

Angina Pectoris is characterized by \_\_\_ due to \_\_\_\_\_ myocardial ischemia and an imbalance between oxygen demand and supply.

chest pain ,transient

The three main types of anti-anginal drugs include \_\_\_\_\_ , \_\_\_\_\_ , and \_\_\_ , all of which help to reduce cardiac work.

nitrites & nitrates, calcium channel blockers, beta blockers



In treating angina, nitrites and nitrates cause coronary \_\_\_ and decrease cardiac \_\_\_, while calcium channel blockers also provide coronary \_\_\_ and reduce cardiac work.

vasodilation, work, vasodilation

ACADEMY

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Other drugs used for angina treatment include Trimetazidine, Ranolazine, and \_\_\_ which help manage cardiac workload and improve oxygen supply.

Ivabradine

Adjuvant drugs can help prevent the conversion of \_\_\_\_\_ into \_\_\_ and include \_\_\_ drugs.

stable angina, unstable angina , anti-platelet

Statins are used even in the absence of hyperlipidemia for their effects on \_\_\_ release and \_\_\_ stabilization.

NO, atherosclerotic plaque

Treatment of risk factors such as hypertension, diabetes, and \_\_\_ is essential in managing cardiovascular health.

hyperlipidemia



Anti-platelet drugs are important in preventing unstable angina and are part of a broader strategy that includes treating \_\_\_ and \_\_\_ factors.

risk, precipitating



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Organic nitrates like glyceryl trinitrate undergo extensive \_\_\_ metabolism, resulting in only \_\_\_ oral bioavailability.

hepatic, 10%

The onset of sublingual glyceryl trinitrate is between \_\_\_ to \_\_\_ minutes, while its duration is approximately \_\_\_ minutes.

10, 20, 30

The pharmacodynamic effects of nitrates include smooth muscle \_\_\_\_\_, \_\_\_\_\_ platelet aggregation, and increased \_\_\_\_\_ levels.

relaxation, decreased, PGI<sub>2</sub>

In the body, nitrates are denitrated by ALDH, leading to the release of \_\_\_\_\_ which activates soluble guanyl cyclase and increases \_\_\_\_\_ levels.

nitric oxide, cGMP

In pharmacological actions, venodilation leads to a decrease in \_\_\_\_\_ and \_\_\_\_\_ resulting in lower preload.

VR, EDV



Arterial dilatation causes a \_\_\_\_\_ (increase/decrease) in total peripheral resistance (TPR) and subsequently \_\_\_\_\_ afterload and blood pressure.

reduction, decreases, blood pressure

Retinal vasodilation results in an increase in \_\_\_\_\_ and can lead to \_\_\_\_\_ in the eyes.

IOP, pressure

Cutaneous vasodilation can cause a flush of the \_\_\_ and \_\_\_ due to increased flow.

face, chest

In the heart, a decrease in preload and afterload leads to a reduction in \_\_\_ consumption and \_\_\_ work.

O<sub>2</sub>, cardiac



Venodilators decrease preload, which results in lower \_\_\_ and reduced pressure on the \_\_\_ coronaries.

contractility, sub-endocardial

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Arteriodilators help to lower total peripheral resistance (TPR), which subsequently decreases \_\_\_ and reduces \_\_\_ on the heart.

afterload, cardiac work

Hypotension triggers reflex sympathetic activation, causing an increase in \_\_\_ and \_\_\_ which shortens diastolic coronary perfusion time.

contractility, tachycardia

Therapeutic uses include treating all types of \_\_\_ and \_\_\_ angina pectoris.

angina, congestive heart failure

In the case of unstable angina, the treatment aims to reduce \_\_\_ work and \_\_\_ consumption.

cardiac, O<sub>2</sub>

Variant angina is treated by promoting coronary \_\_\_ and reducing \_\_\_ consumption.

vasodilation, O<sub>2</sub>



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Cyanide poisoning is addressed due to its affinity for \_\_\_ in met HB, not for \_\_\_ oxidase.

iron, cytochrome

Taking rapidly-acting nitrates can lead to \_\_\_ and \_\_\_ if not careful.

postural hypotension, syncope

Tolerance to nitrates can be avoided by having a \_\_\_ to \_\_\_ hour nitrate-free period.

8, 12

Adverse effects of high doses of nitrates include \_\_\_ and \_\_\_ due to methemoglobinemia.

headache, flush

Combining nitrates with phosphodiesterase inhibitors like \_\_\_ can cause fatal \_\_\_ and tachycardia.

sildenafil, hypotension



Calcium Channel Blockers (CCBs) include Dihydropyridines (DHPs) and Non-DHPs. DHPs are known for their greater \_\_\_ than \_\_\_ depression.

vasodilation, cardiac

Among the long-acting Dihydropyridines, \_\_\_ is commonly used, while \_\_\_ and \_\_\_ are intermediate-acting options.

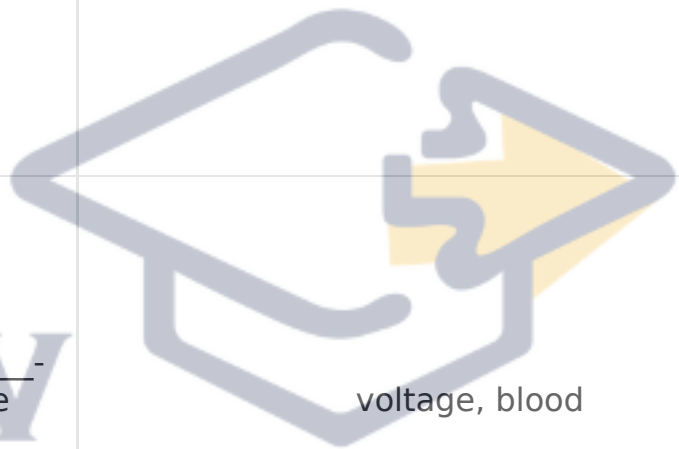
amlodipine, nifedipine, felodipine

The short-acting Dihydropyridines include \_\_\_ and \_\_\_, while Non-DHPs consist of \_\_\_ and \_\_\_.

isradipine, nimodipine, verapamil, diltiazem

In terms of effects, Non-DHPs like verapamil and diltiazem primarily cause \_\_\_ depression that is greater than their effect on \_\_\_.

cardiac, vasodilation



Calcium channel blockers primarily block \_\_\_-dependent L-type calcium channels in the heart and \_\_\_ vessels.

voltage, blood

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The mechanism of action of calcium channel blockers includes decreasing  $Ca^{2+}$  influx into cardiac muscle, blood vessels, and \_\_\_ muscles.

smooth

Calcium channel blockers lead to cardiac inhibition, especially with \_\_\_ and diltiazem, and cause arteriolar \_\_\_ in blood vessels.

verapamil, vasodilation

In addition to cardiac effects, calcium channel blockers promote relaxation in smooth muscles such as those in the \_\_\_ and \_\_\_ systems.

biliary, intestinal

Verapamil and diltiazem have a negative chronotropic effect, which means they \_\_\_ the heart rate and \_\_\_ the heart's contractility.

decrease, decrease



The use of verapamil and diltiazem is contraindicated in heart failure due to their negative \_\_\_ effect and negative \_\_\_ effect.

inotropic, chronotropic

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Verapamil and diltiazem are not recommended to be combined with  $\beta$ -blockers or digitalis because they can lead to \_\_\_ and \_\_\_ effects.

excessive, harmful

Class IV anti-arrhythmic drugs like verapamil and diltiazem reduce automaticity and decrease \_\_\_ focus formation, which helps in managing \_\_\_ arrhythmias.

ectopic, cardiac

Nifedipine and amlodipine primarily cause \_\_\_ and \_\_\_ in the cardiovascular system.

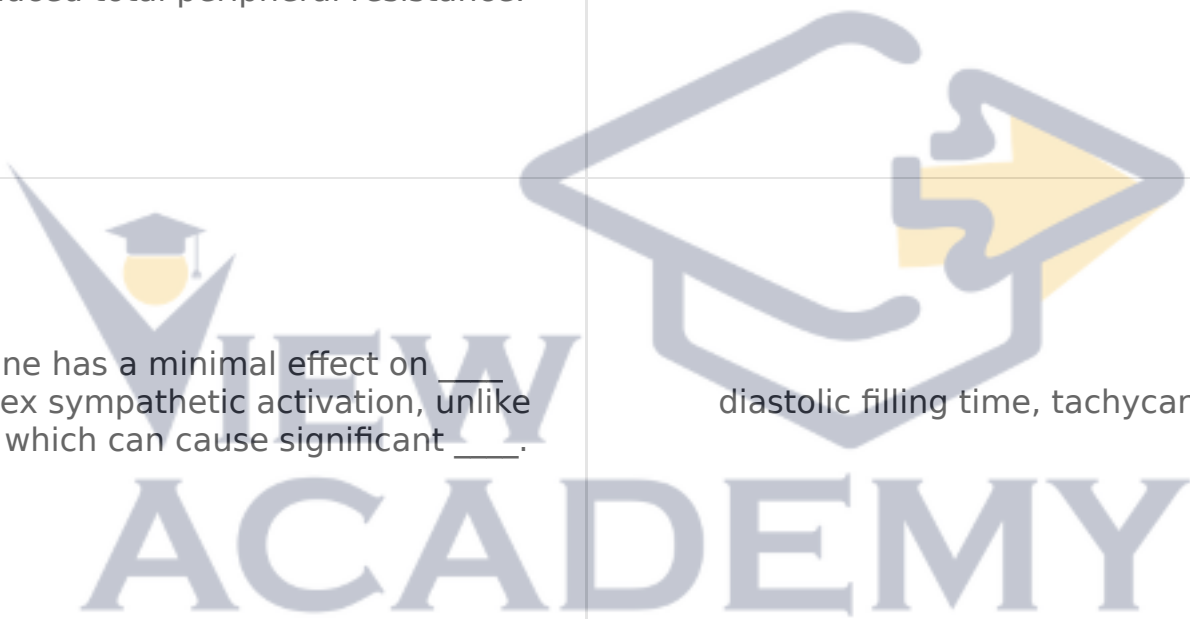
vasodilation, decreased cardiac work

The pharmacological actions of nifedipine and amlodipine lead to a decrease in \_\_\_ and \_\_\_ due to reduced total peripheral resistance.

afterload, oxygen consumption

Amlodipine has a minimal effect on \_\_\_ during reflex sympathetic activation, unlike nifedipine which can cause significant \_\_\_.

diastolic filling time, tachycardia



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Both nifedipine and amlodipine act more on \_\_\_ than on \_\_\_ to reduce preload and venous return.

arteries, veins

In treating effort angina, CCBs decrease \_\_\_ consumption and \_\_\_ work to alleviate symptoms.

oxygen, cardiac

Calcium channel blockers (CCBs) are used to treat \_\_\_ and \_\_\_ by reducing cardiac work and promoting coronary vasodilation.

angina, coronary vasodilation

CCBs act as powerful arteriolar dilators, leading to a decrease in \_\_\_ and \_\_\_ afterload.

total peripheral resistance, cardiac

The negative inotropic effect of non-DHP CCBs results in a reduction of \_\_\_ and a decrease in \_\_\_ aggregation.

contractility, platelet



Calcium channel blockers (CCBs) can be used to treat \_\_\_ and \_\_\_ in patients with cardiac issues.

cardiac arrhythmia, hypertrophic obstructive cardiomyopathy

For managing hypertension, \_\_\_ CCBs are particularly effective, while \_\_\_ CCBs are used for peripheral vascular disease.

DHPs, DHPs

Nimodipine is specifically indicated for treating \_\_\_ due to subarachnoid hemorrhage and can also help with \_\_\_ headaches.

cerebral spasm, migraine

Verapamil and diltiazem are used to treat \_\_\_ obstructive cardiomyopathy with \_\_\_ stenosis.

hypertrophic, subaortic



Common adverse effects of CCBs include \_\_\_ and \_\_\_.

headache, flushing

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Verapamil and diltiazem can cause \_\_\_ inotropic effects leading to \_\_\_ and \_\_\_.

negative, heart failure, bradycardia

One of the gastrointestinal side effects of CCBs, particularly with verapamil, is \_\_\_ and it can also lead to \_\_\_.

constipation, liver impairment

Ankle edema from CCBs is due to reduced \_\_\_\_ permeability and can be treated with \_\_\_\_.

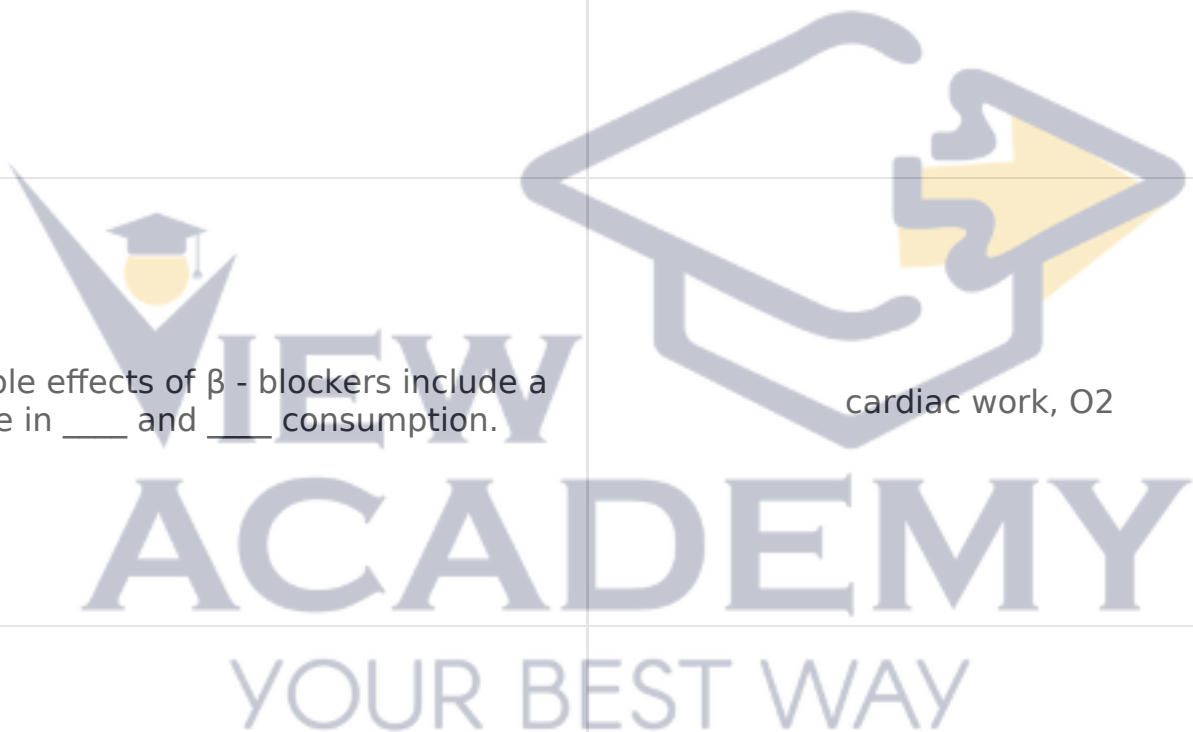
capillary, elastic stocks

$\beta$  - blockers are effective in treating \_\_\_\_ but not \_\_\_\_ angina pectoris.

angina pectoris, variant

The desirable effects of  $\beta$  - blockers include a decrease in \_\_\_\_ and \_\_\_\_ consumption.

cardiac work, O<sub>2</sub>



$\beta$  - blockers help to lower heart rate (HR) and increase \_\_\_\_ coronary perfusion time.

diastolic

By reducing contractility,  $\beta$  - blockers relieve compression of the \_\_\_\_ coronaries.

sub-endocardial

Prolonged use of certain medications can increase the incidence of type - 2 diabetes mellitus by \_\_\_\_%. Additionally, they may cause \_\_\_\_ in susceptible patients.

50, bradycardia

In the context of angina pectoris, cardio-selective  $\beta$  - blockers are useful for \_\_\_\_ and \_\_\_\_, while non-selective  $\beta$  - blockers are contraindicated in \_\_\_\_ angina.

stable, unstable, variant

Sudden cessation of certain medications can lead to rebound \_\_\_\_ and \_\_\_\_ in patients, highlighting the importance of careful management.

angina, arrhythmia

Undesirable effects of some heart medications include heart block, heart failure, and an increased risk of \_\_\_\_ in susceptible patients, particularly after \_\_\_\_ use.

diabetes, prolonged

In treating angina,  $\beta$ -blockers can be combined with \_\_\_\_ and \_\_\_\_.

nitrates, nifedipine



Nitrates and nifedipine lead to an increase in heart rate and a decrease in \_\_\_\_ and \_\_\_\_.

diastolic filling, ejection time

For variant angina, the useful drugs include \_\_\_\_ and \_\_\_\_.

$\beta$ -blockers, nitrates

In cases of angina with heart failure, the recommended treatment includes large doses of \_\_\_\_ and \_\_\_\_.

$\beta$ -blockers, verapamil



Trimetazidine is known for its anti-ischemic and cytoprotective properties, which help to reduce \_\_\_\_ production and \_\_\_\_ acidosis.

lactate, intracellular

Ranolazine prevents the abnormal sustained opening of the late \_\_\_\_ channels and increases \_\_\_\_ synthesis.

Na<sup>+</sup>, ATP

One of the benefits of Trimetazidine is its ability to decrease free radical production and reduce \_\_\_ overload, which helps in cell respiration.

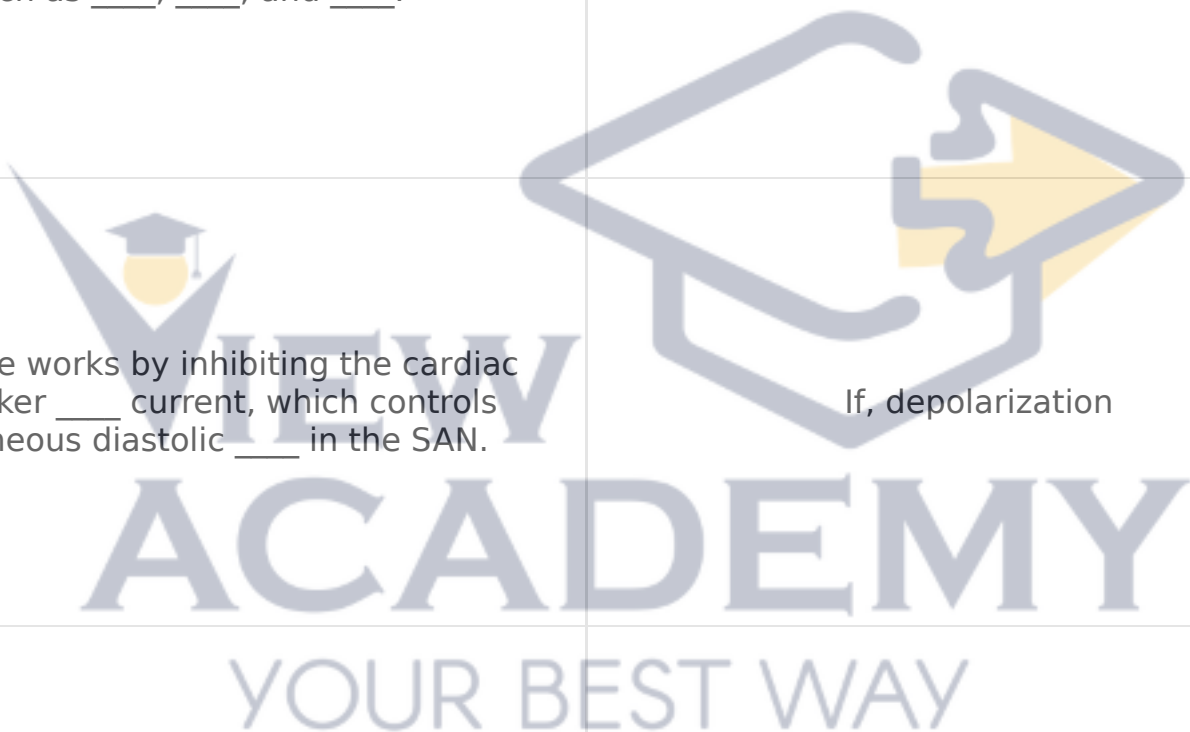
intracellular Ca + 2

Ranolazine does not affect heart rate or blood pressure, but it may cause adverse effects such as \_\_\_, \_\_\_, and \_\_\_.

constipation, nausea, dizziness

Ivabradine works by inhibiting the cardiac pacemaker \_\_\_ current, which controls spontaneous diastolic \_\_\_ in the SAN.

If, depolarization



The primary therapeutic use of Ivabradine is for \_\_\_ angina pectoris in adults with normal \_\_\_ rhythm.

stable, sinus

Ivabradine produces a dose-dependent reduction in \_\_\_ rate, affecting the \_\_\_ of the heart.

heart, rhythm

The mechanism of action of Ivabradine involves regulating heart rate by inhibiting the \_\_\_ current in the SAN, leading to a decrease in \_\_\_ depolarization.

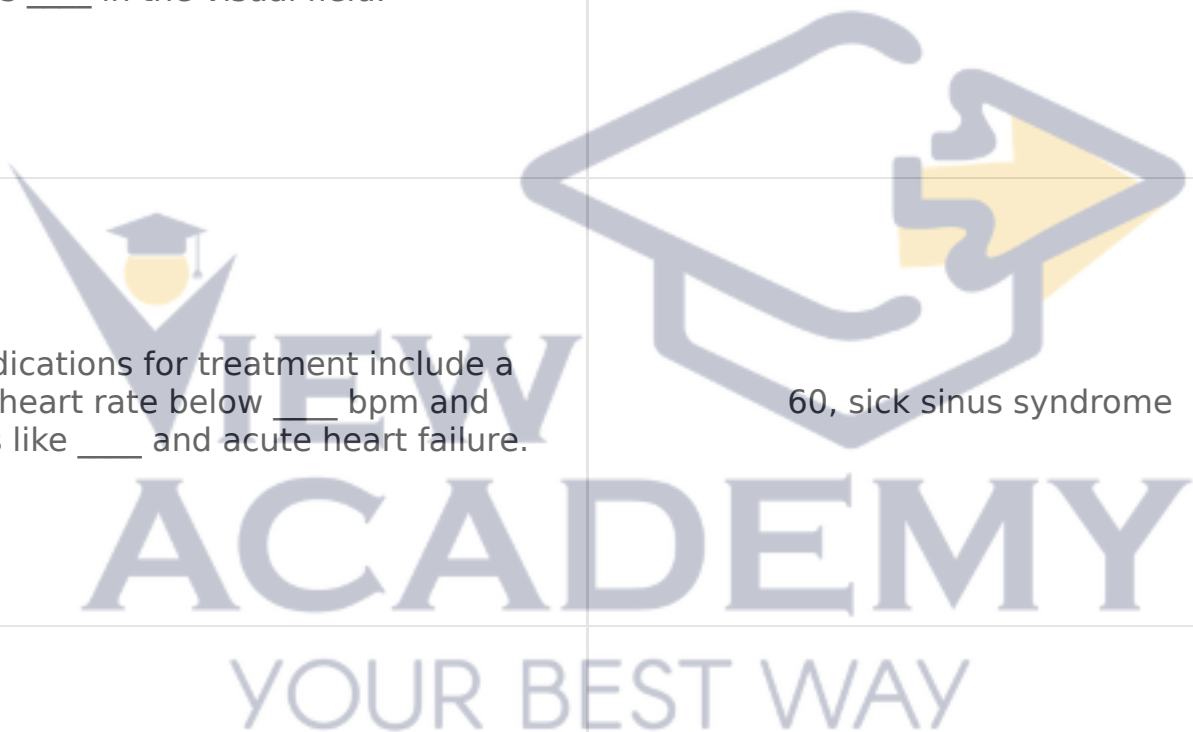
If, diastolic

Adverse effects of certain treatments may include \_\_\_ and luminous phenomena such as \_\_\_ in the visual field.

Bradycardia, transient enhanced brightness

Contraindications for treatment include a resting heart rate below \_\_\_ bpm and conditions like \_\_\_ and acute heart failure.

60, sick sinus syndrome



Severe hypotension is defined as blood pressure below \_\_\_ mmHg systolic and \_\_\_ mmHg diastolic.

90, 50

Luminous phenomena are caused by the inhibition of the retinal current 'I<sub>h</sub>', which resembles the cardiac current 'I<sub>f</sub>' and results in \_\_\_ in a limited area of the visual field.

transient enhanced brightness