

What is the 'ARTSENS' Device?

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About 'ARTSENS' Device:

- It is a novel, **non-invasive device to assess the health and age of blood vessels** and thereby provide **early screening for cardiovascular diseases**.
- It has been **developed by** Healthcare Technology Innovation Centre at **IIT Madras**.
- It is intended for regular medical check-ups, even by non-experts, to **evaluate and anticipate vascular health**.
- It is **powered by a proprietary non-imaging probe** and an **intelligent computing platform**.
- **What does ARTSENS do?**
 - It can **assess the effect of molecular and protein-level changes in the vessel wall** caused due to disease and ageing **by measuring the material property** in a completely non-invasive and accurate manner.

- The **device comprises pressure cuffs to be affixed at the upper arm and thighs** and a **probe applied to the surface of the neck** to detect the carotid artery.
- It **measures carotid arterial stiffness, aortic pulse wave velocity** and central **blood pressure**, all three being important markers of cardiovascular health.

What are Cardiovascular diseases (CVDs)?

- CVD is a **general term for conditions affecting the heart or blood vessels**.
- It's usually associated with a **build-up of fatty deposits inside the arteries** (atherosclerosis) and an **increased risk of blood clots**.
- It can **also be associated with damage to arteries in organs** such as the brain, heart, kidneys and eyes.
- It is a **leading cause of death globally**. An estimated 17.9 million people died from CVDs in 2019, representing 32% of all global deaths. Of these deaths, 85% were due to heart attack and stroke.

Q1) What is a carotid artery?

It is a major artery that carries blood from the heart to the head. There is a carotid artery on each side of the neck, and each one splits into two branches. The interior branch carries blood to the brain and eyes, and the exterior branch carries blood to the face, tongue, and outside parts of the head.

Source: [IIT-M researchers develop non-invasive device to assess heart vessel health](#)

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