

# Stem Cells

## The curing cells of the future

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*Arthur C. Clarke once famously observed that any sufficiently advanced technology is indistinguishable from magic. Emerging Stem cell therapy can be termed such because of its miraculous potentiality to save our lives. Stem cells are the primal cells of the body. The different cell types within our body can be derived from such cells- and hence the name. Stem cells have the unique ability to differentiate into a variety of cells.*

*Characteristically, stem cells have a high capacity for self-renewal. When a stem cell divides, each new cell has the potential to either remain a stem cell or become another type of cell with a more specialized function - such as a muscle cell, a red blood cell or a nerve cell. Hence these cells can give rise to the brain, the heart, the spine, the limbs, the muscles, the skin and everything else that constitutes the human body.*

Once the body is fully grown they lie dormant in the marrow of your bones, in the cavities in your eye, under the nose, in your stomach and even in your skin waiting for the signal to transform into whichever tissue or organ that is needed. They are the body's hidden biological repair system--the super mechanics with a warehouse stacked with everything you need to make your body new again. A decade ago, not many knew how to harness their almost magical capability to heal the body. Now researchers are

unlocking the mysteries these nanosized cells store and are ushering in a revolution in the treatment of a range of debilitating diseases.

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The easiest source of preserving these special cells is umbilical cord blood and cord

tissue. Umbilical Cord blood is the remaining blood in the newborn's umbilical cord and the placenta (the tissue, which during pregnancy nourishes the fetus). Both the cord and the blood is considered as a rich source of different types of stem cells. At the time of the child's birth, the cord blood is collected and taken to the cord blood stem cell bank for testing and processing to harvest stem cells. Previously after the collection of the umbilical cord blood, the remaining solid cord tissue was normally discarded. Later it