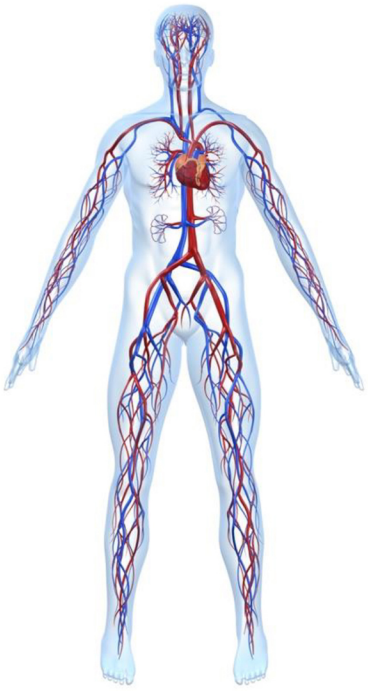
TOPIC: INTRODUCTION TO BLOOD VESSELS

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

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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.