

# ANSYS - Trachea Analysis

This page has been moved to <https://courses.ansys.com/index.php/courses/structural-analysis-of-a-trachea/>  
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[Problem Specification](#)

[1. Pre-Analysis & Start-Up](#)

[2. Geometry](#)

[3. Mesh](#)

[4. Physics Setup](#)

[5. Numerical Solution](#)

[6. Numerical Results](#)

[7. Verification & Validation](#)

[Exercises](#)

[Comments](#)

## Trachea Analysis Problem Specification

This tutorial shows how to simulate deformation of a trachea under a pressure load. Dimensions and properties used in this tutorial are:

- 7 cartilage rings, each 300 degrees, thickness 1.1mm, width 5 mm,  $E = 2 \text{ MPa}$ , Poisson's ratio = .3
- Tissue thickness 1 mm, width 10 mm,  $E = 20 \text{ kPa}$ , Poisson's ratio = .3
- Trachea diameter of 20 mm

Steps to modify properties (to model tracheomalacia) and geometry (to model tracheotomy) are shown in the exercises.

Below is a summary of Ansys steps demonstrated in the videos:



Trachea simulation outline.pdf

[Go to Step 1: Pre-Analysis & Start-Up](#)

[Go to all ANSYS Learning Modules](#)