeneration
    - Giant cell arteritis (pain)
    - Optic neuritis (pain)
    - Acute angle closure glaucoma (pain)
    - Iritis (pain)
- Chronic Eye Conditions → don't need to know these in detail
  - Cataract
  - Glaucoma
  - Macular degeneration
  - Diabetic retinopathy
- Chronic red eye vs. acute red eye

## *Handy Resources*

- Geeky Medics has a fantastic visual examination page which details many different clinical signs and pathologies such as the red eye, acute loss of vision etc
- Ophthalmology at a glance is an okay text book

## Study Tips and Tricks

- No one really understood eyes last year and they are a low mark topic usually
- There are usually only 4 or 5 MCQs so don't stress too much



# Mental Health

## High Yield Content

- Mental state examination - very unlikely you'll be asked to do one, but know what's included
- Mental Health Act
  - Assessment order vs treatment order - learn the difference
  - Know how many hours an AO lasts before reviewing/expires
- Not expected to know psych medications in a huge amount of detail in year 3, there is usually one lecture, unclear how examinable this is, definitely don't dwell on it

## Handy Resources

- Lecture slides
- Learn psych drugs in more detail in year 4

# Pain

## High Yield Content

- Types of pain - nociceptive vs neuropathic
- Definition of chronic pain
- WHO pain ladder for appropriate analgesia for the presentation
- Bonnie's pain medication lecture
  - Opioids, NSAIDS, Paracetamol, COX2 + others

## Handy Resources

- Lecture notes have everything you need



# Rheumatology

## High Yield Content

- OA vs RA
  - Clinical features and tests for RA
  - Treatment for OA
- Spondyloarthropathies
  - Common features: Inflammation of axial spine, asymmetric oligoarthritis, dactylitis, enthesitis
  - Conditions in lecture: Psoriatic arthritis, enteropathic arthritis, reactive arthritis, ankylosing spondylitis etc
- Gout
- Other (don't need to know a huge amount of detail) → SLE, fibromyalgia

## Handy Resources + Study Tips

- Lecture notes are sufficient
- Murtagh's has good sections on Rheumatology and OA
- A Rheumatologist usually does a quiz for the last lecture, can be a good guide for exam questions

# Global Health

## High Yield Content

- Definitions of planetary vs global health vs public health vs international health
- Impacts of climate change (direct vs indirect)
- Female genital mutilation - easy marks in MCQ or in a SAQ regarding sensitive consultations
- Could be Cooling question on assumptions vs generalisations vs stereotypes

## Study Tips and Tricks

- Nick Cooling's lecture slides



# Domain 4

## *High Yield Content*

- Palliative care principles and definition
- Palliative care principles
- Legal → lots of content, don't stress over it, Dom the lecturer puts MCQ's within his lecture and says this is what will be on the exam, so pay attention + he will give hints

## *Handy Resources*

- The definition and principles of palliative care are listed in Michael Ashby's slides and explained very simply, only need to learn these, but in enough detail to be able to write a SAQ related to them

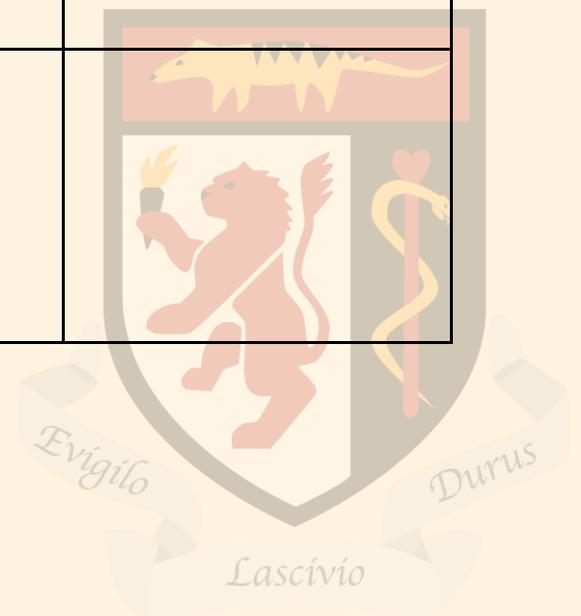


# Rotations

*Rotation learning is assessed in the rotation based written exam at the end of semester 2 as well as in your OSCEs at the end of (usually when it's not a COVID-19 year) first semester and second semester.*

- Medicine
- Primary Care
- Clin Specs
- Surgery
- Don't forget, the pharmacology from the modules in your med rotation is assessed in the written exam, as it's own section (not part of the medicine part of the paper)

Primary Care	Gen Med	Clin Specs	Surgery
Flipped classroom	Louise's tutorials	Paediatrics	Common diseases
Common GP presentations	ECG	Psychiatry	Pathology
Lectures	CBL's	O and G	Mary's tutorials
Sports medicine Sexual and women's health	Pharmacology		Other lecturers
Emergency, smoking cessation, preventative health, motivational interviewing, drugs and alcohol, oral health, skin cancer	Common disease presentations and DDx		



# General Medicine

## Overview:

- Examination (COVID?)
  - Cranial nerves → CNII-VI or VII-XII, not whole exam
  - Upper limb neurological
  - Lower limb neurological
  - Thyroid
- Systems → CVS, Resp, GIT
- Wild card → Rheumatological hand, diabetic foot
- History Taking
  - Gen Med conditions → think systems
  - Respiratory
  - Cardiovascular
  - GIT → i.e. Hepatitis/Cirrhosis, consider ETOH, LFT's
  - Neuro
  - Rheumatological

## High Yield Content

- Consider DDx for acute loss of vision

## Handy Resources

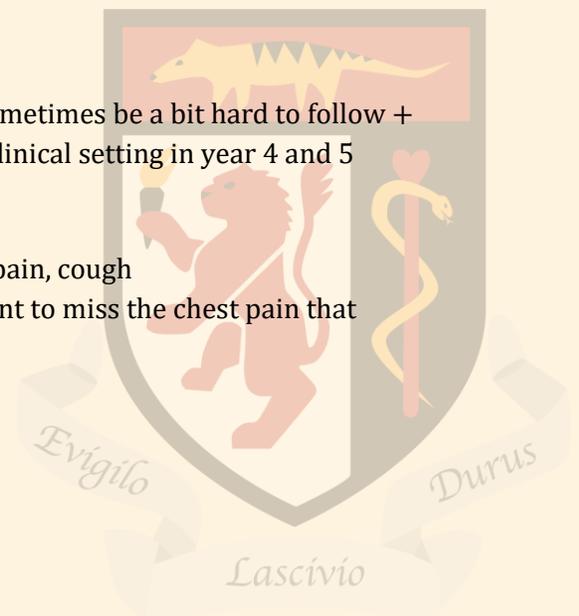
- Geeky Medics good for neuro exam

## Study Tips and Tricks

- Don't stress too much, medicine teaching in year 3 can sometimes be a bit hard to follow + confusing, most of the topics will be consolidated in the clinical setting in year 4 and 5

## Common OSCEs

- Often very vague presentations - SOB, weight loss, chest pain, cough
- Do a brief systems review as part of PC history - don't want to miss the chest pain that happened a week before SOB and cough



### *General OSCE tips and tricks:*

- Practice over and over - write cases and have a study friend. Start easy then get more intense.
- Use the two minutes at the start to jot down differentials and use that to guide your targeted history.
- Practice listing differentials in a systematic way for common presentations. Can go by system, by type of pathology (eg. trauma, idiopathic, infection, etc).

## *Pharmacology*

### *High Yield Content*

- Types of drug reactions
- Side effects of common drugs talked about in the lecture i.e. Metformin
- Common indications for drugs from the lecture

### *Handy Resources*

- Year 2 Pharm Log Book
- Year 3 Pharm modules on MyLo
- MCQ's from lecture

### *Study Tips and Tricks*

- Do the module before the lecture then pay attention during the lecture



# Primary Care

## Common OSCEs

- Sarah and Hannah have put practical things in here before such as venepuncture and CPR
- There is always a Murtagh's management station! Make sure you go through the 10 steps
- Know your preventative health (BP, lipids, smoking, alcohol etc.) - easy marks and takes a couple of seconds to squeeze into the station

## Overview → Possible OSCEs

### 1x History

- Common primary care topics - fatigue, headache, dyspnea

### 1x Management

- Key is to be systematic, Murtaghs 10 steps, practice your timing
- Don't over complicate patient explanation
- Common GP conditions, could be anything from primary care management and history taking consulting skills + more

### 1x Other

- Procedure - venepuncture, immunisation, DRS ABCD's
- Smoking cessation
- Alternate history, i.e. Erectile Dysfunction
- Motivational interviewing (SNAP)



# Clinical Specialties

## Common OSCEs

- Explain schizophrenia to a parent who thinks it's all their fault (be tactful about mentioning genetic and environmental factors!)
- SADAFACES history from depressed/anxious patient - especially suicide risk
- Immunisations for paediatrics - parent concerned about anaphylaxis
- Contraception options
- Explaining stages of labour or pain relief in labour

## Overview → Possible OSCEs

### Psychiatry

- Depression
- Grief vs. depression
- Anxiety
- Eating disorders
  - Could be explaining to family/friend
- HEADSS – could be ETOH, eating disorder, stress
- Psychosis/schizophrenia
  - Explaining to family/friend
- Other:
- CBT explanation → Have a sentence you can use to explain this

### Paediatrics

- Unwell child
- Febrile seizures?
- Common conditions → Bronchiolitis, Asthma, UTI, Abdominal Pain
- Developmental history
- Immunisations
- Breast feeding
- HEADSS



## *Obstetrics and Gynaecology*

- Obstetric History
  - Stages of labour and when to come into hospital
  - Demonstrating stages of labour
  - Pain relief → pharm and non pharm, benefits and disadvantages of each
  - Breast feeding +/- bottle vs. breast
  - Acute presentation i.e. placenta previa etc.
- Gynaecological
  - Menstrual + disorders i.e. dysmenorrhea, heavy bleeding etc.
  - Contraception
  - Sensitive female examination with models
  - PV discharge and DDx



# Surgery

## Common OSCEs

- Limb laceration
- Thyroid examination
- Lump examination
- Skin lesion examination - expect some kind of food smushed into the skin
- Surgical histories - Abdo pain (GI, renal)
- Breast history - lump, discharge
- Information giving i.e. brief history, explain diagnosis to patient, options for treatment (basic)
- Potentially → sensitive male history + examination on models (where CTA has gone ahead)

## High Yield Content

- Mary will ALWAYS put a stats question in the written exam, so know/understand how to calculate the stuff she puts in her stats tutes
- ALWAYS DO VITALS eg. ?shock
- Triple testing for a breast lump - examination, imaging (when USS v mammogram), FNAB
- Young woman with no symptoms wants a mammogram because an aunt got diagnosed with breast cancer recently. Discuss why this is a bad idea



*Good Luck!*

