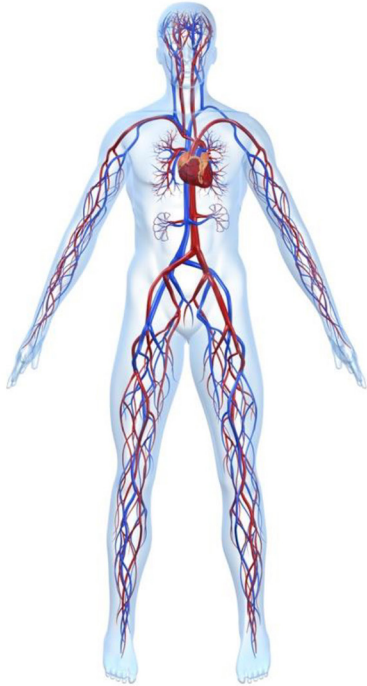


## TOPIC: INTRODUCTION TO BLOOD VESSELS

### Introduction to Blood Vessels

- ♦ **Blood Vessels:** tube-like structures forming a *circulatory* \_\_\_\_\_ to *transport* blood throughout body.
  - Originate in \_\_\_\_\_, branch throughout body, & \_\_\_\_\_ back to the heart.
  - *Similar* to a dynamic system of *pipes*; but they also dilate, constrict, pulsate, & proliferate (\_\_\_\_\_).
  - **Angiogenesis:** \_\_\_\_\_ of *new* blood vessels.



Average adult has ~60,000 miles of *vasculature*!  
That's ~2.5x around the Earth!!!



### EXAMPLE

Complete the table below comparing how blood vessels differ from a network of pipes:

| Pipes                                               | Blood Vessels                                            |
|-----------------------------------------------------|----------------------------------------------------------|
| Diameter is rigid                                   | Can _____ & _____                                        |
| Cannot actively control/maintain pressure           | Can control/maintain blood pressure                      |
| Cannot multiply                                     | Can _____ (angiogenesis)                                 |
| Entirely closed system of tubes (no exchange/leaks) | Can allow for _____ with surroundings                    |
| Uniform structure of walls (all metal)              | Diverse wall structures (can contain all 4 tissue types) |
| Cannot self-repair or regenerate when damaged       | Can self-repair & regenerate when damaged                |

## TOPIC: INTRODUCTION TO BLOOD VESSELS

### PRACTICE

Which of the following statements about blood vessels is *false*?

- a) Blood vessels make up an expansive network that branches off at many points.
- b) Blood vessels are always rigid in order to maintain blood pressure.
- c) New blood vessels can form in adults via angiogenesis.
- d) Blood would not flow through blood vessels without the activity of the heart.

### Map of the Lesson on Blood Vessels

♦ Here is a \_\_\_\_\_ you can continuously use to help guide you through our lessons on blood vessels.

