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## Stent Design

### Purpose:

This activity looks at using everyday materials to design and develop stents to unclog blood vessels. Students learn about the circulatory system and biomedical engineering.

### Materials:

- Paper ( preferably graph paper)
- Cutting board
- X-acto knife
- Tape
- Balloon
- Balloon Pump

### Steps:

1. Take the paper and make a 4 x 4 square.
2. Using the x-acto knife cut slits into the paper creating various “patterns” (see example template)
3. Take the cut paper and roll into a cylinder and tape the ends together.
4. Take a balloon and place it inside the stent.
5. Expand the balloon, demonstrating how the stent expands and which patterns are better.

### Discussion Points:

1. What challenges might an engineer face when creating a similar technology?
2. What patterns work best?