

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)
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First-line for patients with DM, renal disease, ischaemic heart disease, and HF

Side effects: hyperkalaemia

Side effects: oedema, nausea, flushing, HA, GERD, gingival hyperplasia

Nondihydropyridine CCB (diltiazem, verapamil)	Beta blockers (propranolol, metoprolol)
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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

Increase insulin secretion

Contraindication: CKD w/ GFR <30

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

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

SGLT-2 Inhibitors

Meglitinides

Canagliflozin, dapagliflozin, empagliflozin

Nateglinide, repaglinide

Increases glucose excretion with urine

Increases insulin secretion

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

Side effects: risk of hypoglycaemia, weight gain

Contraindication: CKD, recurrent UTIs

Contraindication: severe liver failure

DPP-4 Inhibitors

GLP-1 Agonists

Saxagliptin, sitagliptin

Exenatide, liraglutide

Inhibits GLP-1 degradation

Stimulates GLP-1 receptors

DIABETES TYPE II: TREATMENT (cont)

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

Side effects: pancreatitis, possible pancreatic cancer, nausea

Contraindication: liver failure, moderate to severe renal failure

Contraindications: pre-existing, sx GI motility disorders

Rapid Acting Insulin

Long-Acting Insulin

Lispro, aspart, glulisine

Glargine, detemir, degludec

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

Onset: 1-4 hrs, Duration: 24 hrs

Before meals

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

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

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

Any hospitalisations since last visit?

Things to Check For

Medication compliance?

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

Any of the other symptoms besides chest pain?

Revascularisation - PCI or CABG

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

Secondary Prevention



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 *Recommended for all patients*

Second-line: CCBs, nitrates, ranolazine Aspirin, clopidogrel

ACEIs or ARBs Revascularisation

In patients who also have HTN, DM, LVEF 40% or <, CKD CABG

Lisinopril, ramipril. PCI
Losartan, valsartan.

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

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)

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

Labs	Drugs to Avoid
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

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

CONGESTIVE HEART FAILURE: TREATMENT (cont)

Beta Blockers	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

Symptoms	Things to Look Out For
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, gynecomastia, hypogonadism	HCC screening (q6 months)

Physical Exam

Jaundice, telangiectasia, caput medusae, palmar erythema, hepatomegaly, splenomegaly, ascites, asterixis	Complications
	Portal HTN, ascites, spontaneous bacterial peritonitis, oesophageal variceal haemorrhage, coagulopathy, hepatic encephalopathy, hepatorenal syndrome, hepatopulmonary syndrome, HCC, portal vein thrombosis

CIRRHOSIS (cont)

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

