



Review: Adam's Rib, Gen 2:21-22; Ishah Has Adam's DNA; Ribs Grow Back; They Are the Richest Source of Bone Marrow which Can Produce All Adult Cell Types

- 15) The support beam although feminine contains Adam's DNA. The importance of this can be discerned from a paper written by Dr. Carl Wieland who contributes to the Web site: www.AnswersInGenesis.org:

"ADAM'S RIB: CREATION & THE HUMAN BODY"

Adam and that 'Missing' Rib

A head-on impact with a full laden fuel tanker at highway speeds is an experience I would hope for none to share. The surprise was to have survived it—God clearly had other plans for me. During the 5½ months in the hospital, and for years afterwards, I had a series of operations to reconstruct various parts of me, particularly the bones of my face.

The operations often required using my own bone for grafting. I noticed that the plastic surgeon would keep going back to the right side of my ribcage (through the same horizontal scar, actually), to get more bone for these procedures. One day, I asked him why he hadn't "run out of bone." He looked at me blankly, and then explained that he and his team took the whole rib out each time. 'We leave the periosteum intact, so the rib usually just grows right back again.'

Despite having trained and practiced as a family doctor, I was intrigued; I had never realized this before. The *periosteum* (the literal meaning of this word is 'around the bone') is a membrane that covers every bone—it's the reason you can get things stuck between your teeth while gnawing on a leg of lamb, for instance. The periosteum contains cells that can manufacture new bone. Particularly in young people, 'rib periosteum has a remarkable ability to regenerate bone, perhaps more so than any other bone.' (Quote from a personal communication of Dr. David Pennington, May 7, 1999. Dr. Pennington, a well-known plastic surgeon, was not one of those operating on me. I wrote to him in 1999 just to double-check the facts herein against his own knowledge and experience.)

Thoracic (chest) surgeons routinely remove ribs, and these often grow back, in whole or in part. A lot depends on the care with which the rib is removed; it needs to be 'peeled' out of its periosteum to leave this membrane as intact as possible. A major reason why the rib is the ideal situation for such regeneration is that the attached intercostal muscles provide it with a good blood supply.

When the surgeon originally told me this, my immediate thought was—'Wow, that's really neat. Adam didn't have to walk around with a defect!' In Genesis 2:21, referring to the creation of Eve, we read, 'And the Lord God caused a deep sleep to fall on Adam, and he slept. And He took one of his ribs, and closed up the flesh underneath.'

Surprisingly, some have grown up believing that men have one less rib than women. They have the same number, of course. Some anticreationists have used the fact that men don't have any missing ribs today to mock a literal Genesis.

For years before my accident, when asked about this, I would give a reply something like: 'If your father had lost his finger in a circular saw, would you really expect all his children to have one less finger, too? Or all of his sons, but not his daughters? Of course not. The DNA instructions that are passed on from parent to child are in the form of a code, like writing—removing a rib (or finger) would not change the instructions on the code, so all the offspring would have all their ribs (or fingers).'



While all that is still very true and pertinent, this information about rib regrowth adds a new and fascinating dimension. God designed the rib, along with the periosteum. He would certainly have known how to remove the rib in such a way that it would later grow back, just as ribs still do today—without requiring any sort of special miracle.

Of course, the really special miracle was the fashioning of Eve out from the flesh and bone. Why this way? Why not directly from simple elements, or 'dust,' as for Adam? All of us have sinned 'in Adam'—and we can all be redeemed through the sacrifice of Jesus Christ, the 'last Adam' (1 Corinthians 15:45). So it was important that all of us, including Eve, were descendants of Adam.

- 16) In this fashion we are able to see the genius of our Lord. His plan for the human race is exquisite in its detail. We now know from medical science why the Lord chose Adam's rib as the support beam for the creation of Ishah. It is a commonly accepted medical fact that the human rib contains the highest concentration of bone marrow of all human bones.

- 17) This point is amplified by the following excerpt from:

Kumar, Vinay, Abul K. Abbas, & Nelson Fausto. Robbins and Cotran Pathologic Basis of Disease. 7th ed. (Philadelphia: Elsevier Saunders, 2005), 91-92:

STEM CELLS. Stem cells are characterized by their prolonged self-renewal capacity. Stem cells were first identified as pluripotent cells [those capable of becoming different cell types] in embryos, and these were called *embryonic stem cells*. It is now clear that stem cells are also present in many tissues in adult animals and contribute to the maintenance of tissue (stability).

A series of new observations have revolutionized and energized stem cell research. Among these (is) the recognition that stem cells from various tissues and particularly from the **bone marrow** may have a broad (capacity for being altered into different cell types).

ADULT STEM CELLS. Many tissues in adult animals have been shown to contain reservoirs of stem cells, which are called *adult stem cells*. Compared to *embryonic stem cells*, which are pluripotent [those capable of being altered into different cell types], adult stem cells (are) more restricted and are usually lineage-specific [or, they maintain the same general cell type]. However, stem cell research may have come full circle, as stem cells with broad potential [for being altered into different cell types] appear to exist in **adult bone marrow** and, perhaps, in other tissues as well.

Because of the **easy accessibility of bone marrow** and the need to replace hematopoietic [hi-mat' a-poi-e' tic] [red and white blood] cells [and platelets] in many clinical situations, there has been great interest in studying **bone marrow** stem cells. It is now recognized that the **bone marrow** contains *hematopoietic stem cells* as well as stromal cells [non blood-forming marrow cells such as connective tissues] capable of [being altered] into various [cell types]. Hematopoietic stem cells generate all of the blood cells and can reconstitute the bone marrow after depletion caused by disease or irradiation. Hematopoietic stem cells can be collected directly from the bone marrow, from umbilical cord blood, and from circulating blood. **Bone marrow stromal cells** can generate cartilage, bone, fat, muscle, and blood vessel lining (forerunner cells).

A remarkable observation about hematopoietic stem cells is that they may be capable of giving rise to neurons, (liver), and other cells types. **Adult bone marrow cells** injected into mice can contribute, in variable proportions, to (liver-cell) repopulation in injured livers and to muscle cell production in injured muscle.



When injected into the heart, a small proportion of these cells acquire a cardiac (muscle) cells. In addition, there is some evidence that a small number of (liver cells) in transplanted livers, and cardiac (muscles cells) in transplanted hearts, may be derived from cells from the recipient's **bone marrow**. The vascular bed of these transplants contains a large proportion of blood-vessel lining cells generated from **bone marrow** non blood-forming cells of the recipient. These results *challenge* the accepted wisdom that cells of adult organisms, including stem cells, are committed to the generation of restricted lineages [they maintain the same cell types], and suggest instead that stem cell differentiation programs are not fixed.

The adult bone marrow also harbors a heterogeneous population of stem cells, which appear to have very broad developmental capabilities. These cells, called *multipotent adult progenitor cells* [those stem cells having the potential of becoming any of several mature cell types], have been isolated from postnatal human and rodent bone marrow. They proliferate in culture without senescence [without aging].

- 18) The principle introducing this excerpt must be repeated: It is a commonly accepted medical fact that the human rib contains the highest concentration of bone marrow of all human bones.
- 19) To this may be added a second principle: The major components that make up bone marrow have the capacity to produce all adult cell types.
- 20) Therefore the human rib is a readily available and highly concentrated mass of bone marrow that contains all the adult stem cells required to create a human body.
- 21) Since the woman was created out from the man and contains his DNA, then she falls under the umbrella of his authority, supervision, and protection.
- 22) Consequently, Adam is the federal head of the human race. Should the Lord have created Ishah independently of Adam then her sin would have occurred independently of Adam.
- 23) But we learn from 1 Corinthians 15:45 that it is because we are "in Adam" that we all die spiritually. And from Romans 5:12 that "we all sinned when Adam sinned."
- 24) Consequently, when Ishah sinned it would be strictly her sin completely independent of Adam. Her acquired sinful nature would therefore be passed down to her progeny.
- 25) This would have made the appearance of the Messiah in a perfect human body impossible. Why?
- 26) Because of imputation. At the physical birth of a child God imputes soul life to his biological life creating human life.
- 27) Simultaneously, He imputes Adam's original sin to the genetically formed sinful nature causing this child to enter life spiritually dead and in need of the Savior.
- 28) The sinful nature is the result of mutated genes passed down to each one of us from Adam through procreation:



Romans 5:19 - Therefore, as one transgression was imputed to all mankind [**Adam's original sin**] producing condemnation [**spiritual death**], so also through one act of righteousness [**the work of Christ on the cross**] imputed to all mankind [**divine righteousness imputed at salvation**] resulting in justification.

2 Corinthians 5:21 - He made Him who knew no sin to be sin as a substitute for us so that we might become the righteousness of God through Him."

- 29) How was it possible for Jesus Christ's biological life to enter this world free of genetic sin passed down from Adam? How was it possible for Jesus Christ's biological life to avoid the imputation of Adam's original sin?