

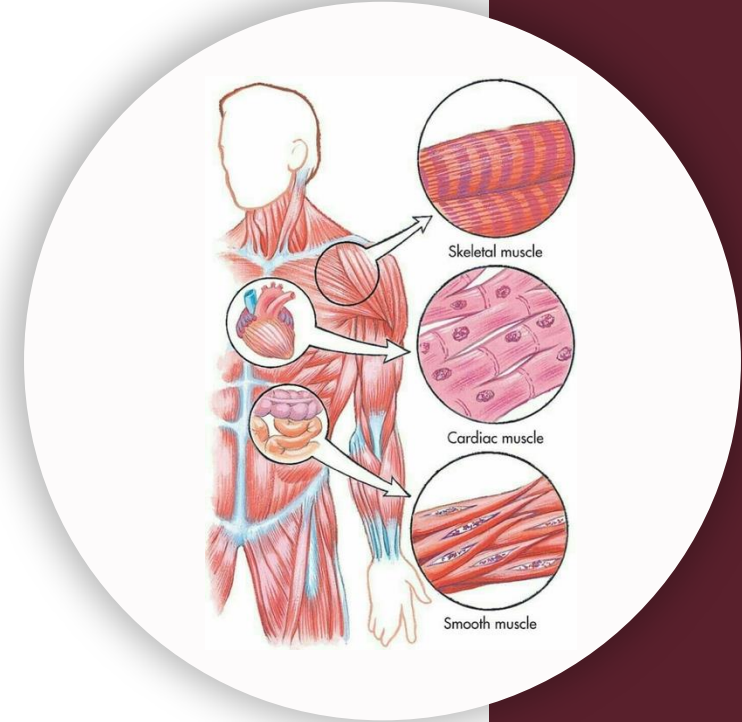
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Histology – MID

# Adipose Tissue

Done by : Dopamine 023



# **Adipose Connective Tissue**

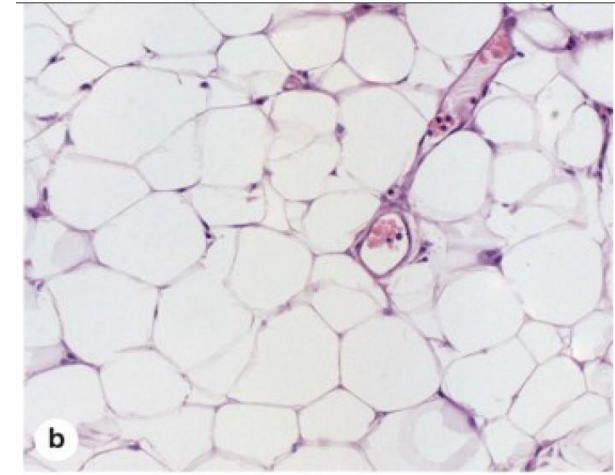
# Adipose Tissue

- Large cells found isolated or in small groups within loose or dense irregular connective tissue.
- Occur in large aggregates in adipose tissue
- Connective tissue in which fat-storing cells or adipocytes predominate.
- Represents 15%-20% of the body weight in men, more in women.
- Storage depots for Neutral fats, chiefly triglycerides
- White and brown adipose tissues are different in color, location, function, and structure.

This is not a fixed percentage.  
for example, we see much less  
percentage in athlete.

also,  
distribution

# White Adipose Tissue



- More common.

In adults, there is more white adipose CT, than brown.

- Cells each containing one large cytoplasmic droplet.
- Long-term energy storage
- When completely developed, a white adipocyte is very large, between 50 and 150 umm in diameter... unilocular

That means each fat cell contains only one fat vacuole.

- Signet-ring appearance.
- Lipomas !

The nucleus is pushed to the periphery, as the cytoplasm is full of fat. so this gives a ring shape under microscope, because the fat is washed out.

- The distribution of white adipose tissue changes significantly through childhood and adult life.

in newborns and babies , it seem to be evenly distributed throughout the body , but after puberty things differs.

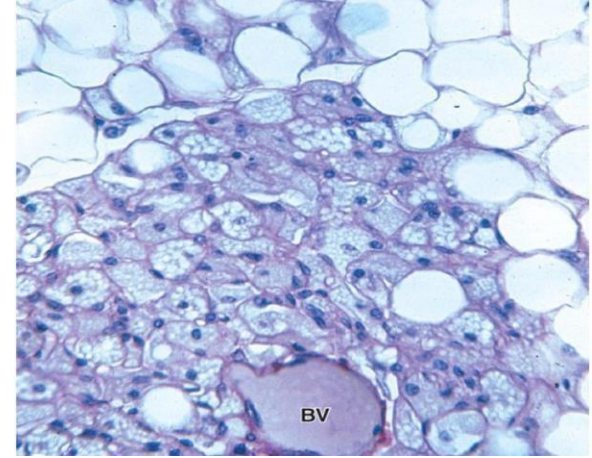
- Adipocytes develop from mesenchymal stem cells.

So, by liposuction we can get the fat tissue, process it then, here u go u have the mesenchymal stem cells. this is so useful and less harming than taking these cells from bone marrow.

In females: around the belly region  
buttock region.  
the breast area  
In males: usually around the  
abdomen.

usually found in newborns, and decrease with time, however there are small amounts of it in adults.

# Brown Adipose Tissue



- Constitutes 2%-5% of the newborn body weight
- Located mainly in the back, neck, and shoulders. **In newborns.**
- In adults it is found only in scattered areas: around the kidneys, adrenal glands, aorta, and mediastinum. **In adults, there is also small amount in the neck.**
- Color of brown fat: very abundant mitochondria and the large number of blood capillaries.
- Brown adipocytes contain many small lipid inclusions....Multilocular
- Tissue's principal function of heat production and warming the blood (thermogenesis).
- Cells of brown fat are smaller than white adipocytes..... nucleus is more centrally located.

so, it is burned to maintain the temperature .  
السبب الشتوي also, it can be seen in hibernating animals

# For any feedback, scan the code or click on it.



Corrections from previous versions:

Versions	Slide # and Place of Error	Before Correction	After Correction
V0 → V1			
V1 → V2			

# رسالة من الفريق العلمي:

اللهم أنت ربي لا إله إلا أنت خلقتني وأنا عبدك وأنا على عهدك ووعدك ما  
استطعت أعوذ بك من شر ما صنعت أبوء لك بنعمتك علي وأبوء لك بذنبي  
فاغفر لي فإنه لا يغفر الذنوب إلا أنت