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Brown spots, sometimes called age spots or liver spots, are caused by the accumulation of a yellow pigment called lipofuscin in the connective tissues of the body, due to aging of the collagen-producing cells.

Melasma or Chloasma: Skin coloration that appears as blotchy brown spots, often covering cheeks, forehead, or temples. This type of hyper-pigmentation can be hereditary, or triggered by hormonal changes such as pregnancy or menopause. Taking birth control pills can also cause Melasma.

Age Spots or "Liver" Spots: Smaller darkened patches usually on older adults who have been exposed to the sun for many years. These spots can be seen on the face, forearms and backs of hands.

It has been my understanding, partly from Dr. N. Perricone's book *Wrinkle Cure*, the intake of sugar can contribute to the phenomenon of brown spots because, although wrinkles form naturally over time as a result of UV damage and reduced elasticity, when you consume too much sugar, excess sugar molecules stick to the protein fibers, binding them together, producing harmful wastes - AGE and free radicals - stiffening fibers, reducing the pliability associated with youthful skin and the appearance of brown spots.

Preventing damage to cells is the best approach to age spots and other problems from aging. Antioxidants are the key to preventing cellular damage from free radicals (highly reactive molecules that can destroy cellular compounds). Increasing the amount of antioxidant foods in the diet, along with supplementation, will decrease cellular damage.

Gluconeogenesis is the biosynthesis of new glucose and encouraged by microcurrent, therefore helping replace with the body's own natural "sugar" and helping fade brown spots and restore a more youthful look to the skin.

Also free radicals are molecules in the body that steal electrons from other healthy molecules damaging healthy cells. Collagen fibers in our bodies are especially susceptible to free radical damage. This results in cross linking of the collagen causing skin to become stiff and inflexible and to look "old".

Dr. Cheng in 1982 clinically documented that microcurrent can create 500% additional ATP each treatment. The ATP helps stimulate the collagen producing cells and in turn the cells combat free radicals resulting in improvements in appearance.