

Guide to 2a Note Making

You've probably realised by now that note that the lectures in 2a are very different compared to phase 1 and it's hard to know where to begin for making notes as most of the lectures do not highlight key information which you need to know and are more a general overview of a disease. 2a exam questions focus on recognising/differentiating signs and symptoms, the disease pathophysiology, investigations (first line and gold standard), and management (from 1st line to adjuncts).

The table below adds on information (epidemiology, aetiology, complications) which might be asked in the most common diseases, so it is worth making brief notes in these sections. Obviously, this is just a template and you may find a way of note taking that suits you best, but this gives you an idea of how you might start.

It is important to highlight the difference between 1st line and gold standard investigations as this can be a common exam question. Similarly, with management, there is often a first line or main treatment that is given (this is the most important to learn) but also a number of additional treatments are often given to improve outcomes.

Template:

DISEASE NAME		
Definition	Brief description of what the disease is.	
Epidemiology	Population affected? Males/females, old/young etc. Incidence?	
Aetiology	What are the most common causes of the disease? Virus, bacteria (and what it looks like under the microscope), trauma, tumour etc.	
Risk Factors	What puts you at risk of getting this disease	
Pathophysiology	Outline of any relevant physiology and what goes wrong in order to cause a disease state.	
Clinical Manifestations	Key presentations	What presentation is unique or indicative of this disease? This will typically be the presentation highlighted in the questions
	Signs	What can be detected through examination or investigation
	Symptoms	What a patient experiences (listing signs OR symptoms are common SAQs)
Investigations	1st line	What test would you run first if someone presented with the symptoms above?
	Gold Standard	The diagnostic test or the most accurate for making the diagnosis
	Other	What other tests could be performed?
Differential diagnosis	Brief note of other diseases to consider when you see this presentation. Probably the top 3 most common is sufficient, you might add what findings make those diseases different.	
Management	1st line – What do you do/give first? Adjuncts – What can you do/give to help aid treatment?	
Monitoring	Note on method used to see if patient is recovering	
Complications	What happens if left untreated or side effects of management	
Prognosis	Recovery? Death rate?	
Other Notes		

Where to get the information from (this is just where I found most useful, not an exhaustive list, pick what suits you best)

1. Lectures – they should be teaching you most of what you need to know, but I wouldn't rely solely on these.

2. NICE guidelines – I found this to give the best information regarding management

<https://www.nice.org.uk/guidance>

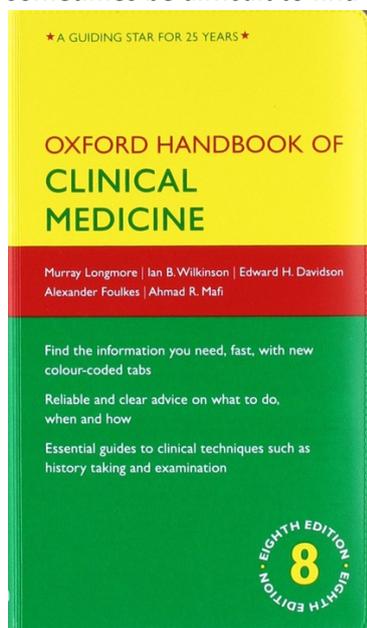
This can then be followed up with:

- NICE CKS <https://cks.nice.org.uk/> - gives quick summaries and key information especially on diagnosis and management
- Professional pages e.g. Patient UK <https://patient.info/> - another place to find additional info or to explain the topic in another way

3. BMJ Best Practice – This is what I used mostly, has sections similar to the ones in the table which makes it quick to transfer the information across. You can get complete access through searching on StarPlus for BMJ Best Practice and following the links to the website from there. If you make an account, you can login through their app as well!

The screenshot shows the BMJ Best Practice website. At the top, there is a search bar with the text "Search conditions, symptoms..." and a magnifying glass icon. Below the search bar are navigation links: "Recent updates", "Specialties", "Calculators", "Patient leaflets", "Videos", "Evidence", and "Drugs". The main content area is titled "Graves' disease" and includes a "View PDF" link. Below the title is a table with columns: OVERVIEW, THEORY, DIAGNOSIS, MANAGEMENT, FOLLOW UP, and RESOURCES. The "OVERVIEW" column contains a "Summary" link. The "THEORY" column contains links for "Epidemiology", "Aetiology", and "Case history". The "DIAGNOSIS" column contains links for "Approach", "History and exam", "Investigations", "Differentials", and "Screening". The "MANAGEMENT" column contains links for "Approach", "Treatment algorithm", "Emerging", and "Patient discussions". The "FOLLOW UP" column contains links for "Monitoring", "Complications", and "Prognosis". The "RESOURCES" column contains links for "Guidelines", "Images and videos", "References", "Patient leaflets", and "Evidence".

4. Oxford Clinical Handbook – pretty useful for fact checking and adding additional info though it can sometimes be difficult to find clear treatment steps in there.



Example:

DIABETES MELLITUS TYPE I		
Definition	Metabolic autoimmune disorder from destruction of insulin producing beta cells in the pancreas, results in absolute insulin deficiency.	
Epidemiology	5-10% of all patients with diabetes, W>A, commonly in youth	
Aetiology	HLA-DR and HLA-DQ provide protection from or increase susceptibility to diabetes. Environmental factors and viruses may trigger the destruction of beta cells.	
Risk Factors	Geographic region (European > Asian), genetic predisposition, infectious agents, dietary factors	
Pathophysiology	<p>T1DM usually develops as a result of autoimmune pancreatic beta-cell destruction. Up to 90% will have autoantibodies to at least one of 3 antigens: glutamic acid decarboxylase; insulin; and islet auto-antigen-2.</p> <p>Beta-cell destruction proceeds sub-clinically for months to years as insulinitis. When 80-90% of beta cells have been destroyed, hyperglycaemia develops. Patients cannot utilise glucose in peripheral muscle and adipose tissues. This stimulates glucagon secretion which promotes gluconeogenesis, glycogenolysis, and ketogenesis in the liver. Hyperglycaemia and anion gap metabolic acidosis result. Long-term hyperglycaemia leads to complications (below).</p> <p>Hyperglycaemia induces oxidative stress and inflammation. Oxidative stress can cause endothelial dysfunction by NO. Dysfunctional endothelium allows entry of LDLP into the vessel wall, which induces a slow inflammatory process and leads to atherosclerosis formation.</p>	
Clinical Manifestations	Key presentations	Polyuria, polydipsia, blurred vision, fatigue or tiredness.
	Signs	Young age <50, weight loss, low BMI, FHx of autoimmune disease, ketoacidosis
	Symptoms	Thirst, dry mouth, lack of energy, blurred vision, hunger, weight loss
Investigations	1st line	Random glucose tolerance test if presenting to GP. >11.1mmol/L Fasting plasma glucose, 2-hour plasma glucose, plasma or urine ketones can all be measured.
	Gold Standard	Glycated haemoglobin A1C test: average blood sugar for past 2-3 months, measures % glucose attached to Hb. >6.5% =diabetes.
	Other	Symptoms + random plasma glucose >11 mmol/L is sufficient for diagnosis Low C peptide levels. Elevated plasma or urine ketones
DDx	Type II DM, other diabetes subtypes	
Management	<ul style="list-style-type: none"> ○ Basal-bolus insulin (insulin glargine s/c) ○ Pre-meal insulin correction dose ○ Amylin analogue (pramlintide) ○ 2nd line: fixed insulin dose. <p>Side effects of insulin: hypoglycaemia, weight gain, lipodystrophy</p>	
Monitoring	Check BP at each visit and treat to a goal of <140/90mmHg. When not on statins, check lipid profile in adults with diabetes at the time of first diagnosis, at initial medical evaluation, then 5-yearly.	
Complications	Microvascular – retinopathy, nephropathy, neuropathy. Macrovascular – CAD, cerebrovascular disease, PAD	
Prognosis	Untreated type 1 is fatal due to diabetic ketoacidosis. Poorly controlled type 1 is a RF for: blindness, renal failure, foot amputations, and MIs.	

The List

This is extended from a previous document made by Andrew Maud (this should be on the Google Drive). This is NOT exhaustive and NOT necessarily accurate, don't take it as gospel but it should give you an idea of what diseases need covering in each module. Green diseases are the ones that are believed to come up most often and are the ones you should know everything about. Orange diseases are less common, but you should still have a good understanding. Red diseases are less likely to come up so the main information should be sufficient.

Endocrinology

- Diabetes (type I and II)
 - Ketoacidosis
 - Hyperosmolar hyperglycaemic state)
- Thyroid Disorders
 - Hyper- / Hypo-
 - Graves disease
 - Hashimoto's thyroiditis
 - Thyroid cancer
- Cushing's syndrome / disease
- Acromegaly
- Conn's Syndrome
- Pituitary adenomas
- Adrenal insufficiency
 - Addison's disease
 - Secondary adrenal insufficiency
- SIADH
- Hyperkalaemia / Hypokalaemia
- Diabetes insipidus (central and nephrogenic)
- Hypercalcaemia (of malignancy) and hypocalcaemia
- Hyperparathyroidism (1o/2o/3o) and hypoparathyroidism
- Neuroendocrine tumours (e.g. carcinoid syndrome)
- Pheochromocytoma

Haematology

- Anaemia – micro/normo/macrocytic, iron deficiency, folate deficiency, sickle cell, haemolytic, B12
- Deep vein thrombosis
- Leukaemia – AML, ALL, CML, CLL
- Lymphoma – Hodgkin, non-Hodgkin
- Multiple Myeloma
- Infection – malaria
- Polycythaemia
- Bleeding – over anticoagulation, platelet disorders, ITP, TTP, von Willebrand, haemophilia etc
- Thrombocytopenia
- Beta thalassaemia

Cardiology

- Ischaemic heart disease
 - Angina – stable / unstable
 - Acute coronary syndrome
 - Myocardial infarction
- Heart failure
 - Ischaemia
 - Valvular
 - Myopathic
 - Hypertensive
 - Cor pulmonale
- Hypertension (1o/2o)
- Arrhythmias
 - Atrial fibrillation
 - Atrial flutter
 - Heart blocks
 - Tachycardia (sinus, supraventricular, ventricular)
 - Ventricular ectopic
 - Prolonged QT syndrome
 - Wolf-Parkinson-White
- Aortic pathology – aneurysm and dissection
- Peripheral vascular disease – claudication and critical ischaemia
- Pericarditis and endocarditis
- Valve diseases – aortic and mitral stenosis and regurgitation (+ other valve diseases)
- Shock – haemorrhagic, anaphylactic, septic, cardiogenic, neurogenic
- Structural heart defects – ventricular/atrial septal defect, patent ductus arteriosus, coarctation of aorta, tetralogy of Fallot
- Cardiomyopathy – hypertrophic, dilated, restrictive
- Rheumatic fever

GI

- Inflammatory bowel disease – Crohn's, ulcerative colitis
- Irritable bowel syndrome
- Malabsorption – coeliac disease
- GORD and Barretts oesophagus
- GI cancer – oesophageal, stomach, small/large bowel
- Peptic ulcers
- Appendicitis
- Intestinal obstruction – small bowel, large bowel, pseudo obstruction
- Diverticulitis
- Gastritis
- Oesophageal varices
- Diarrhoea
- Ischaemic colitis and mesenteric ischaemia
- Mallory Weiss tear
- Perianal disorders, haemorrhoids, fistulae, fissure, perianal abscess
- Pilonidal sinus / abscess

Liver and Friends

- Liver Failure
- Biliary tract disease – biliary colic, cholecystitis, cholelithiasis (gallstones), ascending cholangitis, acute cholangitis, primary biliary cholangitis
- Acute and chronic pancreatitis
- Alcoholic liver disease / non-alcoholic fatty liver disease
- Cirrhosis, portal hypertension, varices, haematemesis
- Hepatitis – A/B/C/D/E/ autoimmune
- Infections – infective diarrhoea
- Metabolic liver disease – haemochromatosis, Wilson's disease, alpha 1 antitrypsin deficiency
- Liver/pancreatic cancer
- Ascites
- Peritonitis
- Hernias – inguinal / femoral / umbilical / incisional / epigastric / hiatal
- Paracetamol overdose

MSK

- Osteoarthritis
- Rheumatoid arthritis
- Crystal arthritis – gout, pseudogout
- Osteoporosis
- Spondyloarthropathies – ankylosing spondylitis, psoriatic arthritis, reactive arthritis
- Infection – septic arthritis, osteomyelitis
- SLE
- Primary and secondary bone tumours, myeloma
- Fibromyalgia
- Mechanical lower back pain
- Osteomalacia
- Vertebral disc degeneration
- Vasculitis
- Paget's disease
- Connective tissue – Marfans, Ehlers Danlos
- Antiphospholipid syndrome

GU

- Renal Colic (nephrolithiasis)
- Acute kidney injury / acute renal failure
- Cancer – kidney, bladder, prostate, testicular
- Chronic kidney disease
- Benign prostate hyperplasia
- Infection – pyelonephritis (acute/chronic), cystitis, prostatitis, urethritis
- Glomerular disease – nephritic syndrome (IgA nephropathy, post-strep glomerulonephritis, haemolytic uremic syndrome, Goodpasture's syndrome, SLE, rapidly progressing GN) and nephrotic syndrome (focal segmental glomerulosclerosis, membranous nephropathy, minimal change disease)
- Polycystic kidney disease – dominant and recessive
- Scrotal disease – epididymal cyst, hydrocele, varicocele, testicular torsion
- Obstructive uropathy
- Von Hippel Lindau
- Incontinence

Dermatology

- Skin ulcers – venous, arterial, neuropathic, infective, traumatic, vasculitic
- Acne
- Eczema
- Psoriasis
- Skin cancer – basal cell, melanoma, squamous cell, breast cancer
- Cellulitis
- Necrotising fasciitis

Respiratory

- COPD – chronic bronchitis, emphysema, alpha 1 antitrypsin deficiency
- Asthma
- Lung cancer – small cell, non-small cell, mesothelioma
- Pulmonary embolism
- Infections – TB, pneumonia (CAP and HAP),
- Interstitial lung diseases – pulmonary fibrosis, sarcoidosis
- Bronchiectasis
- Cystic fibrosis
- Pleural effusion
- Pneumothorax
- Pulmonary hypertension
- Hypersensitivity pneumonitis / extrinsic allergic alveolitis
- Occupational lung disorders
- Goodpasture's syndrome
- Wegener's granulomatosis (granulomatosis with polyangiitis)
- Upper respiratory tract infections (pharyngitis, otitis media and sinusitis, acute epiglottitis)

Neuro

- Stroke – ischaemic / haemorrhagic
- TIA
- Subarachnoid, subdural, extradural (epidural) haemorrhage
- Epilepsy – focal and generalised seizures
- Parkinson's disease
- Alzheimer's disease
- Headaches – migraine, tension, cluster, drug over use
- Multiple sclerosis
- Motor neurone disease – ALS, PLS, PMA, PBP
- Infection – meningitis (bacterial and viral), encephalitis, herpes zoster
- Primary and secondary tumours
- Giant cell arthritis
- Amaurosis fugax
- Spinal cord compression and cauda equina
- Nerve lesions – spinal and cranial nerve, carpal tunnel syndrome, foot drop
- Myasthenia gravis
- Peripheral neuropathies
- Syncope
- Huntington's disease
- Guillain-Barre syndrome
- Vasculitis
- Paget's disease
- Other dementias – frontotemporal, Lewy body, vascular
- Lambert Eaton Syndrome
- Charcot-Marie-Tooth Syndrome
- Wernicke encephalopathy
- Duchenne Muscular Dystrophy

Hope you find this document useful, any questions you can drop me a message at csalmon3@sheffield.ac.uk.