

## "Your Body is Younger Than You Think"

([http://www.nytimes.com/learning/teachers/featured\\_articles/20050803wednesday.html](http://www.nytimes.com/learning/teachers/featured_articles/20050803wednesday.html))

### **Answer the following questions:**

- 1) Why is most of you "just 10 years old or less?"
  
- 2) How often do the body's tissues renew?
  
- 3) Who is Dr. Jonas Frisen, and what did he invent?
  
- 4) How did Dr. Frisen discover which types of cell renew and which do not?
  
- 5) What is carbon 14, and how is it relevant to Dr. Frisen's research?
  
- 6) What are epithelial cells, and how long, on average, do they last?
  
- 7) What is the "prevailing belief" about brain cell renewal?
  
- 8) Who is Elizabeth Gould, and how did her research affect the accepted understanding of the brain?
  
- 9) Which other organ's cellular renewal is a point of contention? Why?
  
- 10) How often do red blood cells, bone, the epidermis and liver renew?
  
- 11) Why doesn't regeneration of the cells and organs continue in the human body forever?

**Fill in the chart using the article:**

\*For the final column to the right: Example, if the average age of liver cells is 300–500 days old, then a student who is 15 years old has had his or her liver “regenerated” roughly 11 - 18 times. (hint: how many days old are you?)

<b>CELL TYPE</b>	<b>CELL AGE</b>	<b>*How many times has this tissue been “replaced” in your body</b>
Rib Muscle Cells		
Brain Cells in the Visual Cortex		
Brain Cells of the Cerebellum		
Gut Epithelial Cells		
Red Blood Cells		
Skin Cells (Epidermal Cells)		
Liver Cells		
Skeletal Cells		
Cerebral Cortex (brain)cells		
Cells on the inner lens of the eye		
Heart muscle cells		