

LIVE VIRTUAL COMMITTEE MEETING



TO VIEW VIA WEB



TO PROVIDE PUBLIC COMMENT

You may submit a request to speak during Public Comment or provide a written comment by emailing PublicComment@lacera.com. If you would like to remain anonymous at the meeting without stating your name, please let us know.

Attention: Public comment requests must be submitted via email to PublicComment@lacera.com.

LOS ANGELES COUNTY EMPLOYEES RETIREMENT ASSOCIATION
300 N. LAKE AVENUE, SUITE 650, PASADENA, CA

AGENDA

THE MEETING OF THE DISABILITY PROCEDURES AND SERVICES COMMITTEE and BOARD OF RETIREMENT*

LOS ANGELES COUNTY EMPLOYEES RETIREMENT ASSOCIATION

300 NORTH LAKE AVENUE, SUITE 810
PASADENA, CA 91101

8:00 A.M., THURSDAY, AUGUST 12, 2021 **

This meeting will be conducted by the Disability Procedures and Services Committee by teleconference under the Governor's Executive Order No. N-29-20.

Any person may view the meeting online at
https://members.lacera.com/lmpublic/live_stream.xhtml.

*The Board may take action on any item on the agenda,
and agenda items may be taken out of order.*

COMMITTEE TRUSTEES:

JP Harris, Chair
Wayne Moore, Vice Chair
Herman B. Santos
Gina Zapanta
William Pryor, Alternate

- I. CALL TO ORDER
- II. APPROVAL OF THE MINUTES
 - A. Approval of the minutes of the regular meeting of June 10, 2021
- III. PUBLIC COMMENT

(Written Public Comment - You may submit written public comments by email to PublicComment@lacera.com. Correspondence will be made part of the official record of the meeting. Please submit your written public comments or documentation as soon as possible and up to the close of the meeting.

August 12, 2021

Verbal Public Comment - You may also request to address the Committee. A request to speak must be submitted via email to PublicComment@lacera.com. We will contact you with information and instructions as to how to access the meeting as a speaker. If you would like to remain anonymous at the meeting without stating your name, please let us know.)

IV. FOR INFORMATION ONLY

- A. STRESS, HYPERTENSION, and STROKE
50 Years of Research
Presentation by Dr. Jeffrey A. Hirsch

V. ITEMS FOR STAFF REVIEW

VI. GOOD OF THE ORDER
(for information only)

VII. ADJOURNMENT

***The Board of Retirement has adopted a policy permitting any trustee of the Board to attend a standing committee meeting open to the public. In the event five (5) or more trustees of the Board of Retirement (including trustees appointed to the Committee) are in attendance, the meeting shall constitute a joint meeting of the Committee and the Board of Retirement. Trustees of the Board of Retirement who are not trustees of the Committee may attend and participate in a meeting of a Board Committee but may not vote, make a motion, or second on any matter discussed at the meeting. The only action the Committee may take at the meeting is approval of a recommendation to take further action at a subsequent meeting of the Board.**

Any documents subject to public disclosure that relate to an agenda item for an open session of the Committee, that are distributed to trustees of the Committee less than 72 hours prior to the meeting, will be available for public inspection at the time they are distributed to a majority of the Committee, at LACERA's offices at 300 North Lake Avenue, suite 820, Pasadena, California during normal business hours from 9:00 a.m. to 5:00 p.m. Monday through Friday.

Persons requiring an alternative format of this agenda pursuant to Section 202 of the Americans with Disabilities Act of 1990 may request one by calling the Board Offices at (626) 564-6000, Ext. 4401/4402 from 8:30 a.m. to 5:00 p.m. Monday through Friday, but no later than 48 hours prior to the time the meeting is to commence. Assistive Listening Devices are available upon request. American Sign Language (ASL) Interpreters are available with at least three (3) business days notice before the meeting date.

MINUTES OF THE MEETING OF THE
DISABILITY PROCEDURES AND SERVICES COMMITTEE
and
BOARD OF RETIREMENT

LOS ANGELES COUNTY EMPLOYEES RETIREMENT ASSOCIATION
GATEWAY PLAZA - 300 N. LAKE AVENUE, SUITE 810, PASADENA, CA 91101

THURSDAY, JUNE 10, 2021

This meeting was conducted by the Board of Retirement by teleconference under the Governor's Executive Order No. N-29-20.

COMMITTEE TRUSTEES

PRESENT:

JP Harris, Chair
Wayne Moore, Vice Chair
Herman B. Santos
Gina Zapanta (Joined meeting at 9:11 a.m.)
William Pryor, Alternate

ALSO IN ATTENDANCE:

BOARD TRUSTEES AT LARGE

Vivian Gray
Keith Knox
Ronald Okum
Les Robbins
Alan Bernstein
Shawn Kehoe

STAFF, ADVISORS, PARTICIPANTS

Ricki Contreras, Disability Retirement Services Manager
Tamara Caldwell, Disability Retirement Services Supervisor
Francis J. Boyd, Senior Staff Counsel

I. CALL TO ORDER

The Meeting was called to order virtually by Chair Harris at 8:30 a.m.

II. APPROVAL OF THE MINUTES

A. Approval of the minutes of the regular meeting of May 5, 2021

Mr. Moore made a motion, Mr. Santos seconded, to approve the minutes of the regular meeting of May 5, 2021. The motion passed with all trustees present.

III. PUBLIC COMMENT

There were no requests from the public to speak.

IV. FOR INFORMATION ONLY

A. Overview of the Pre-Employment/Post-Offer
Medical Examination Process in Occupational
Health Programs
Presentation by Dr. Sepideh A. Souris

Dr. Souris and Maggie Martinez provided a presentation to the Committee and answered questions from Trustees.

V. ITEMS FOR STAFF REVIEW

There was nothing to report.

VI. GOOD OF THE ORDER

There were no comments during the Good of the Order.

VII. ADJOURNMENT

With no further business to come before the Disability Procedures and Services Committee, the meeting was adjourned at 9:14 a.m.



STRESS, HYPERTENSION and STROKE

50 Years of Research

Jeffrey A. Hirsch, MD.
Assistant Clinical Professor of Medicine
UCLA School of Medicine

NORMAL REGULATORY MECHANISMS FOR BLOOD PRESSURE

- **Blood pressure (BP)** is directly proportional to the product of cardiac output and peripheral vascular resistance.
 - Stroke Volume
 - Vascular tone
 - Intravascular Volume
- Acute regulatory mechanisms are coordinated in the brainstem; the neural control centers are influenced by impulses from other areas of the brain and by signals from sensors both intrinsic and extrinsic to the circulation.

RESEARCH BACKGROUND

- In the 1950s, cardiologist Meyer Friedman was looking over his waiting room furniture, which consisted of upholstered chairs with armrests. Friedman decided to have these chairs reupholstered. When the man doing the reupholstering came to the office to do the work, he commented on how the chairs were worn in a unique manner—the front edges of the cushions were worn down, as were the front tips of the arm rests. It seemed like the cardiology patients were tapping or squeezing the front of the armrests, as well as literally sitting on the edge of their seats (Friedman & Rosenman, 1974)
- **Friedman and Rosenman (1976) labeled this behavior Type A personality.** They subsequently conducted research to show that people with type A personality have higher risk of heart disease and hypertension than type Bs.
- Although originally called 'Type A personality' by Friedman and Rosenman, the behavioral responses are now collectively known as **Type A behavior Pattern.**

LATER RESEARCH:

- “Hot Reactors,” essentially the sub-set of the population thought to be most adversely affected by increased allostatic load (much written in the 1990’s).
- This century, leading researcher probably BS McEwen (and colleagues) at Rockefeller University – using the umbrella term: “allostatic load.”
- The term allostatic load is "the wear and tear on the body" which accumulates as an individual is exposed to repeated or chronic stress (from Ogden).

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Common Type A Traits

Impatient



Competitive



Work-obsessed



Achievement-oriented



Aggressive



Stressed



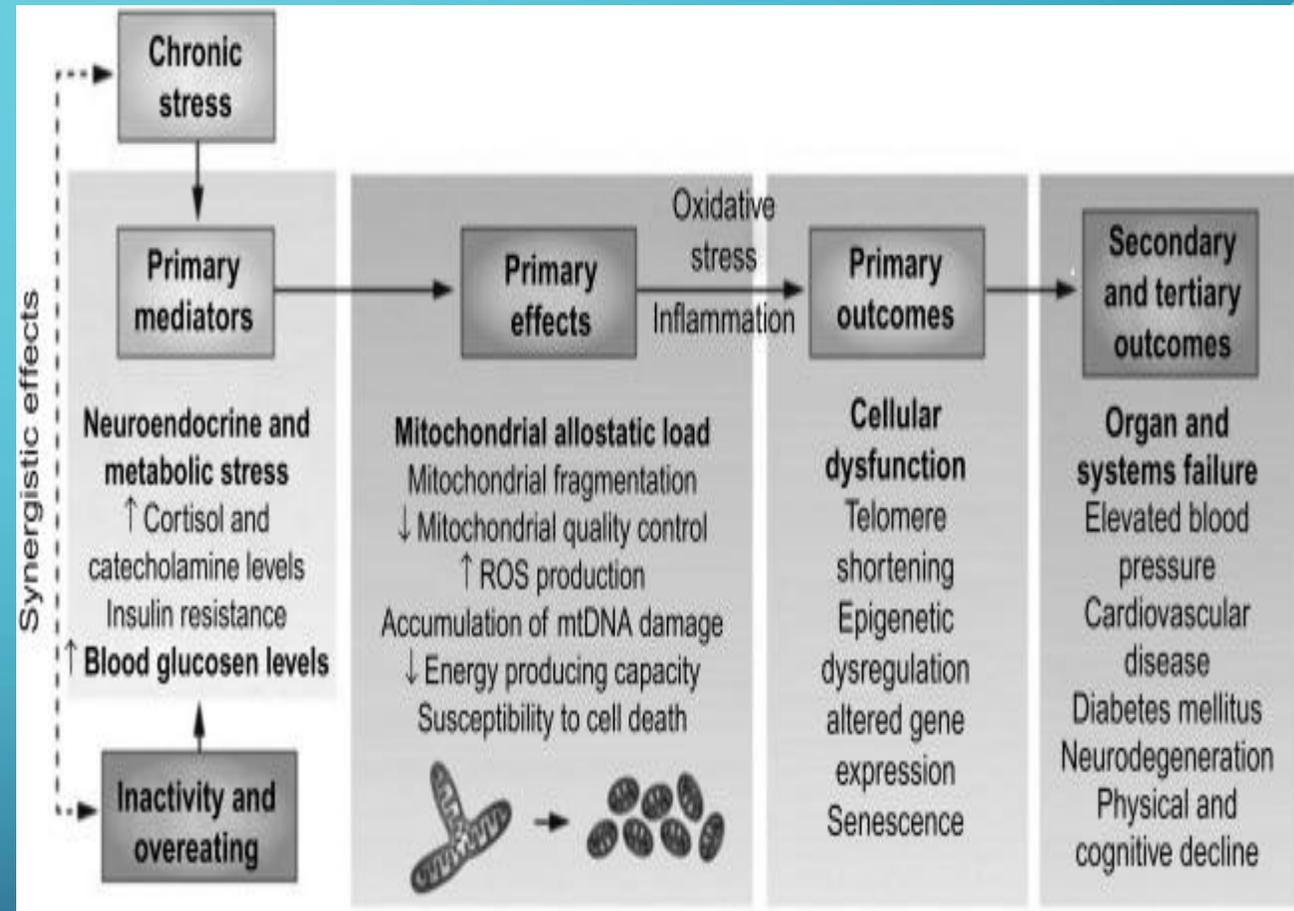
well

ALLOSTASIS

- **Allostasis**: the process of maintaining homeostasis via adaptation in the organism's internal environment to meet perceived and anticipated demands.
- **Primary mediators of allostasis** [partial list] hormones of the hypothalamic-pituitary-adrenal axis [*e.g.*, cortisol], catecholamines [epinephrine or adrenaline], the autonomic nervous system, and pro- and anti-inflammatory cytokines. A non-linear network in which changes in output of each mediator influences output of others.
- **Allostasis** also clarifies terms
 - Homeostasis: balance in the systems that are essential for life;
 - Allostasis: systems that maintain the overall balance.

ALLOSTATIC LOAD

- Allostatic systems enable an organism to respond to its physical state (e.g., awake, asleep, supine, standing, exercising) and to cope with noise, crowding, isolation, hunger, extremes of temperature, physical danger, psychosocial stress, and to microbial or parasitic infections.
- Nonlinear network of mediators of allostasis involved in the stress response and in AL. Arrows indicate that each system regulates the others, creating a nonlinear network. Note that many body systems are influenced by the same mediator.



ALLOSTATIC LOAD

- Situations that may lead to the development of allostatic load/overload are:
 - Exposure to frequent stressors leading to chronic stress or repeated physiological arousal.
 - Lack of adaptation to repeated stressors.
 - Inability to shut down the stress response after a stressor is terminated.
- Extensive research literature documents stress-induced dysregulation in various physiological systems.
- Research indicates that hypothalamic–pituitary–adrenal dysregulation related to stress and depression may cause an increase in circulating catecholamines, endothelial cell dysfunction, and enhanced platelet aggregation, culminating in a **hypercoaguable state** and thereby increasing stroke risk.

EPINEPHRINE

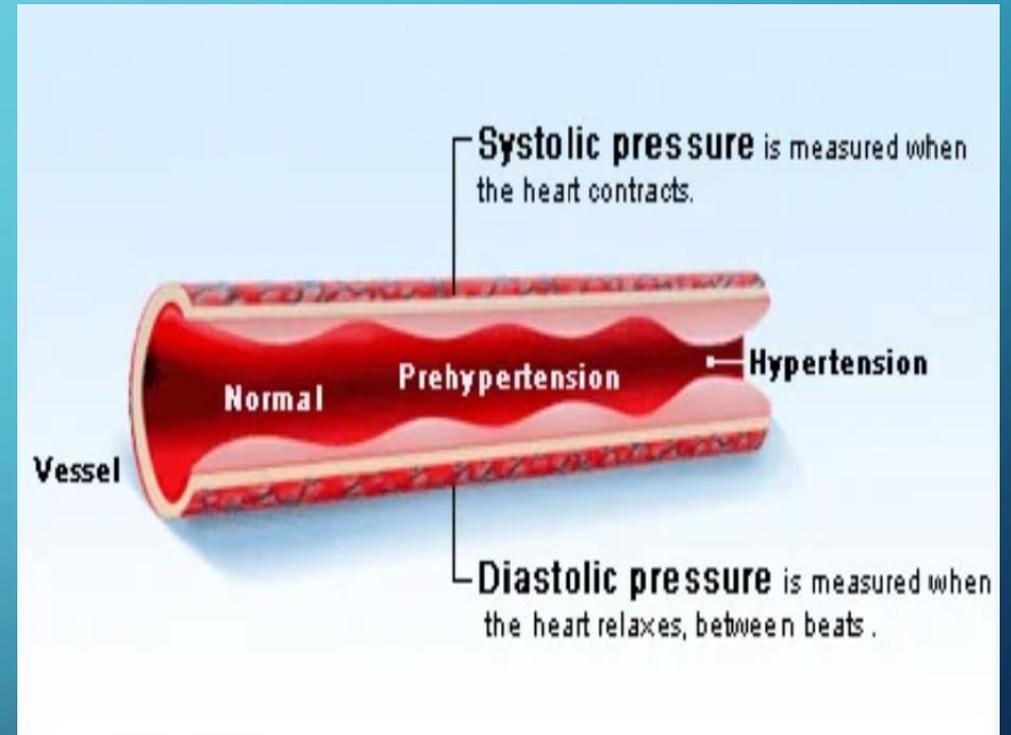
- Also called **adrenaline**, secreted mainly by the medulla of the adrenal glands; increases cardiac output, causes vasoconstriction, and raises blood glucose levels.
- **Epinephrine is released during acute stress**, and its stimulatory effects fortify and prepare an individual for either “fight or flight.”
- Increases stroke volume (stronger cardiac contraction) and heart rate; these raise blood pressure.
- Chronically–stressed state can lead to chronic increase in “adrenergic tone.”

CORTISOL

- A **glucocorticoid (a type of steroid hormone)**; assembled from cholesterol in the adrenal glands atop each kidney. Cyclical daily release (heavier on awakening) and in response to such stimuli as exercise and acute stress.
- This hormone also has some **mineralocorticoid activity**; cortisol activates the renin–angiotensin system, stimulates vasoactive substances, suppresses vasodilatory systems, and promotes sodium retention in the kidney.
- Cortisol has widespread effects throughout the body – many of them adverse to long–term health.

HYPERTENSION:

- **Hypertension:** repeatedly elevated blood pressure exceeding 130 mmHg systolic and/or 80 mmHg diastolic [clinicians often use 135/85].
- Ideally, the diagnosis of HTN is made after three successive outpatient visits with elevated blood pressure. In recent years, many other accepted avenues to this diagnosis have opened. Ambulatory blood pressure monitors are commonly used.
- **Chronic hypertension** is usually a silent condition; despite absence of symptoms, untreated hypertension damages small arteries in the retina, causes thickening of vascular structures (including arteries and the heart muscle), damages the kidneys, and causes stroke, and other types of brain



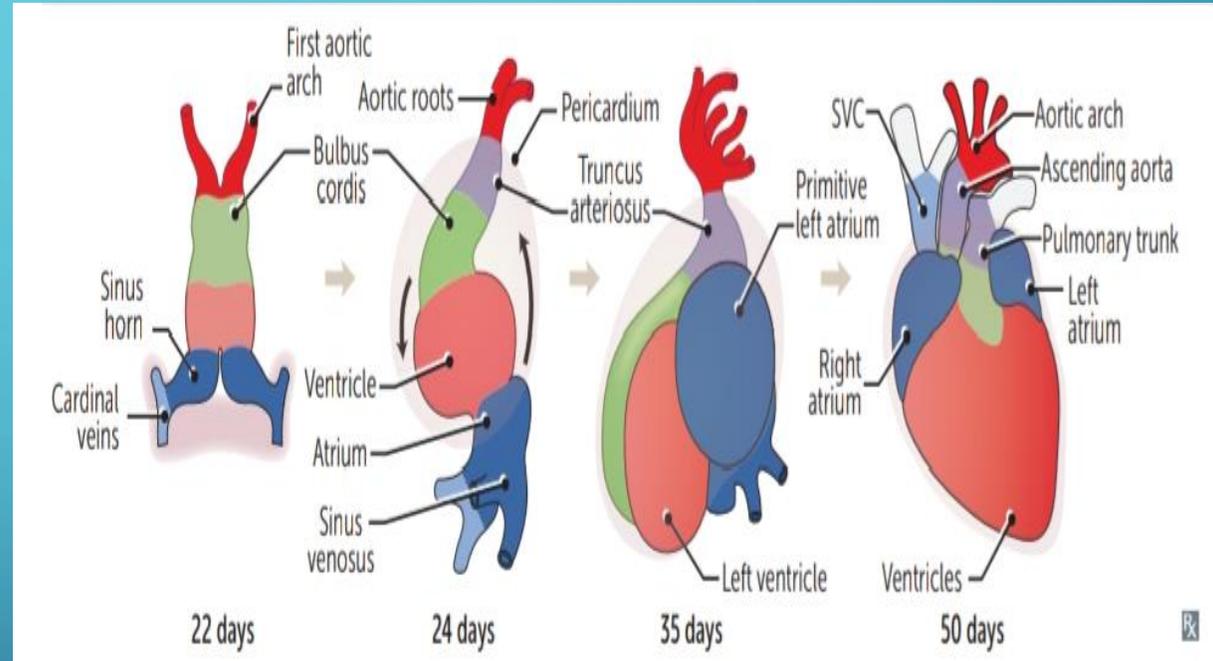
HEART EMBRYOLOGY

Heart morphogenesis

- First functional organ in vertebrate embryos, beats spontaneously by week 4 of development.

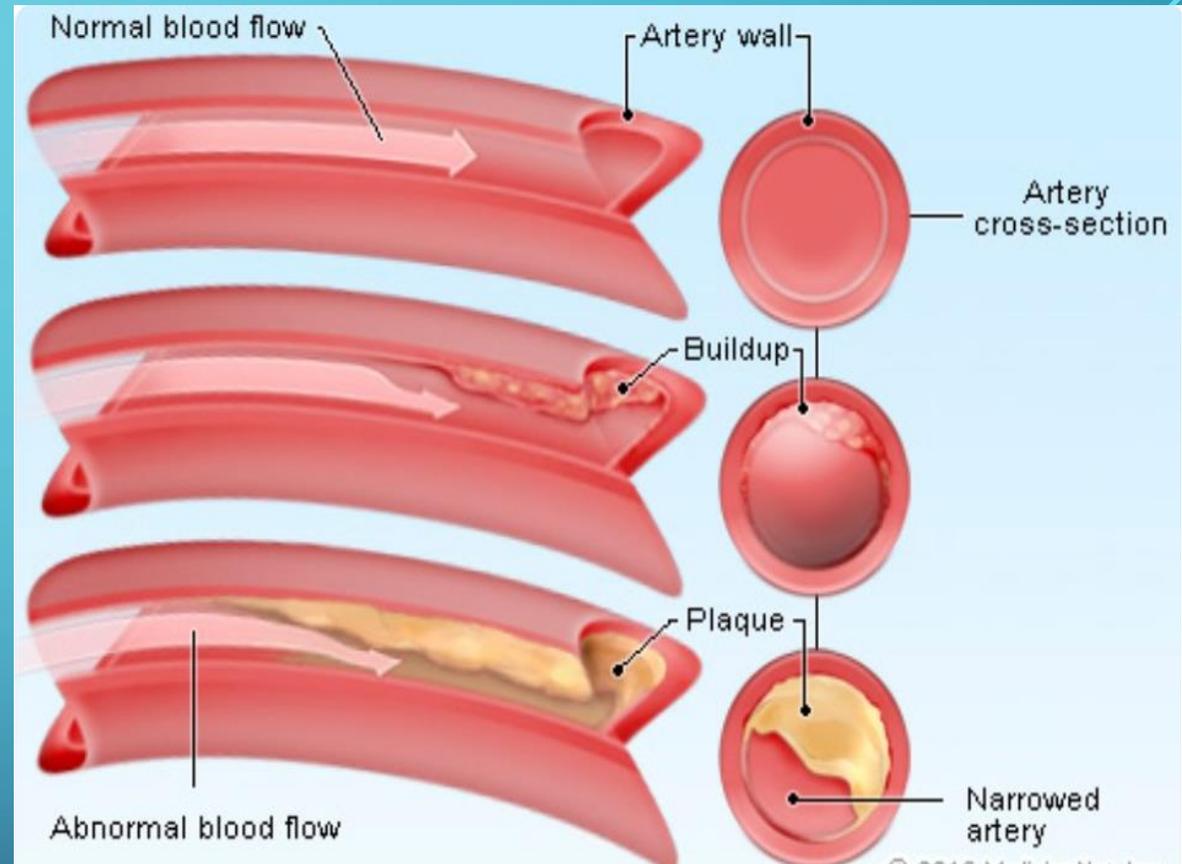
Cardiac looping

- Primary heart tube loops to establish left-right polarity; begin in week 4 of development.



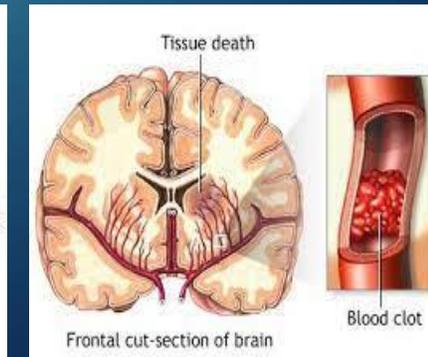
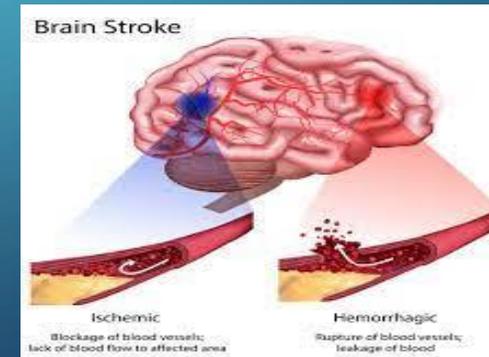
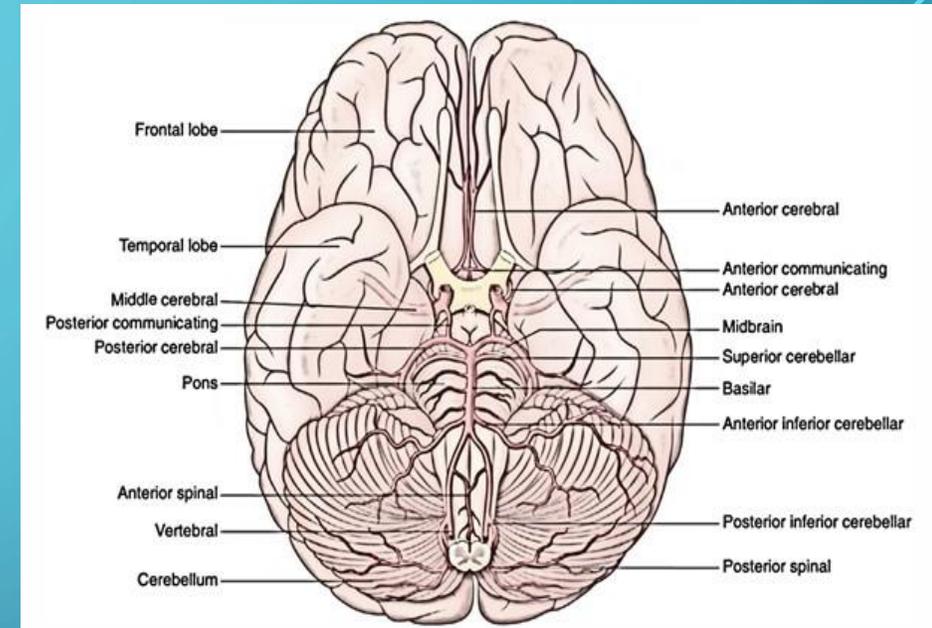
CHOLESTEROL PLAQUE

- Plaques begin on arterial walls (as the “fatty streak”) and grow over years.
- Enlarging plaque slowly blocks blood flow in the artery. Catastrophic health events can occur when a moderate plaque ruptures. The sudden clot that forms over the ruptured plaque then causes complete blockage of blood flow (leading to heart attack or stroke).
- Cholesterol plaques form by a process called **atherosclerosis** (also called “hardening of the arteries”). **LDL** or “**bad cholesterol**” is the raw material of cholesterol plaques.
- Reducing cholesterol and other risk factors can help prevent cholesterol plaques from forming.



STROKE MECHANISM

- Three main subtypes of brain ischemia/stroke:
 - **Thrombosis** refers to local *in situ* obstruction of an artery. The obstruction may be due to disease of the arterial wall.
 - **Embolism** refers to particles of debris originating elsewhere that block arterial access to a particular brain region.
 - **Systemic hypoperfusion** is a more general circulatory problem, manifesting itself in the brain and perhaps other organs.
- Delivery of adequate blood through a blocked or partially blocked artery depends upon blood pressure, blood viscosity, and collateral flow. The most common cause of obstruction of the smaller arteries and arterioles within the brain is lipohyalinosis. A stroke due to obstruction of these vessels is referred to as a “lacunar stroke.” HTN the most common cause.
- In almost all cases, causation of stroke is **MULTI-FACTORIAL**.



STROKE CAUSED BY STRESS IN THE ABSENCE OF HYPERTENSION

- Emerging research in the last decade. This from ClevelandClinic.org
- It's known that stress from work is bad for your health, including causing an increase in your risk for cardiovascular disease, particularly high blood pressure and heart disease.
- If you've wondered specifically if stress can cause a stroke, too, the answer is unfortunately, yes.
- "There has been mounting evidence exploring stress as a risk factor for stroke — especially stress related to your job," says neurologist Irene Katzan, MD. "Several studies now link work stress to an increased risk of stroke in adults."



Thank You!!