

### HYPERTENSION

| Symptoms                                                                                                            | Questions                                                                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Headaches, dizziness, tinnitus, blurred vision, epistaxis, chest discomfort, palpitations, nervousness, fatigue     | Does patient check blood pressure at home? What numbers are they getting? What are the highest and lowest numbers? How often are their numbers super high?        |
| Complications                                                                                                       | Any symptoms of HTN?                                                                                                                                              |
| HF, CAD, MI, A Fib, aortic dissection, PAD, atherosclerosis, stroke, CKD, hypertensive nephrosclerosis, retinopathy | What medication(s) is the patient taking? Dose? How many times a day? How many days per week does the patient forget/does not have time to take their medication? |
| Risk Factors                                                                                                        |                                                                                                                                                                   |
| Obesity, diabetes, smoking, excessive alcohol/caffeine, high sodium diet, physical inactivity, stress               |                                                                                                                                                                   |
| Labs                                                                                                                |                                                                                                                                                                   |
| CBC, creatinine, eGFR, BMP                                                                                          |                                                                                                                                                                   |

### HYPERTENSION: MEDICATIONS

| ACEIs (lisinopril, enalapril)                                                   | Thiazide diuretics (HCTZ)                                                    |
|---------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| First-line for patients with DM, renal disease, ischaemic heart disease, and HF | Side effects: hypokalaemia, hyponatraemia, increased glucose and cholesterol |

### HYPERTENSION: MEDICATIONS (cont)

| Side effects: dry cough, hyperkalaemia                                              | Adverse effects: angioedema - STOP IMMEDIATELY                                                |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| ARBs (losartan, valsartan)                                                          | Dihydropyridine CCB (amlodipine, nifedipine)                                                  |
| First-line for patients with DM, renal disease, ischaemic heart disease, and HF     | Avoid in patients with HFrEF                                                                  |
| Side effects: hyperkalaemia                                                         | Side effects: oedema, nausea, flushing, HA, GERD, gingival hyperplasia                        |
| Nondihydropyridine CCB (diltiazem, verapamil)                                       | Beta blockers (propranolol, metoprolol)                                                       |
| Side effects: bradycardia, AV block, constipation, hyperprolactinaemia (verapamil)  | Second-line therapy; used as primary drug in patients with HF, A Fib, ischaemic heart disease |
|                                                                                     | Side effects: bronchoconstriction with non-cardioselective beta blockers, increased TG        |
| Many others, but these are the main ones that you are most likely to see in clinic. |                                                                                               |

### DIABETES TYPE II

| Symptoms                                                                                               | Questions                                                                                                               |
|--------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Polyuria, polydipsia, polyphagia, vision changes, poor wound healing, numbness, tingling, constipation | Does pt check their blood sugars at home? When? What are their morning numbers (before eating)? Numbers during the day? |
| Labs                                                                                                   | Highest and lowest blood sugars? How often? Any symptomatic low blood sugars?                                           |
| A1c (every 3-6 months), BMP (renal function and electrolytes), LFTs, lipids, urine microalb/cr         | If on insulin, how many units with which type of insulin? How often do they forget/are too busy to take their insulin?  |
| Look For                                                                                               | Numbness, tingling, etc? Vision changes?                                                                                |
| Statin therapy regardless, ASCVD assessment for high-intensity statin                                  | Have they seen an eye doctor in the past year?                                                                          |
| Last ophthalmology exam, podiatry                                                                      |                                                                                                                         |
| Physical Exam                                                                                          |                                                                                                                         |
| Foot exam, acanthosis nigricans                                                                        |                                                                                                                         |

### DIABETES TYPE II: TREATMENT

| Metformin                                | Sulphonylureas                    |
|------------------------------------------|-----------------------------------|
| Enhances effect of insulin. Weight loss. | Glyburide, glimepiride, glipizide |



### DIABETES TYPE II: TREATMENT (cont)

Side effects: lactic acidosis, GI complaints (only when first starting, D/C), decreased B12 absorption

Contraindication: CKD w/ GFR <30

Increase insulin secretion

Side effects: risk of hypoglycaemia, weight gain, agranulocytosis, haemolysis

Contraindications: CV comorbidity, obesity, severe renal/liver failure

#### SGLT-2 Inhibitors

Canagliflozin, dapagliflozin, empagliflozin

Increases glucose excretion with urine

Side effects: genital yeast infections and UTI, polyuria and dehydration, DKA  
Contraindication: CKD, recurrent UTIs

Contraindication: CKD, recurrent UTIs

#### DPP-4 Inhibitors

Saxagliptin, sitagliptin

Inhibits GLP-1 degradation

#### Meglitinides

Nateglinide, repaglinide

Increases insulin secretion

Side effects: risk of hypoglycaemia, weight gain

Contraindication: severe liver failure

#### GLP-1 Agonists

Exenatide, liraglutide

Stimulates GLP-1 receptors

### DIABETES TYPE II: TREATMENT (cont)

Side effects: GI sx, pancreatitis, URI, headache, dizziness, oedema

Contraindication: liver failure, moderate to severe renal failure

Side effects: pancreatitis, possible pancreatic cancer, nausea

Contraindications: pre-existing, sx GI motility disorders

#### Rapid Acting Insulin

Lispro, aspart, glulisine

Onset: 5-15 min, Peak: 1 hr, Duration: 3-4 hrs

Before meals

#### Long-Acting Insulin

Glargine, detemir, degludec

Onset: 1-4 hrs, Duration: 24 hrs

Once daily

#### Adverse Effects of Insulin

Hypoglycaemia, weight gain, lipodystrophy, hypokalaemia, oedema, pain/erythema at injection site

### CORONARY ARTERY DISEASE

#### Symptoms

#### Questions

### CORONARY ARTERY DISEASE (cont)

Angina: Retrosternal chest pain/pressure that may radiate to the L arm, neck, jaw, or back. Pain is not affected by body position or breathing. No chest wall tenderness. Dyspnea, dizziness, palpitations, diaphoresis, n/v, syncope

Stable angina: chest pain/sx reproducible/predictable, subside with rest or nitroglycerin.

#### Things to Check For

ASCVD score, new ECGs, stress tests, ECHO, CT angio, coronary artery calcium (CAC) scoring, cardiac catheterisations

Revascularisation - PCI or CABG

Has patient had chest pain since last visit? Is it occurring more often or stable? Does nitro help relieve pain?

Any hospitalisations since last visit?

Medication compliance?

Any of the other symptoms besides chest pain?

If they follow with cardiology, when was the last time they were seen?

#### Secondary Prevention

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### CORONARY ARTERY DISEASE (cont)

Smoking cessation, increased physical activity, lifelong antiplatelet therapy with aspirin or clopidogrel, treat comorbidities, lipid-lowering therapy

### CORONARY ARTERY DISEASE: TREATMENT

| Anti-anginal Drugs                                              | Antiplatelet Agents                 |
|-----------------------------------------------------------------|-------------------------------------|
| First-line: beta-blockers                                       | <i>Recommended for all patients</i> |
| Second-line: CCBs, nitrates, ranolazine                         | Aspirin, clopidogrel                |
| ACEIs or ARBs                                                   | Revascularisation                   |
| <i>In patients who also have HTN, DM, LVEF 40% or &lt;, CKD</i> | CABG                                |
| Lisinopril, ramipril.<br>Losartan, valsartan.                   | PCI                                 |

### COPD & TREATMENT

| Symptoms                                  | Complications                                                                        |
|-------------------------------------------|--------------------------------------------------------------------------------------|
| Cough, dyspnea, fatigue, hyperventilation | Chronic respiratory failure, RHF (cor pulmonale), secondary spontaneous pneumothorax |
| Physical Exam                             | Treatment                                                                            |

### COPD & TREATMENT (cont)

Accessory muscle use, barrel chest, decreased breath sounds, end-expiratory wheezing and/or prolonged expiration, rhonchi/crackles, cyanosis, tachycardia, JVD, oedema, nail clubbing

| Labs | Long-acting beta agonists: salmeterol                    |
|------|----------------------------------------------------------|
| CBC  | Short-acting muscarinic antagonists: ipratropium bromide |

| Things To Look For     | Long-acting muscarinic antagonists: tiotropium bromide |
|------------------------|--------------------------------------------------------|
| PFT: FEV1 and FEV1/FVC | Inhaled corticosteroids: budesonide, fluticasone       |

PFT: FEV1 and FEV1/FVC

|               |
|---------------|
| CXR, chest CT |
|---------------|

Pulmonology clinic notes

Questions: How often they use albuterol inhaler? Any hospitalisations due to COPD exacerbation since last visit? If on O2, when do they use it? How has their COPD been - stable, worse? Have they used their steroids (pills) since the last visit (if they have them, some have to prevent exacerbations)?

### CKD

| Risk Factors                                                                                           | Treatment                                                                        |
|--------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| DMII, HTN, obesity, advanced age, substance use, AKI                                                   | Diet                                                                             |
| Aetiology                                                                                              | Avoidance of nephrotoxic substances: NSAIDs, antifungal, antibiotics, antivirals |
| Diabetic nephropathy, hypertensive nephropathy, glomerulonephritis, PKD, analgesic misuse, amyloidosis | Control underlying condition and comorbidities                                   |
| Labs                                                                                                   | Haemodialysis                                                                    |
| CBC, BMP (Cr, BUN), PT, PTT, bleeding time, lipid panel, blood pH, eGFR, urinalysis, urine microalb/cr | Complications                                                                    |
|                                                                                                        | CKD-mineral and bone disorder, secondary hyperparathyroidism, anaemia, ESRD      |

### CONGESTIVE HEART FAILURE

| Symptoms                                                                   | Lifestyle Modifications                                                            |
|----------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Nocturia, fatigue, tachycardia, dyspnea, orthopnea, PND, peripheral oedema | Exercise, cessation of smoking/EtOH/recreational drugs, weight loss, immunisations |



### CONGESTIVE HEART FAILURE (cont)

|                                                                                                                                                |                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| <b>Physical Exam</b>                                                                                                                           | Diet and fluid restriction                                                                        |
| S3/S4 gallop, pulsus alternans, bilateral basilar crackles, displaced apical heart beat, peripheral pitting oedema, JVD, hepato-jugular reflux | Self-monitoring and symptom recognition (if pt gains > 4-5 lbs within 3 days -> fluid overloaded) |

|                             |                                                                                |
|-----------------------------|--------------------------------------------------------------------------------|
| <b>Labs</b>                 | <b>Drugs to Avoid</b>                                                          |
| CBC, BMP, LFTs, lipid panel | Most antiarrhythmic drugs, CCB (except amlodipine), NSAIDs, thiazolidinediones |

Know baseline BNP

#### Look For

Echo - ejection fraction, valvular dysfunction

CXR - cardiac silhouette, pulmonary congestion

ECG - LVH

Cardiac MRI, L heart cath/angio, R heart cath

### CONGESTIVE HEART FAILURE: TREATMENT

|                          |                                              |
|--------------------------|----------------------------------------------|
| <b>ACEIs</b>             | <b>Aldosterone Antagonists</b>               |
| Enalapril, lisinopril    | Spironolactone, eplerenone                   |
| Every patient with HFrEF | Class II-IV and LVEF <35%                    |
| <b>ARBs</b>              | Monitor for hyperkalaemia                    |
| Losartan, valsartan      | <b>Loop Diuretics and Thiazide Diuretics</b> |

### CONGESTIVE HEART FAILURE: TREATMENT (cont)

|                                                             |                                            |
|-------------------------------------------------------------|--------------------------------------------|
| <b>Beta Blockers</b>                                        | Loop: furosemide, torsemide                |
| Carvedilol, metoprolol                                      | Thiazide: HCTZ, metolazone, chlorthalidone |
| Add once patient is stable on ACEI/ARB and no decompensated | To treat volume overload                   |

### CIRRHOSIS

|                                                                                                        |                                                                |
|--------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| <b>Symptoms</b>                                                                                        | <b>Things to Look Out For</b>                                  |
| Often asymptomatic                                                                                     | Child-Pugh score and MELD score every 6 months along with labs |
| Fatigue, pruritus, yellowing of skin or eyes, n/v, increased abdomen size, gynaecomastia, hypogonadism | HCC screening (q6 months)                                      |

#### Physical Exam

|                                                                                                        |                                                                                                                                                                                                             |
|--------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Jaundice, telangiectasia, caput medusae, palmar erythema, hepatomegaly, splenomegaly, ascites, asterix | <b>Complications</b>                                                                                                                                                                                        |
|                                                                                                        | Portal HTN, ascites, spontaneous bacterial peritonitis, oesophageal variceal haemorrhage, coagulopathy, hepatic encephalopathy, hepatorenal syndrome, hepatopulmonary syndrome, HCC, portal vein thrombosis |

### CIRRHOSIS (cont)

|                                               |                                                                                             |
|-----------------------------------------------|---------------------------------------------------------------------------------------------|
| <b>Labs</b>                                   | <b>Treatment</b>                                                                            |
| CBC, LFTs, alk phos, ammonia, PT/INR, albumin | Treat underlying condition, avoid hepatotoxic substances (EtOH, NSAIDs), routine vaccines   |
| <b>Imaging</b>                                | Non-selective beta blockers (propranolol) to lower portal HTN and prevent variceal bleeding |
| US, CT scan                                   | Spironolactone and furosemide for ascites and oedema                                        |

Aetiology is extensive: alcohol use, medications, aflatoxin, hepatitis, primary biliary cirrhosis, primary sclerosing cholangitis, parasitic infections, non-alcoholic steatohepatitis, haemochromatosis, Wilson disease, alpha-1 antitrypsin deficiency, glycogen storage disease, CF, Budd-Chiari syndrome

