

Brown Fat
(Brown Adipose Tissue)

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Brown fat burns calories to produce heat

Helps to regulate body temperature

It is rich in mitochondria and iron

That is why it is brown

It also has more capillaries

White fat stores energy

Brown Fat has more mitochondria and is metabolically active

Functions

1 Thermogenesis

Generates heat

Important in newborns

Cold activates brown fat

2 Burns glucose and Fatty acids .Helps in weight loss

Rich in mitochondria

The brown fat has smaller droplets of fat

It is seen in the neck. Suoraclavicular region ,paravertebral ,mediastinal ,paraaortic and suorarenal.

It also increases and unregulates Fibroblast growth Factor

It maintains bone health and Bone density

Centenarians (people in 90s and 100) both men and women have increased adiponectin in the plasma
And lower C Reactive Protein.

A tumor arising from the brown fat is Benign
Called Hibernoma

It is brown because it contains plenty of iron in the mitochondria
Iron gets rusty in nails
This is a similarity
That is why it is brown

As it is metabolically active due to the Abundant mitochondria it is picked up on PET CT

On PET CT also Hurthle Cells or Oncocytes are rich in mitochondria are also picked up

Brown Fat is beneficial

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Methods to activate brown fat

1 exposure to cold

Cold shower

Ice bath

2 diet rich in niacin ,vit C iron. Calcium.

Tea ,coffee , apples ,dry fruits salmon , meat eggs green leafy veg watermelons and turmeric.

Turmeric has Curcumin

This increases the mitochondria