

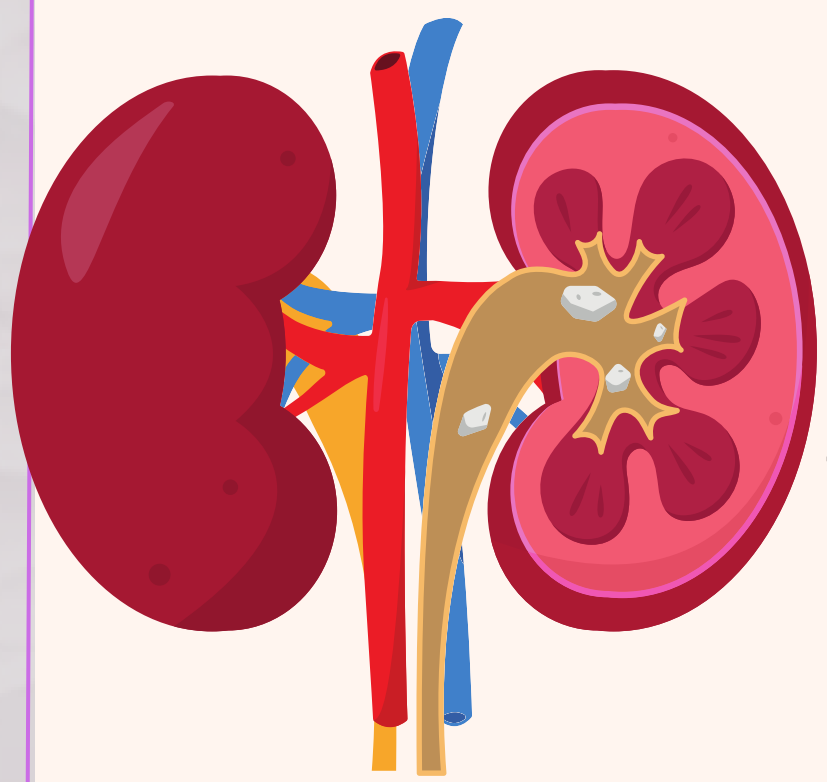
# Design and Evaluation of Peripheral Stent for Stenosis in Hemodialysis Arteriovenous Fistula Make from Shape Memory Alloys

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## CHRONIC KIDNEY DISEASE (CKD)



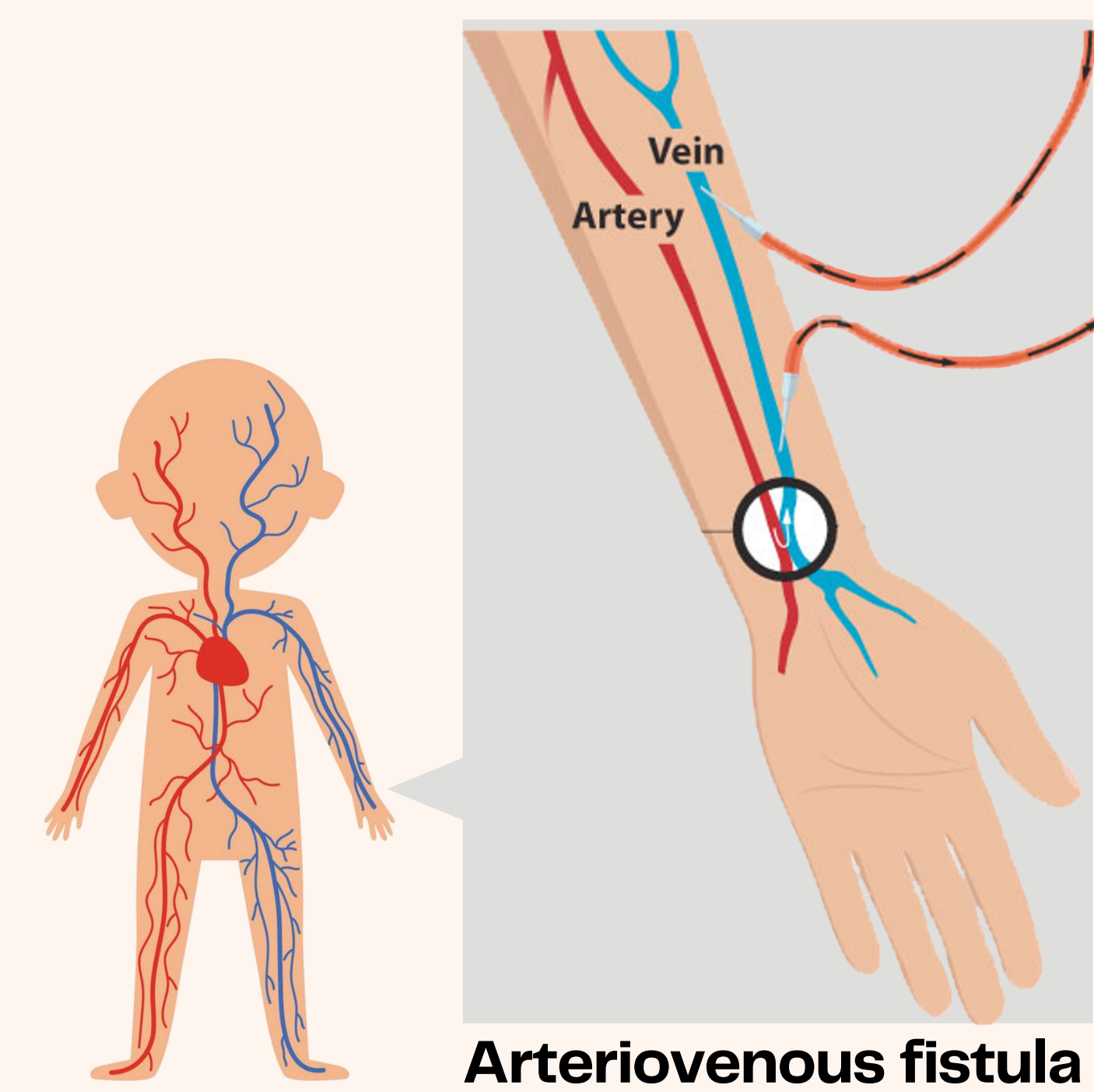
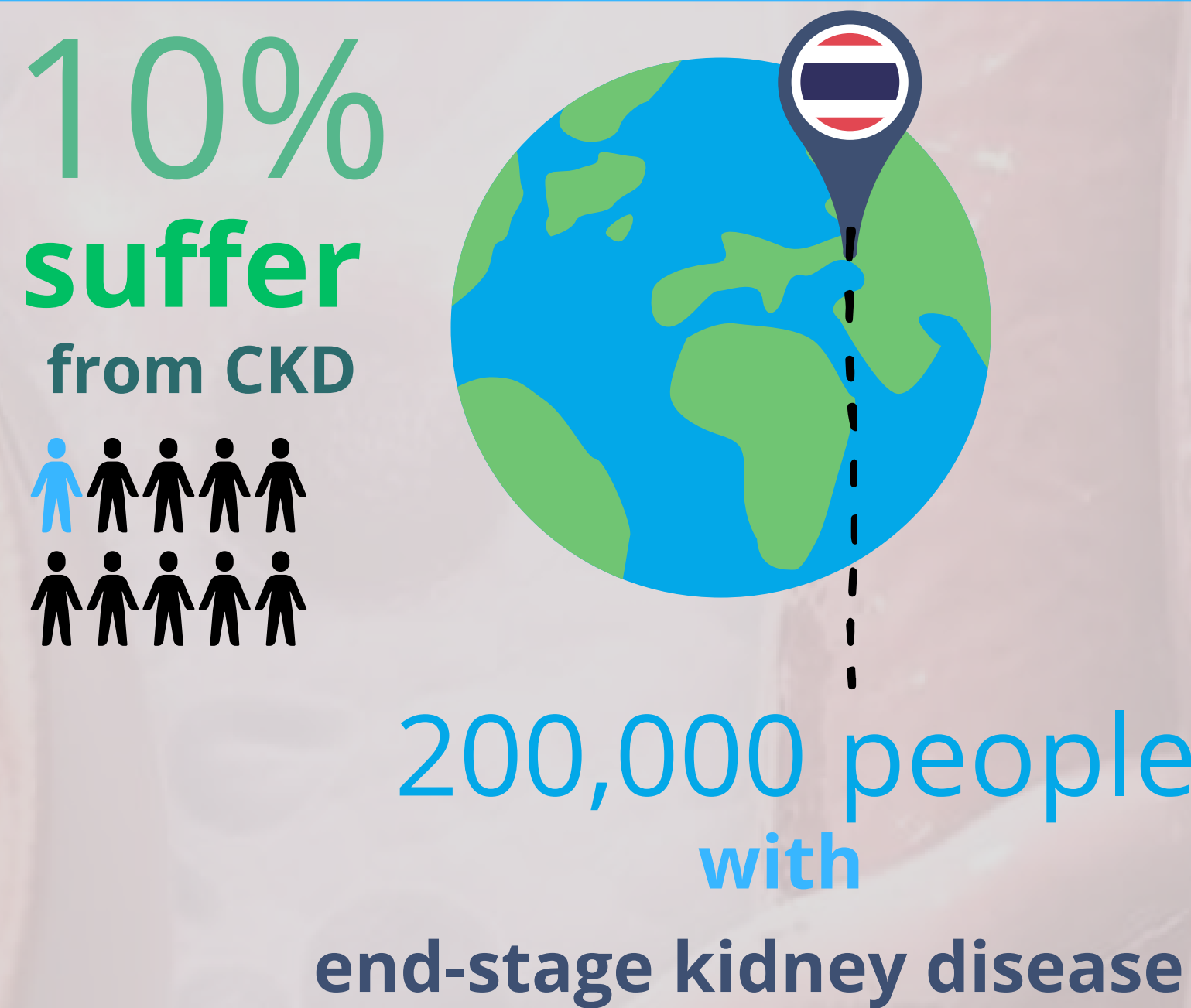
As kidneys deteriorate, the ability to filter waste from the blood decreases, causing a buildup of toxins in the body. This condition, known as CKD, is common in older adults and can lead to abnormal bodily functions and, if left untreated, death.

## STENOSIS OF ARTERIOVENOUS FISTULA

Patients with kidney disease require dialysis, which involves creating a new access point for the dialysis machine through surgery. This connects an artery and vein, allowing the vein to expand and draw blood during each session. However, high pressure and frequent punctures can cause blood vessels to narrow due to excessive cell self-repair.

### STATISTICS

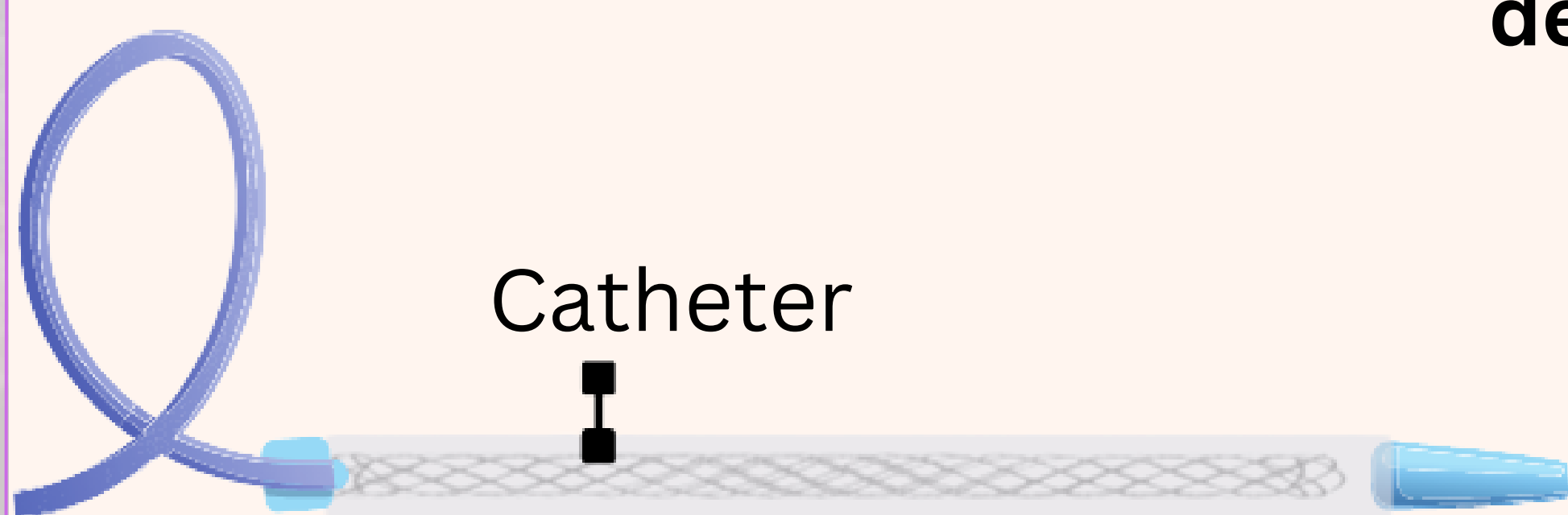
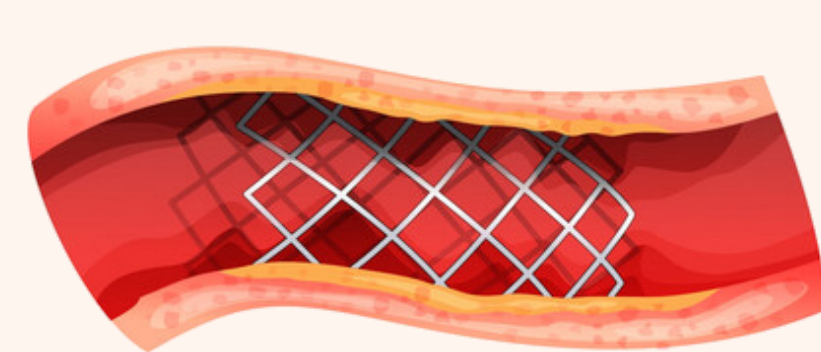
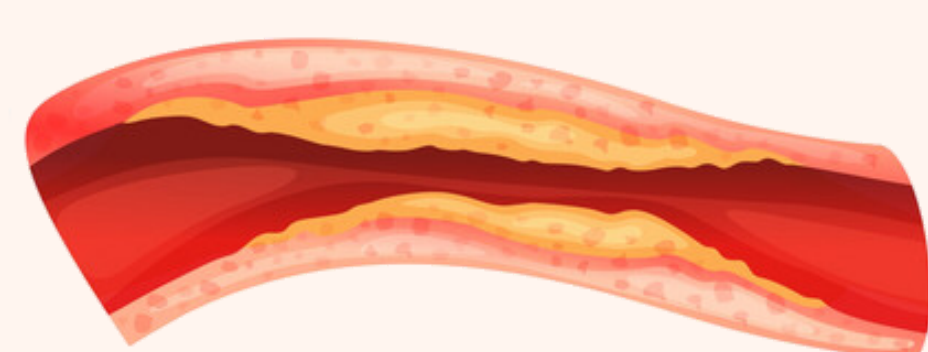
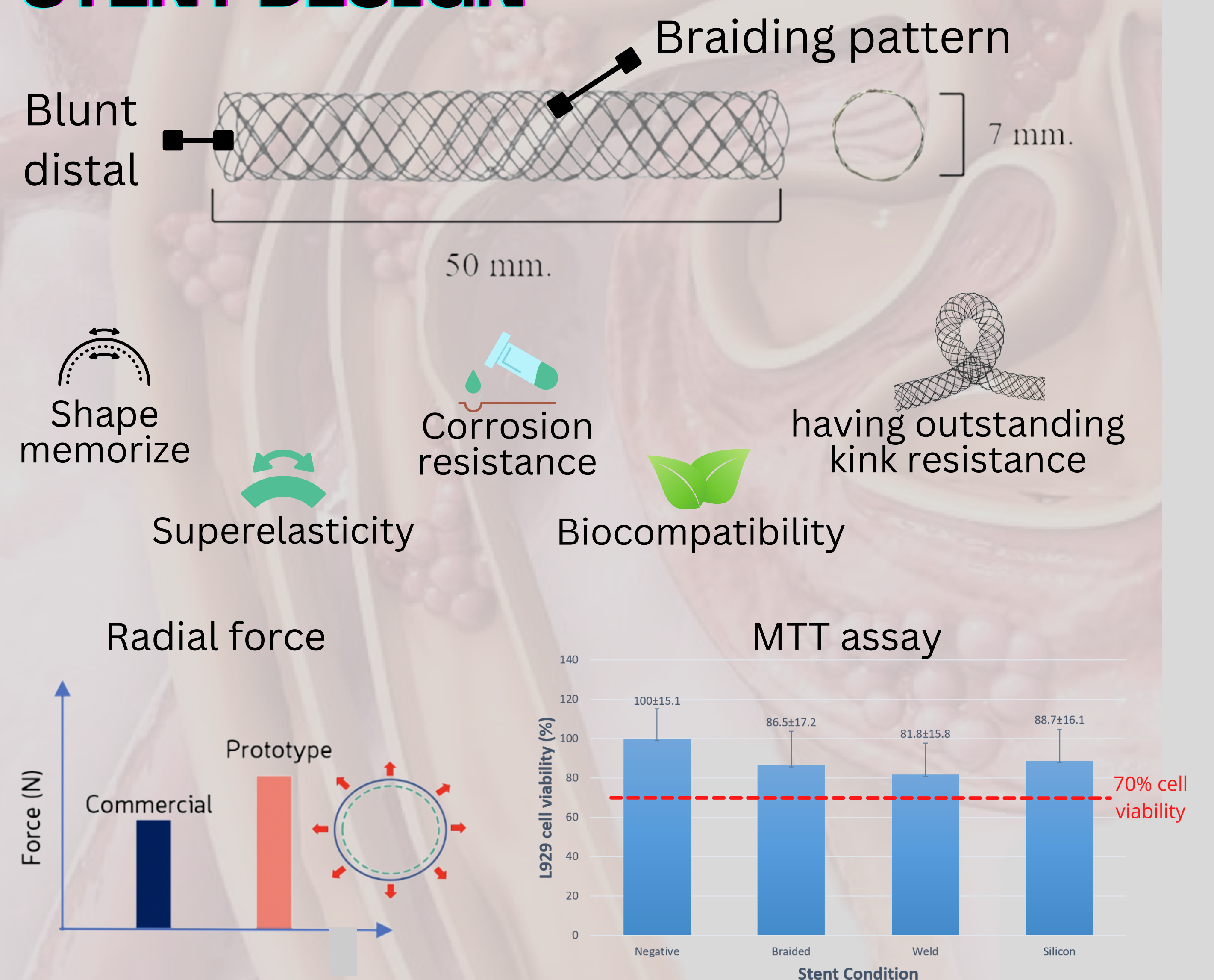
- 1 in 10 Thai people suffer from Chronic kidney disease.
- There are around 200,000 people with this condition in Thailand.
- The number of patients is increasing by 15–20% every year.



## PERIPHERAL STENT

Peripheral stents are designed with a braiding pattern and a blunt distal end, which allows them to fit into tortuous vessels. The braiding technique used provides better radial force compared to laser-cut stents, while also providing more flexibility and kink ability and support for the vascular system during procedures like dialysis.

## STENT DESIGN



## ADVANTAGES



Patients in the country have better access to medical care



## FUTURE PLAN

- ✓ Engineering Test
- ↓
- ✓ Biological Test
- ↓
- todo Performance & Animal Test
- ↓
- todo Clinical Test