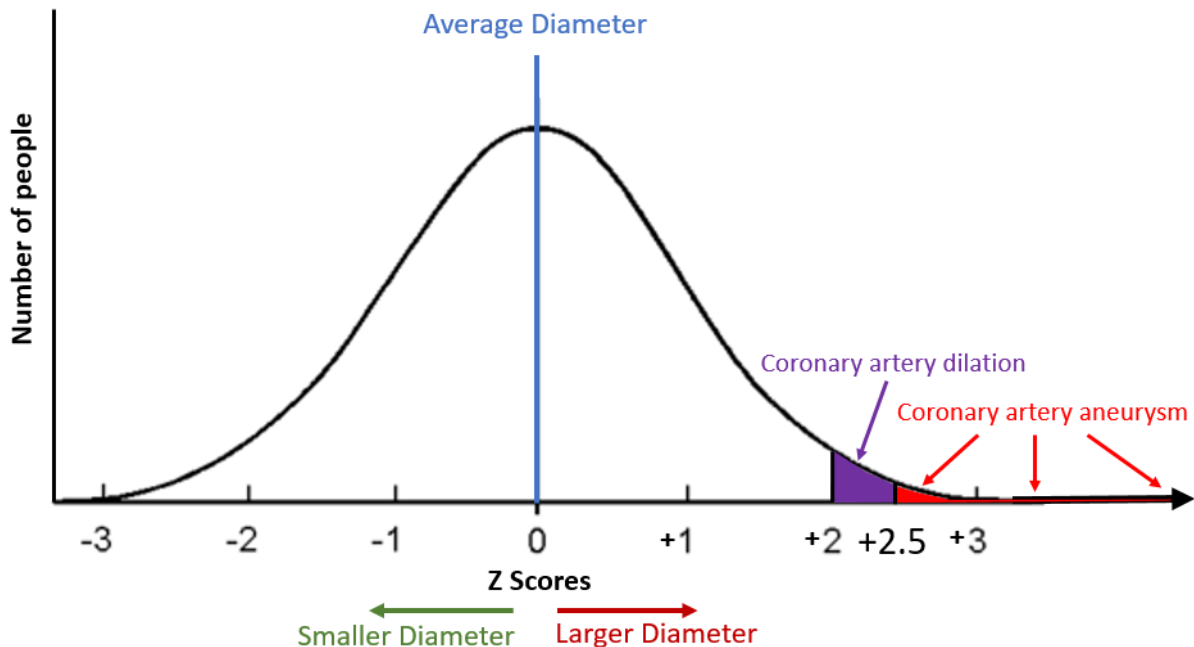
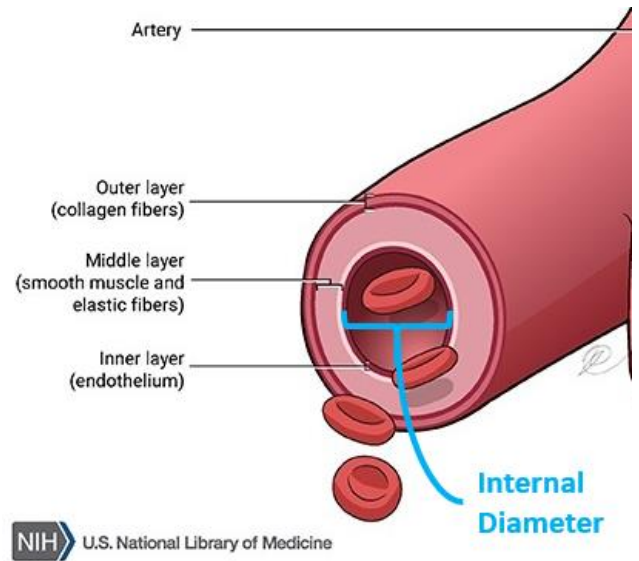


# Kawasaki Disease: Z Scores

## WHAT IS A Z SCORE?

A Z score normalized for body surface area represents how much larger (or smaller) a *measured* coronary artery internal diameter is compared to the average coronary artery diameter for a child of the same size (body surface area includes both height and weight). The average diameter is assigned a Z score of 0. Positive Z scores reflect larger diameters, while negative Z scores reflect smaller diameters.

Most individuals (~95%) have coronary artery Z scores between -2 and +2, and are considered to have normal coronary arteries (see figure below). A coronary artery Z score **between +2.0 and less than +2.5** (i.e., 2 to less than 2.5 standard deviations above the average normalized for body surface area) is considered **dilated**. A coronary artery with a Z score **between +2.5 and less than +5.0** is considered a **small aneurysm**. A Z score **between +5.0 and less than +10.0** is considered a **large aneurysm**. A Z score of **+10.0 or greater** is considered a **giant aneurysm**.



## WHY DO WE USE Z SCORES WHEN MEASURING CORONARY ARTERY INTERNAL DIMENSIONS?

Coronary artery aneurysms can be measured in millimeters (mm). However, this measurement does not account for body size. How big the coronary artery should be depends on the size of the child. For instance, a 4-mm aneurysm in a 1 year-old patient carries more severe long-term cardiovascular risks compared to a 4-mm aneurysm in a 10 year-old patient. In contrast, Z scores normalized for body surface area account for body size. This allows us to accurately assess and track aneurysm size over time (i.e., as the patient grows).