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# Hypertension in GP practice

— Adam Górecki-Gomoła MD —

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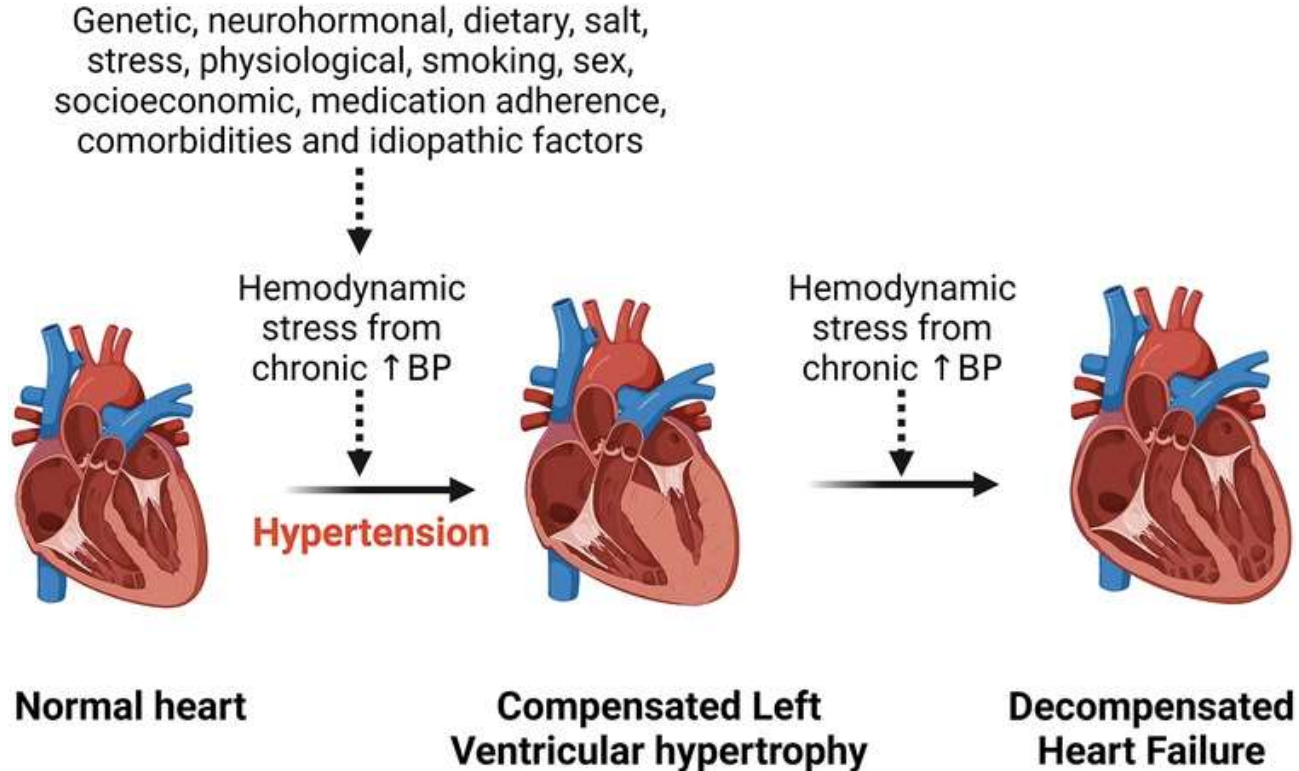
# Prevention of heart failure

Overarching objective

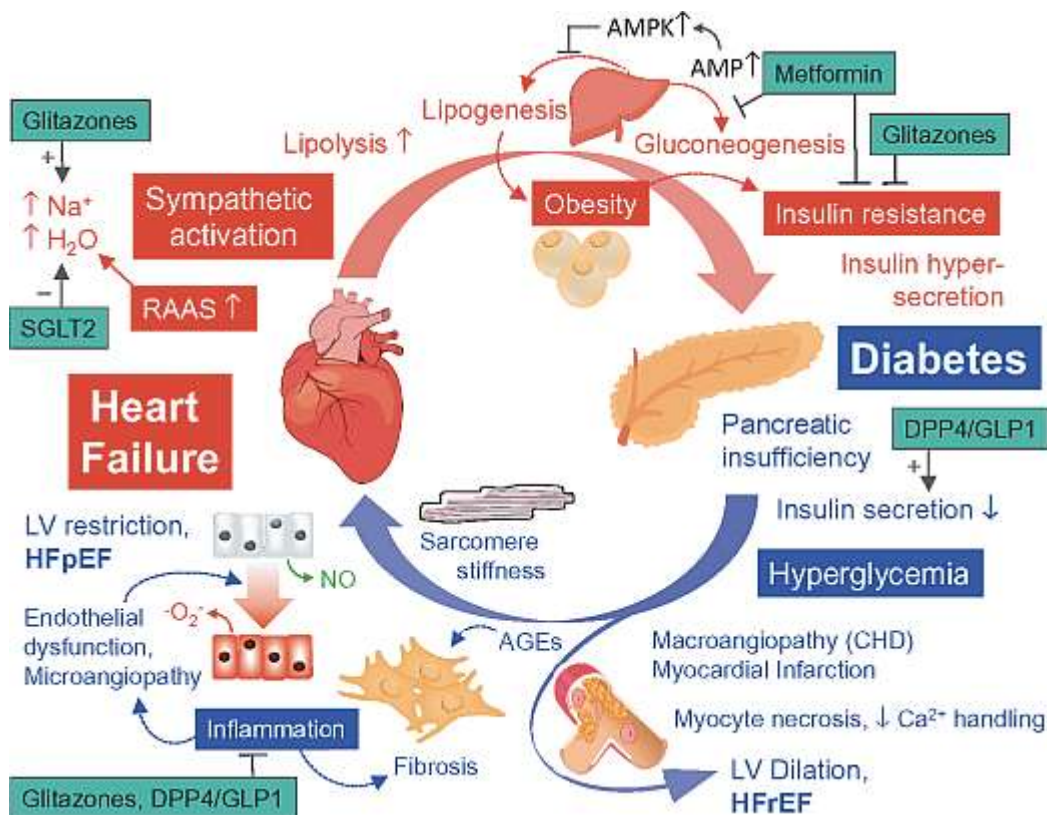
# Prevention and treatment of heart failure

- **Early initiation of treatment of hypertension.**
- Monitoring and modification of treatment in patients diagnosed with HF
- Early detection and prevention of diseases leading to heart failure
  - **Hypertension**
  - Renal failure
  - Dyslipidemia
  - Diabetes
  - Heart rhythm disorders
  - Viral infections
  - Thyroid diseases
  - depression\*

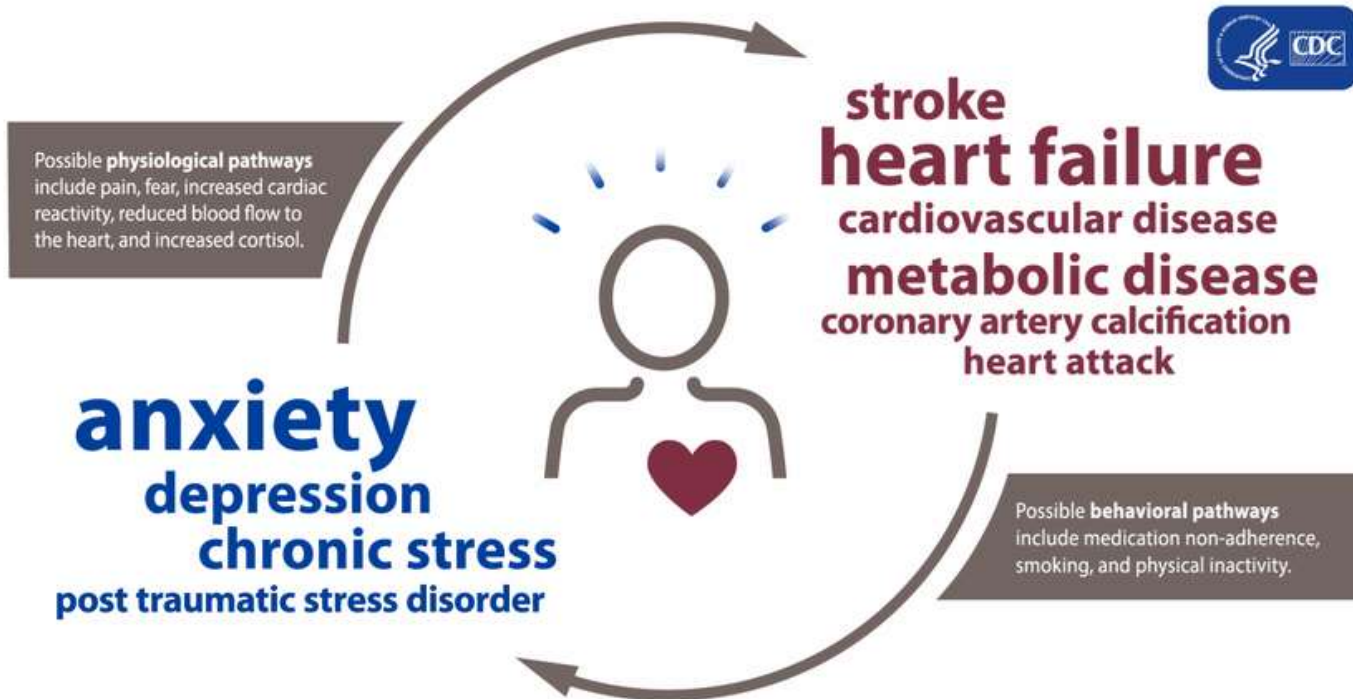
# Pathophysiology of heart failure



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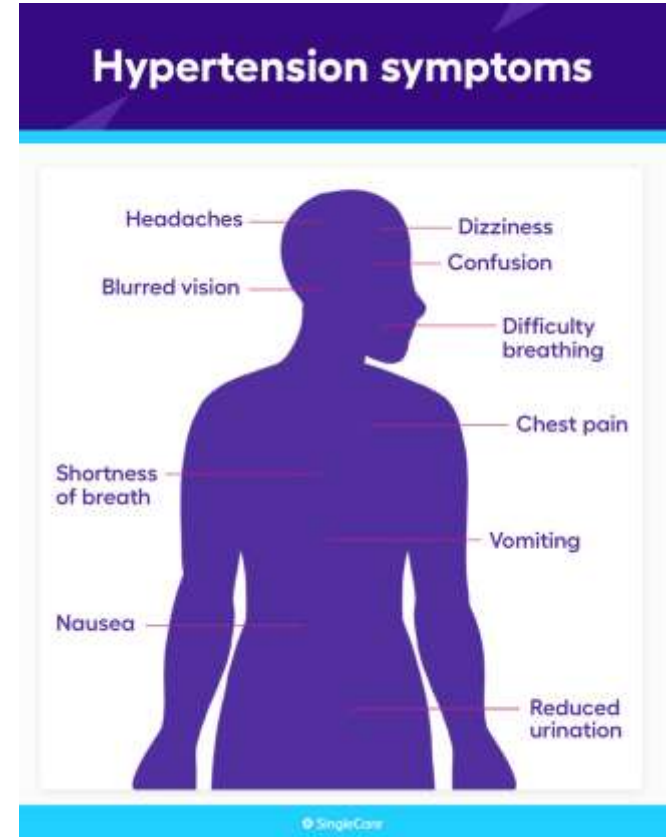


# Pathophysiology of heart failure



# Diagnosis of Hypertension in the PCP's Office:

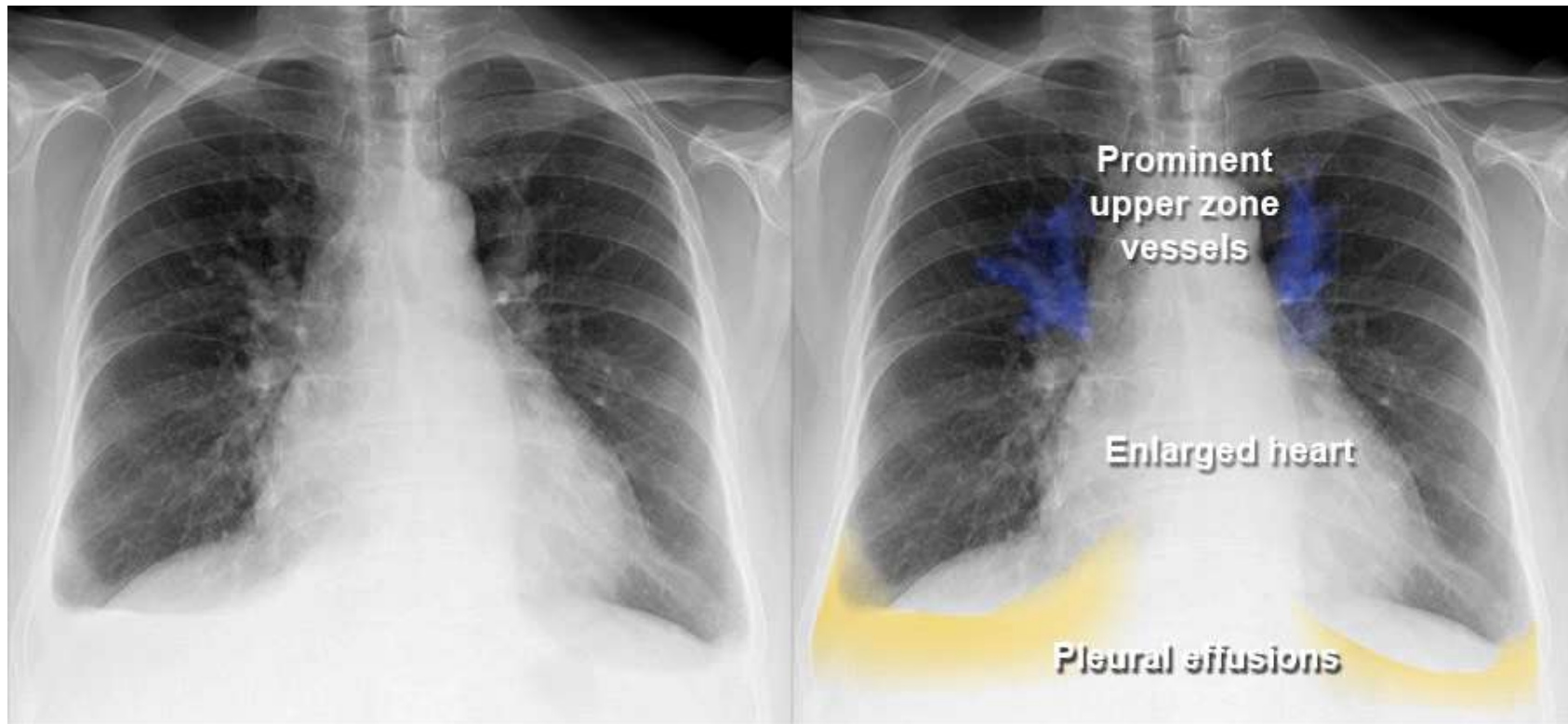
**Confirm diagnosis** of hypertension in people with a: clinic blood pressure of 140/90 mmHg or higher and. ABPM daytime average or HBPM average of 135/85 mmHg or higher







# RTG



# Stages of hypertension

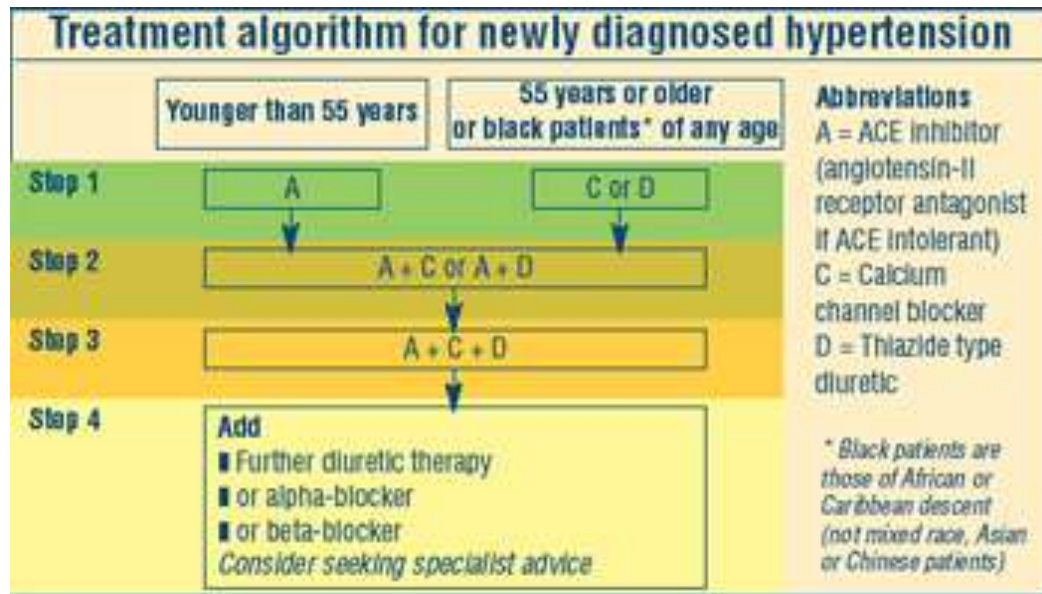
## Blood Pressure Categories



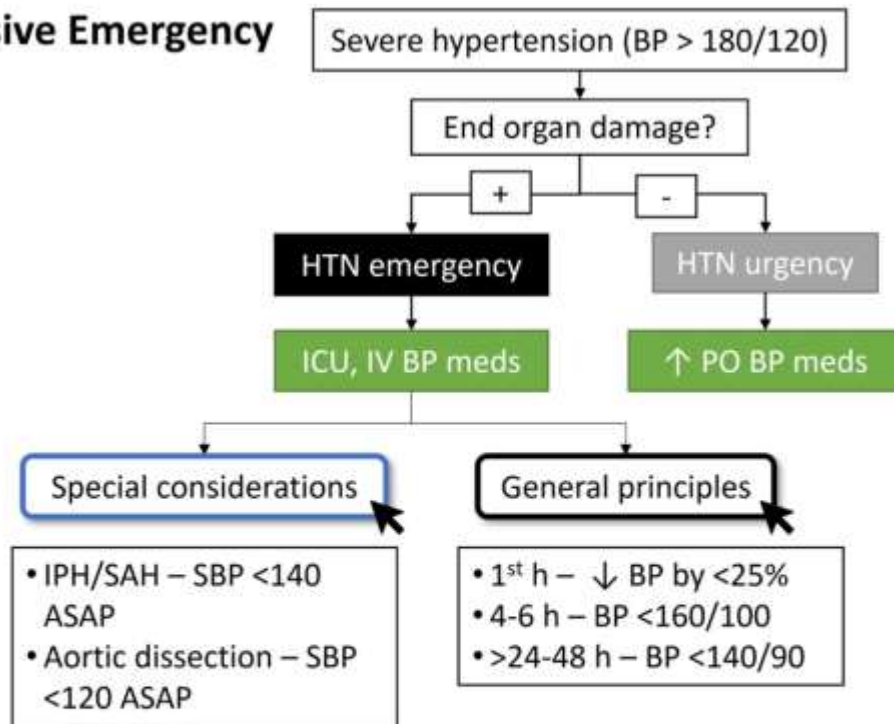
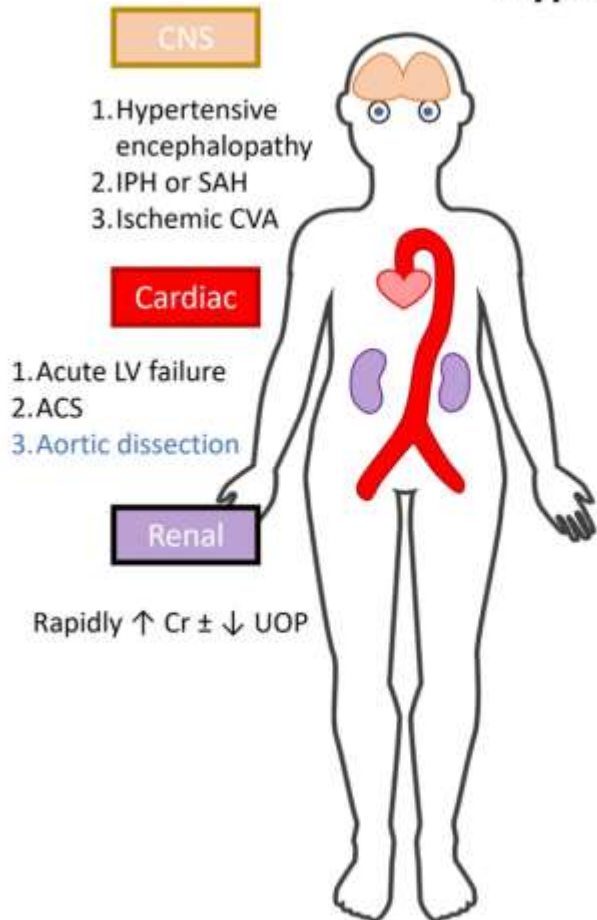
BLOOD PRESSURE CATEGORY	SYSTOLIC mm Hg (upper number)		DIASTOLIC mm Hg (lower number)
<b>NORMAL</b>	<b>LESS THAN 120</b>	<b>and</b>	<b>LESS THAN 80</b>
<b>ELEVATED</b>	<b>120 – 129</b>	<b>and</b>	<b>LESS THAN 80</b>
<b>HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 1</b>	<b>130 – 139</b>	<b>or</b>	<b>80 – 89</b>
<b>HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 2</b>	<b>140 OR HIGHER</b>	<b>or</b>	<b>90 OR HIGHER</b>
<b>HYPERTENSIVE CRISIS (consult your doctor immediately)</b>	<b>HIGHER THAN 180</b>	<b>and/or</b>	<b>HIGHER THAN 120</b>

# Therapeutic algorithm

SBP > 160 mmHg →



# Hypertensive Emergency

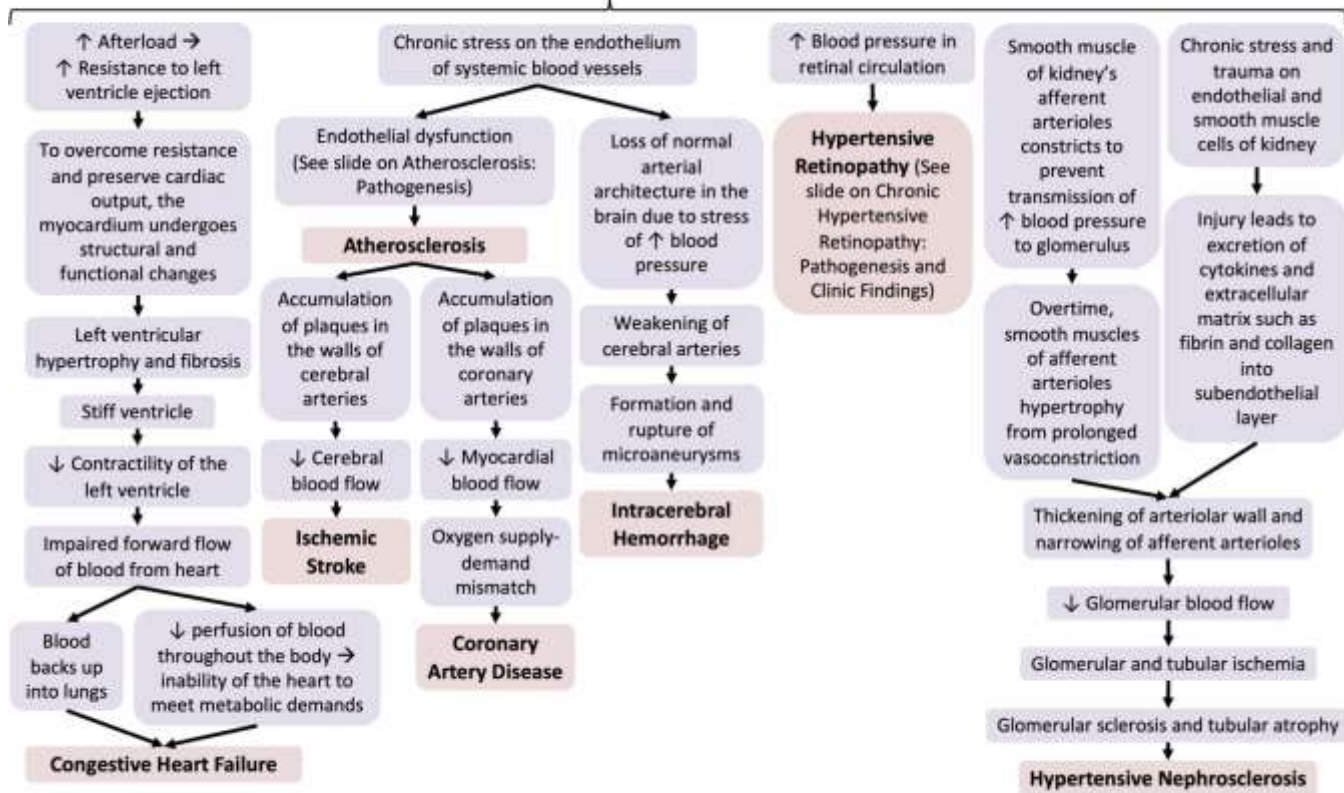


# Chronic Hypertension: Complications

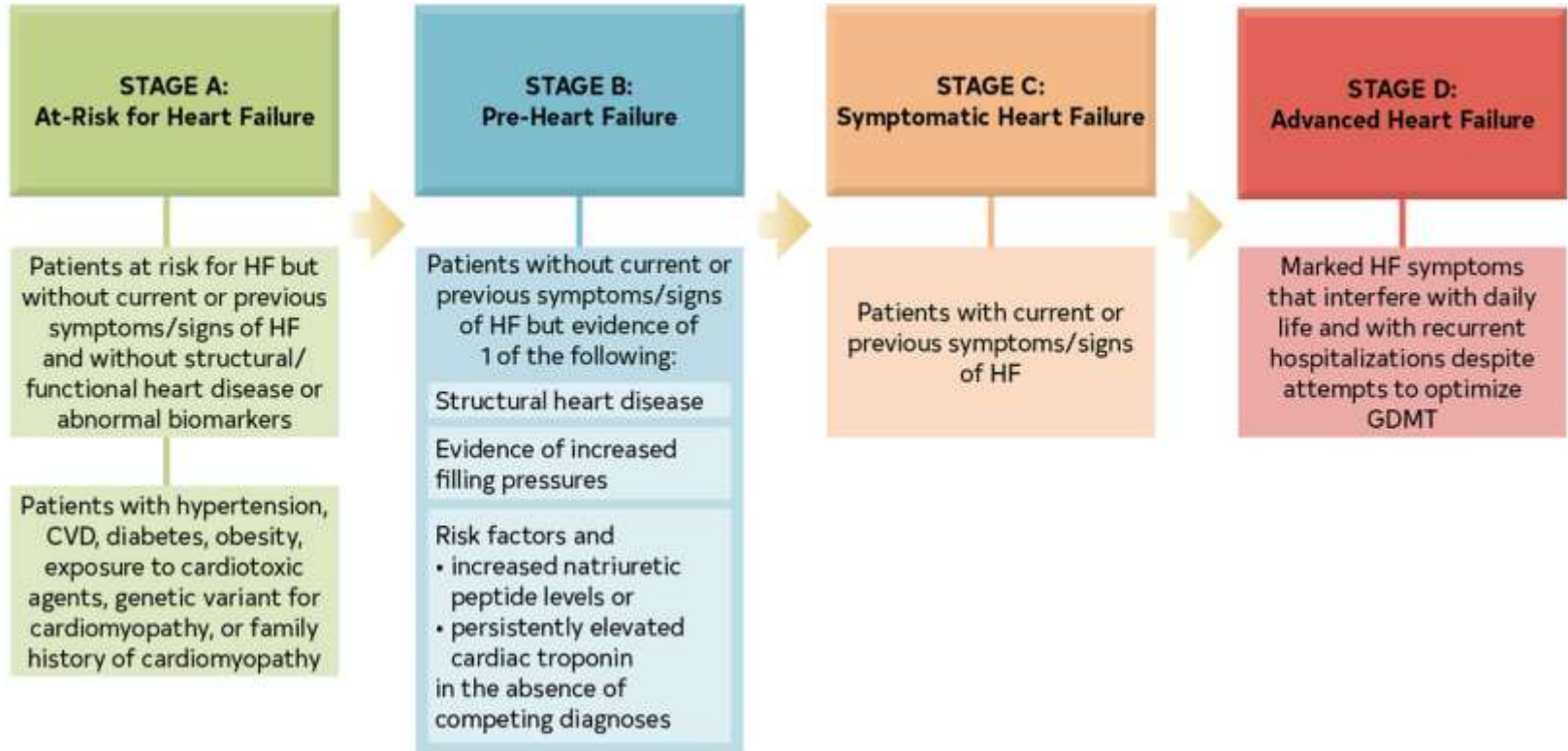
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## Chronic Hypertension





Long term Blood Pressure (BP)  $\geq 135/85$  (on ambulatory or home blood pressure measurement) in patients without diabetes, or BP  $\geq 130/80$  in patients with diabetes



# Stages of Heart failure in context of hypertension treatment



# NYHA scale

NYHA Class	Level of Clinical Impairment
I 	No limitation of physical activity. Ordinary physical activity does not cause undue breathlessness, fatigue, or palpitations.
II 	Slight limitation of physical activity. Comfortable at rest, but ordinary physical activity results in undue breathlessness, fatigue, or palpitations.
III 	Marked limitation of physical activity. Comfortable at rest, but less than ordinary physical activity results in undue breathlessness, fatigue, or palpitations.
IV 	Unable to carry on any physical activity without discomfort. Symptoms at rest can be present. If any physical activity is undertaken, discomfort is increased.

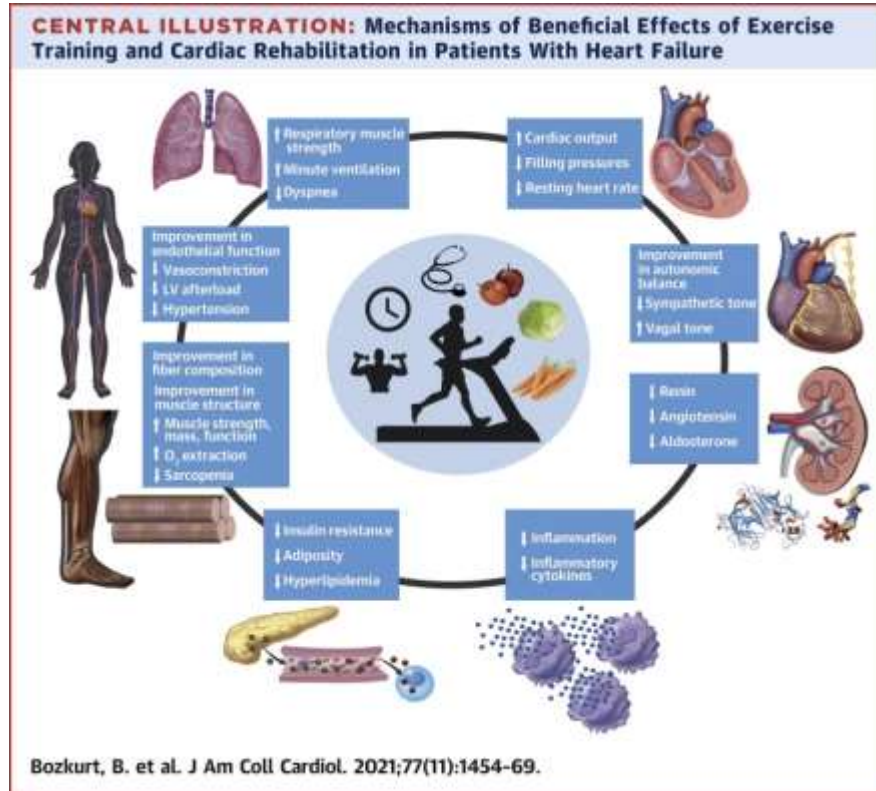
# Treatment of HF in a PCP setting:

CHF Drug	Initial Dose(s)	Maximum Dose(s)
Captopril	6.25 mg TID	50 mg TID
Enalapril	2.5 mg BID	10–20 mg BID
Fosinopril	5–10 mg QD	40 mg QD
Lisinopril	2.5–5 mg QD	20–40 mg QD
Perindopril	2 mg QD	8–16 mg QD
Quinapril	5 mg BID	20 mg BID
Ramipril	1.25–2.5 mg QD	10 mg QD
Trandolapril	1 mg QD	4 mg QD
Candesartan	4–8 mg QD	32 mg QD
Losartan	25–50 mg QD	50–150 mg QD
Valsartan	20–40 mg BID	160 mg BID
Sacubitril/valsartan	24/26 mg BID	97/103 mg BID
Ivabradine	5 mg BID	7.5 mg BID
Spironolactone	12.5–25 mg QD	25 mg QD or BID
Eplerenone	25 mg QD	50 mg QD
Bisoprolol	1.25 mg QD	10 mg QD
Carvedilol	3.125 mg BID	50 mg BID
Carvedilol CR	10 mg QD	80 mg QD
Metoprolol succinate	12.5–25 mg QD	200 mg QD
Isosorbide dinitrate Hydralazine	20–30 mg ISDN/ 25–50 mg TID or QD	40 mg ISDN TID 100 mg hydralazine TID

In the treatment of HF a combination of sacubitril and valsartan is used. Therapy is administered in a dose range of 49 mg/51 mg to 97 mg/103 mg. Dose modification to the target dose is carried out gradually over 2 to 4 weeks. The drug is administered twice daily.



# The impact of cardiac rehabilitation on cardiovascular outcomes



# Q & A

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