

# ANSYS - Trachea Analysis

This page has been moved to <https://courses.ansys.com/index.php/courses/structural-analysis-of-a-trachea/>  
Click in the link above if you are not automatically redirected in 10 seconds.

Author(s): Gideon Schmidt, Cornell University

## 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](#)