



HIGH PLAINS MEDICAL
A Bunnell Industries Company

New Organ Growth, Cloning & Regenerative Medicine



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Introduction

The purpose of this document is to give an understanding behind our scientific research and development of three core important principles including sustaining current life and creating new life; our ability to rebuild organs in the body, building new organs for transplant, and by cloning and developing a new quad-helix life form. All of which could not be possible without the development of our All-Purpose Medicine (APM).

Our ability to create new life, cloning technology and rebuild organs will not only help save and sustain current life with the many thousands of people each year that need organ transplants to live, but also to move forward into the future with eternal life.

Rebuilding Organs in the Body

- APM (All-Purpose Medicine)
- Stem Cells (non-embryonic)
- Magnetics

We are able to rebuild the organs inside of the body, and body parts with the use of stem cells and magnetics. This is important, as people are waiting for organ transplants since there are not enough available to supply the demand. Many people die each year waiting. Waiting time can be five (5) years or longer.

Fat cells in the body carry more and viable stem cells than tissue from muscles. Fat is the storehouse and muscle is the structure. Fat can be moved around and transplanted into different portions of the body, and it will basically stay in place. For organ regrowth and new life forms, stem cells and DNA is better harvested from fat cells.

The use of magnetics pulls the stem cells into the organs and holds them in place until the organ rebuilds itself, by IV (APM). There is no surgery involved.

The whole genetic code is held by the DNA in each cell. APM rebuilds the DNA. The cells also look and communicate the type of cells around them. DNA code designates the type of cells to be developed. All cells are the same until the DNA code is communicated to the new cell material.

Regrow Spleen and Gallbladder

Required: APM, Magnetics, Stem Cells

APM has magnetic properties (see our website for more info on APM). Stem cells can be concentrated with magnetics.

Device:

1. A strip of Velcro around the body with arrays of small magnets attached to the Velcro strip to entice stem cells from the fat overlay in the abdomen, where fat stem cells are stored.

2. Strap the device around the body with the magnets in the appropriate positions, and wear it for eighteen (18) to twenty-four (24) hours per day. Also, you need to take APM to rebuild the cells and DNA, and allow dead cells to flush out of the body while the new cells are rebuilding new organs.
3. Administer one (1) capsule of APM each day orally. To jump start and aid the reproduction, use one liter of APM 6% saline solution once per week, for four (4) weeks, and then every other week for two (2) months. Continue to administer the APM orally each day.
4. After the spleen is rebuilt, it should operate normally and produce insulin to control the blood sugars.

Building Organs for Transplant

- APM (All-Purpose Medicine)
- Stem Cells (non-embryonic)
- Skin Cells
- Nutrients
- Structure

APM:

- Is in a natural form in nature.
- Is a basic building block of cells.
- Neutralizes oxygen based free radicals.
- Mimics Au & Pt salts. (The electron structure is different from metal salts.)
- Has bi-location properties.
- Can appear and disappear.
- Only test is a doublet in an infrared environment.

Extra Cellular Matrix

Cells from pigs can grow all organs. ECM placed inside the body will regrow muscles. Use ECM from pig's organs (powder) with APM to regrow organs and material in the human body. Inject into the organ and use a magnet to pull in the stem cells to rebuild the organs. Also, use an IV for APM and ECM.

Use catheterization to attach APM and ECM to the lining of the organs to be rebuilt.

See Appendix 1: *Extra Cellular Matrix.*

See Appendix 2: *Summary Statistics on Organ Transplantation in the United States.*

Cloning Quad Helix Life-Forms

- APM (All-Purpose Medicine)
- Stem Cells (non-embryonic)
- Skin Cells
- Nutrients (Supplements)
- Structure

New Life Form

DNA (Deoxyribonucleic acid) replaces the egg in the formulation of a new life-form.
Required: Quad Helix X-Y Chromosome DNA Configuration (four-stranded chemical structure)

APM (Basic)

- Fat (Human)
 - Proteins
 - Minerals
 - Vitamins
- Use double sperm X-Y DNA in a mixture of APM, Fats, Proteins, Vitamins and Minerals; constant basting.
 - In a new life form the egg is replaced with DNA; use cloning technique as used in cloning sheep and food animals.
 - Our new life form will require Omega-3 fatty acid for cell growth, DNA-acid (egg), and our bodies with blood Ph-5.
 - "If needed" to spark the life energy, use APM, carbon and nitrogen. Mix together with all of the other items.
 - New life forms are made from new unattached energy, not recycled energy. Therefore, we have different forms; carbon and energy.

Put the DNA (acid) into a crystalline form and then fuse it together with a hydrogen torch (use mostly oxygen with only a little hydrogen), to keep the DNA in the crystalline, PH acid, oxidized (on Redox) state. We can get the DNA into this form by drying it at 200°F and then lightly torch (hydrogen/oxygen). The DNA will be in a crystalline form and will mix with APM, also in crystalline form. We add the materials together and treat with ammonia to initiate a chemical combination.

DNA – acid (used in place of the egg); must keep DNA intact on the acid side of the Ph and on the oxidized side of the Redox.

Some body cells will have the DNA acid, fats, proteins, and some APM with extra APM

added. Also, will need more minerals such as: Potassium (K), Chloride (Cl), Sodium (Na), and others in a mineral supplement.

“Add” or “take away” a component of the DNA to structure a quad helix X-Y chromosome DNA.

Since everyone’s DNA is nearly exact alike, with very few differences, stem cells from one person can be used on a wide range of people.

Building new life forms, quad helix DNA and rebuilding organs in our normal bodies is the same use of APM’s skin cells. Same procedure; 1) Rebuild organs 2) Build new quad helix life forms.

There are species which can procreate with only one of the species. The same technique we utilize in our new life forms. We create life with only male DNA. Males contain both testosterone and estrogen. We can use the DNA to determine the cell structure for a living organism.

By cloning our life forms, we grow them with APM (a boson state material). We will not have to change the entire cellular structure of a body.

Our new cloned quad helix X-Y chromosome DNA life form’s cells will be in a quantum state because they were cloned with the quantum state basic material (APM), which is a necessary element in all living cells.

With our new life forms being in a quantum state, we will not have to rebuild the cells of double helix life forms to get them into a quantum state, for the transformation to our new selected universe for the continuance of life.

The more people (life forms) who can comprehend the reality and truth of existence, the fewer life forms we will have to create to sustain a civilization. The ones who are interested can get a free education from our website, or work or hire top scientists and professors at universities around the world. Many have parts of the picture, but none (or few) have the complete picture.

- Electrical forms exist in this reality with us. We can measure the energy of the beings.
- Light from beings (concentrated energy). Beings use light energy because space is dark with 90% of the matter being dark. The branes are filled with energy.
- Life forms with electrical grids only. Integrate both sides of the veil.

Electronic beings are energy which is the basis for all matter (open ended string energy and branes). Humans and other life forms are carbon based which has to be made up of matter with specific electron structures. Therefore, it will be easier to construct electronic forms instead of carbon based forms, although carbon based are more acceptable to our society.

New life forms with different body functions and operations. Possibly change DNA markers between humans and pigs, or other types of life which function on different types of systems, such as elephants, sea life, turtles, hibernation systems, etc. Change only a few DNA markers. Extend life and rebuild body parts.

Format for Life Forms

New life forms will have a double helix X-Y chromosome DNA configuration. With APM in the tublins of the micro tublor of each cell and in the neurons in the brain and body, will present an expanded brain working at the speed of light with a sense of well being. New hairs on the DNA which is a new body, the two (2) death genes will never be called into play. All diseases will be cured and no new diseases will enter into the body. The new life forms and the newly enriched old ones will be the same.

APM is used for the tublins and the life spark; with (N) Nitrogen as the spark.

For the continuation of an X-Y DNA, we will use our process for new life forms to continue the increase of an X-Y population.

A pH of 5 (acid side) is optimal for good health. Most X-Y chromosome DNA forms are on the acid side. X-X chromosome DNA forms are on the basic side.

Designer DNA: Design new life forms.

Remove the two (2) death genes from Dr. Marvin Bunnell's DNA and the new life forms will not contain any death genes to call up for the body to die (shutdown). The new life forms we will make for the souls to enter, will be with Dr. Marvin Bunnell's designer DNA.

New life forms will be all male X-Y chromosomes, quad-helix designer DNA. Dr. Marvin Bunnell's DNA will provide the DNA and the DNA acid will act as the egg for the new life form.

Beginning of Life (Quad Helix & DNA)

Life begins when the first cell communication and spark of electrical energy is in the cells. This happens after the bosons, and the tublins in the micro-tublins (in the cells) are formed and the DNA is added. (This is like adding DNA to stem cells which have no previous direction to grow in.)

Consciousness is in the tublins where coherence is established and a storage capacity of branes is available to attach string energy which can be combined into an electrical force. This electrical force can be transmitted with the K, Na and Cl "in and between" our cell structure. The force level can then determine our conscious state.

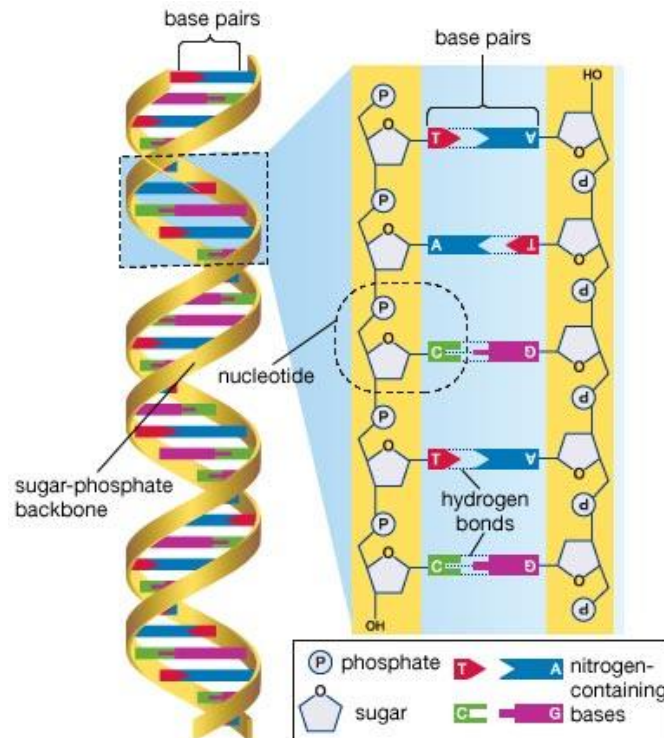
Different states of reality exist;

- Our normal earth bound state
- REM (Rapid Eye Movement) state
- Quantum state

- Out of body state
- Multiple body state

Our being holds together in all of the above states because of the existence of branes. In REM state the body is paralyzed so that the body will not act out the dreams.

Typical DNA is a double helix (two-stranded chemical structure) formed by base pairs attached to a sugar-phosphate backbone as shown in the illustration below.



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(Reference: <http://www.britannica.com/EBchecked/topic/167063/DNA>)

We will use the new life process which has been worked out. We will use the energy from the tublins in the cells (with APM) and DNA-acid for the DNA and egg. We will develop the bodies and put the souls and 90% into the bodies with Dr. Marvin Bunnell's power to move life-forms into the bodies.

Change the DNA and genes with "chemical reactions". Test material with a broad spectrum of chemicals for reaction and changes in the genetic material.

New Bodies / Souls 90%

Souls can invade or take over a human body for a set period of time. We will supply a new quad helix X-Y chromosome DNA body (from DNA/sperm). DNA-acid also acts as an egg, to all of the souls and the ones left in the 90%. This will provide life to infinity, with no sickness or illnesses.

For the transition, we only need X-Y chromosomes in the DNA. Dr. Marvin Bunnell can manufacture a quad helix X-Y DNA life form. The souls and 90% do not have any specific DNA configuration.

We will make a few bodies for the souls (upper echelon); five (5) plus one (1); Dr. Marvin Bunnell, so we will need five life forms. We will move the rest of the souls and 90% in the form they are currently in.

500 million new life forms, 5 billion people on earth. We can get this from human reproduction; this will cover the 90%. 2000 will be made by us; quad-helix X-Y chromosome DNA. This will cover the souls.

Life

Some forms of life that live at the bottom of the seas and oceans have the ability to live thousands of years. This is possible because of the APM present in the water and the "colder temperature" of the water environment, along with fewer predators that exist in their surroundings. With APM and a lower temperature, and because the two (2) death genes will not be called into action, life can become eternal.

By keeping the DNA of a "young person" in a continual state of "renewal", their bodies will never age and the DNA will not deteriorate. They will stay perpetual young and their bodies will not deteriorate; they will stay the same. They will never get "old", and many genes will never be called into play.

X-Y = Male

X-X = Female

We can create life, and do not need a female's egg to make the life form. We can create people without sperm or eggs. Women can get sperm from their bone marrow to provide new life (babies). Men can use their DNA acid as the egg and then use sperm for life development. As in our new life forms, X-X sperm from X-X bone marrow. X-Y eggs from DNA acid. Keep it in a solution; APM, Potassium, Na, Cl, protein/carbs, vitamins, minerals, 6% glucose/sugars and other chemicals on our list.

Life forms / Fetus Pain

The use of embryonic stem cells is a controversial issue, and with our process it eliminates the use of embryonic stem cells for building and re-building organs. New life forms (new babies) are able to feel pain as soon as the stem cells and cell matter are able to conduct any type of electrical current through the matter. It only has to be an accumulation of one cell or many cells. For example, try running a current through the skin on your body.

Conclusion

The more people (life forms) who can comprehend the reality and truth of existence, the fewer life forms we will have to create to sustain a civilization. The ones who are interested

can get a free education from our website, or work, or hire top scientists and professors at universities around the world. Many have parts of the picture, but none or few have the complete picture.

Appendix-1

Extracellular matrix

In biology, the extracellular matrix (ECM) is the extracellular part of animal tissue that usually provides structural support to the animal cells in addition to performing various other important functions. The extracellular matrix is the defining feature of connective tissue in animals.

Extracellular matrix includes the interstitial matrix and the basement membrane.^[1] Interstitial matrix is present between various animal cells (i.e., in the intercellular spaces). Gels of polysaccharides and fibrous proteins fill the interstitial space and act as a compression buffer against the stress placed on the ECM.^[2] Basement membranes are sheet-like depositions of ECM on which various epithelial cells rest.

Illustration depicting extracellular matrix in relation to epithelium, endothelium and connective tissue

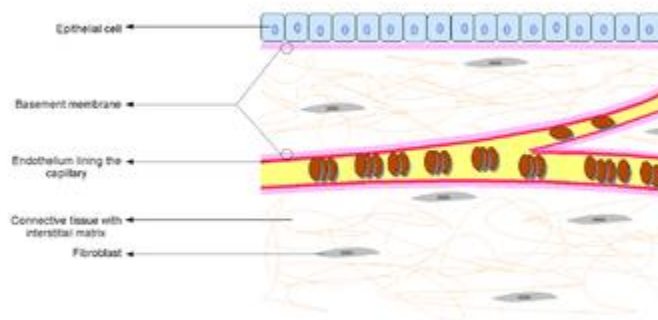


Illustration depicting extracellular matrix (basement membrane and interstitial matrix) in relation to epithelium, endothelium and connective tissue

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Role and importance

Due to its diverse nature and composition, the ECM can serve many functions, such as providing support and anchorage for cells, segregating tissues from one another, and regulating intercellular communication. The ECM regulates a cell's dynamic behavior. In addition, it sequesters a wide range of cellular growth factors, and acts as a local depot for them.^[1] Changes in physiological conditions can trigger protease activities that cause local release of such depots. This allows the rapid and local growth factor-mediated activation of cellular functions, without *de novo* synthesis.

Formation of the extracellular matrix is essential for processes like growth, wound healing and fibrosis. An understanding of ECM structure and composition also helps in comprehending the complex dynamics of tumor invasion and metastasis in cancer biology^[1] as metastasis often involves the destruction of extracellular matrix^[3] by enzymes such as serine and threonine proteases and matrix metalloproteinase.^[1]

Molecular components

Components of the ECM are produced intracellularly by resident cells, and secreted into the ECM via exocytosis.^[4] Once secreted they then aggregate with the existing matrix. The ECM is composed of an interlocking mesh of fibrous proteins and glycosaminoglycans (GAGs).

Proteoglycans

GAGs are carbohydrate polymers and are usually attached to extracellular matrix proteins to form proteoglycans (hyaluronic acid is a notable exception, see below). Proteoglycans have a net negative charge that attracts water molecules, keeping the ECM and resident cells hydrated. Proteoglycans may also help to trap and store growth factors within the ECM.

Described below are the different types of proteoglycan found within the extracellular matrix.

Heparan sulfate

Heparan sulfate (HS) is a linear polysaccharide found in all animal tissues. It occurs as a proteoglycan (PG) in which two or three HS chains are attached in close proximity to cell surface or extracellular matrix proteins.^{[5][6]} It is in this form that HS binds to a variety of protein ligands and regulates a wide variety of biological activities, including developmental processes, angiogenesis, blood coagulation and tumour metastasis.

In the extracellular matrix, especially basement membranes, the multi-domain proteins perlecan, agrin and collagen XVIII are the main proteins to which heparan sulfate is attached.

Chondroitin sulfate

Chondroitin sulfates contribute to the tensile strength of cartilage, tendons, ligaments and walls of the aorta. They have also been known to affect neuroplasticity.^[7]

Keratan sulfate

Keratan sulfates have a variable sulfate content and unlike many other GAGs, do not contain uronic acid. They are present in the cornea, cartilage, bones and the horns of animals.

Non-proteoglycan polysaccharide

Hyaluronic acid

Hyaluronic acid (or "hyaluronan") is a polysaccharide consisting of alternative residues of D-glucuronic acid and N-acetylglucosamine, and unlike other GAGs is not found as a proteoglycan. Hyaluronic acid in the extracellular space confers upon tissues the ability to resist compression by providing a counteracting turgor (swelling) force by absorbing a lot of water. Hyaluronic acid is thus found in abundance in the ECM of load-bearing joints. It is also a chief component of the interstitial gel. Hyaluronic acid is found on the inner surface of the cell membrane and is translocated out of the cell during biosynthesis.^[8]

Hyaluronic acid acts as an environmental cue that regulates cell behavior during embryonic development, healing processes, inflammation and tumor development. It interacts with a specific transmembrane receptor, CD44.^[9]

Fibers

Collagen

Collagens are, in most animals, the most abundant protein in the ECM. In fact, collagen is the most abundant protein in the human body^{[10][11]} and accounts for 90% of bone matrix protein content.^[12] Collagens are present in the ECM as fibrillar proteins and give structural support to resident cells. Collagen is exocytosed in precursor form (procollagen), which is then cleaved by procollagen proteases to allow extracellular assembly. Diseases such as osteogenesis imperfecta and epidermolysis bullosa are linked with genetic defects in

collagen-encoding genes.^[4] The collagen can be divided into several families according to the types of structure they form:

1. Fibrillar (Type I,II,III,V,XI)
2. Facit (Type IX,XII,XIV)
3. Short chain (Type VIII,X)
4. Basement membrane (Type IV)
5. Other (Type VI,VII, XIII)

Elastin

Elastins, in contrast to collagens, give elasticity to tissues, allowing them to stretch when needed and then return to their original state. This is useful in blood vessels, the lungs, in skin, and the ligamentum nuchae, and these tissues contain high amounts of elastins. Elastins are synthesized by fibroblasts and smooth muscle cells. Elastins are highly insoluble, and tropoelastins are secreted inside a chaperone molecule, which releases the precursor molecule upon contact with a fiber of mature elastin. Tropoelastins are then deaminated to become incorporated into the elastin strand. Diseases such as cutis laxa and Williams syndrome are associated with deficient or absent elastin fibers in the ECM.^[4]

Other

Fibronectin

Fibronectins are proteins that connect cells with collagen fibers in the ECM, allowing cells to move through the ECM. Fibronectins bind collagen and cell surface integrins, causing a reorganization of the cell's cytoskeleton and facilitating cell movement. Fibronectins are secreted by cells in an unfolded, inactive form. Binding to integrins unfolds fibronectin molecules, allowing them to form dimers so that they can function properly. Fibronectins also help at the site of tissue injury by binding to platelets during blood clotting and facilitating cell movement to the affected area during wound healing.^[4]

Laminin

Laminins are proteins found in the basal laminae of virtually all animals. Rather than forming collagen-like fibers, laminins form networks of web-like structures that resist tensile forces in the basal lamina. They also assist in cell adhesion. Laminins bind other ECM components such as collagens, nidogens, and entactins.^[4]

Cell adhesion to the ECM

Many cells bind to components of the extracellular matrix. Cell adhesion can occur in two ways; by focal adhesions, connecting the ECM to actin filaments of the cell, and hemidesmosomes, connecting the ECM to intermediate filaments such as keratin. This cell-to-ECM adhesion is regulated by specific cell surface cellular adhesion molecules (CAM) known as integrins. Integrins are cell surface proteins that bind cells to ECM structures, such as fibronectin and laminin, and also to integrin proteins on the surface of other cells.

Fibronectins bind to ECM macromolecules and facilitate their binding to transmembrane integrins. The attachment of fibronectin to the extracellular domain initiates intracellular signaling pathways as well as association with the cellular cytoskeleton via a set of adaptor molecules such as actin.^[2]

Cell types involved in ECM formation

There are many cell types that contribute to the development of the various types of extracellular matrix found in plethora of tissue types. The local components of ECM determine the properties of the connective tissue.

Fibroblasts are the most common cell type in connective tissue ECM, in which they synthesize, maintain and provide a structural framework; fibroblasts secrete the precursor components of the ECM, including the ground substance. Chondrocytes are found in cartilage and produce the cartilagenous matrix. Osteoblasts are responsible for bone formation.

Extracellular matrix in plants

Plant cells are tessellated to form tissues. The cell wall is the relatively rigid structure surrounding the plant cell. The cell wall provides lateral strength to resist osmotic turgor pressure, but is flexible enough to allow cell growth when needed; it also serves as a medium for intercellular communication. The cell wall comprises multiple laminate layers of cellulose microfibrils embedded in a matrix of glycoproteins such as hemicellulose, pectin, and extensin. The components of the glycoprotein matrix help cell walls of adjacent plant cells to bind to each other. The selective permeability of the cell wall is chiefly governed by pectins in the glycoprotein matrix. Plasmodesmata (*singular*: plasmodesma) are pores that traverse the cell walls of adjacent plant cells. These channels are tightly regulated and selectively allow molecules of specific sizes to pass between cells.^[81]

Medical Applications

Extracellular Matrix cells have been found to cause regrowth and healing of tissue. In human fetuses, for example, the extracellular matrix works with stem cells to grow and regrow all parts of the human body, and fetuses can regrow anything that gets damaged in the womb. Scientists have long believed that the matrix stops functioning after full development. It has been used in the past to help horses heal torn ligaments, but it is being researched further as a device for tissue regeneration in humans.

In terms of injury repair and tissue engineering, the extracellular matrix serves two main purposes. First, it prevents the immune system from triggering from the injury and responding with inflammation and scar tissue. Next, it facilitates the surrounding cells to repair the tissue instead of forming scar tissue.

For medical applications, the cells required are usually extracted from pig bladders, an easily accessible and relatively unused source. It is currently being used regularly to treat ulcers by closing the hole in the tissue that lines the stomach, but further research is currently being done by many universities as well as the U.S. Government for wounded soldier applications. As of early 2007, testing was being carried out on a military base in Texas. Scientists are using a powdered form on Iraq War veterans whose hands were damaged in the war.^[13]

Biostar ECM is one instance of the ECM not coming from the bladder. Biostar is made from pig intestine and is used to repair "atrial septal defects" (ASD) and "patent foramen ovale" (PFO). After one year 95% of the collagen ECM in these patches is replaced by the normal soft tissue of the heart.^[14]

TR Matrix is a ECM bioscaffold: TR BioSurgical has introduced a bioscaffold having a structure that resembles tertiary embryonic connective tissue, which is responsible for its non-immunogenic property and its ability to upregulate a variety of genes involved in tissue repair, as evidenced by gene microarray analysis and lead to a fetal like or regenerative tissue response. Depending on the tissue type, cells that bind to this bioscaffold will have significant, measurable increases in select tissue repair factors, including aggrecan, connective tissue growth factor (CTGF), transforming growth factors (TGF- β 1 and TGF- β 3), bone morphogenic protein (BMP-2) and other repair factors. These factors are important for cellular ingrowth, extracellular matrix turnover, scarless wound healing, and sustained vasculogenesis.^{[15], [16], [17], [18], [19], [20], [21]}

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Appendix-2**Summary Statistics on Organ Transplantation in the United States**

Reference: *The 2008 Annual Report of the OPTM and SRTR: Transplant Data, 1998-2007*
(<http://www.ustransplant.org>)

At the close of 2006 there were 173,339 persons recorded in available OPTN data, who were living with a functioning organ transplant. This number reflects an increase of 1.6% over 2005 and a 60% increase since 1998.

The total number of organs transplanted decreased from 28,291 in 2006 to 27,578 in 2007; this was an overall decrease of 713 organs transplanted (2.5%) and a decrease of 423 (6.3%) in living donor transplants (Table I-1). Deceased donor kidney transplants decreased by 1.3%, and living donor kidney transplants dropped by 6.1%. A decrease of 3.8% was observed in deceased donor liver transplants in 2007.

The number of lung transplants increased 4.3% while heart, deceased donor intestine, pancreas, and heart-lung transplantation changed little. The 27,578 organs transplanted in 2007 came from 14,399 organ donors, 357 fewer donors than there were in 2006 (2.4% decrease).

Table I-1. Growth in Number of Transplanted Organs, 2006-2007

Transplanted Organs	2006	2007	Percent Change
Total	28,291	27,578	-2.5%
Deceased donor	21,562	21,272	-1.3%
Living donor	6,729	6,306	-6.3%
Kidney	16,644	16,119	-3.2%
Deceased donor	10,212	10,082	-1.3%
Living donor	6,432	6,037	-6.1%
Pancreas	1,368	1,304	-4.7%
PTA	98	110	12.2%
PAK	292	259	-11.3%
Kidney-pancreas	914	848	-7.2%
Liver	6,136	5,890	-4.0%
Deceased donor	5,849	5,625	-3.8%
Living donor	287	265	-7.7%
Intestine	60	57	-5.0%
Deceased donor	57	57	0.0%
Living donor	3	-	n/a
Heart	2,148	2,141	-0.3%
Deceased donor	2,147	2,141	-0.3%
Living donor	1	-	n/a

Lung	1,401	1,461	4.3%
Deceased donor	1,397	1,458	4.4%
Living donor	4	3	-25.0%
Heart-lung	31	29	-6.5%

The total number of transplants in the United States increased on average by 872 transplants per year between 1998 and 2006. Thus, the decrease of 713 transplants in 2007 represents a substantial divergence from the long-standing trend. This drop was due largely to decreases in donation, particularly by living donors. There were 423 (6.3%) fewer living donors in 2007 than in 2006. Living donation has been decreasing since 2004.

The number of organs recovered for transplant from deceased donors has similarly departed from the recent trend. In 2007 there were 28,409 organs recovered compared with 28,322 in 2006 (Table I-2). This increase of 87 organs is the smallest in 10 years. An average increase of 930 organs per year was seen between 1998 and 2006 [Table 1.2]. More multi-organ transplants (97) were performed in 2007 than in 2006, the biggest increase in the number of multi-organ transplants in 10 years. Those 97 transplants involved 229 total organs.

Table I-2. Growth in Number of Recovered Organs, 2006-2007

Recovered Organs	2006	2007	Percent Change
Total	28,322	28,409	0.31%
Kidney	14,284	14,384	0.70%
Pancreas-All	2,032	1,927	-5.17%
Liver	7,084	7,029	-0.78%
Intestine	185	205	10.81%
Heart	2,276	2,289	0.57%
Lung	2,461	2,575	4.63%

The percentage of kidneys recovered but not used for transplant was the highest in 10 years. In 2007, there were 2,389 kidneys (16.6% of kidneys recovered that year) that were discarded compared with the 2,129 (14.9%) kidneys discarded in 2006.

At the end of 2007 there were 97,248 people registered on organ waiting lists (65,411 active, 31,821 inactive, and 16 of unknown status); this reflects a 4.7% increase over the number of people waiting for an organ at the end of 2006. The percentage of patients who were inactive on the kidney waiting list at the end of each year has increased from 15% to 32% from 2003 to 2007, with 23,089 patients listed as inactive status in 2007. This increase is presumably due to policy implemented in 2003 that allows accrual of waiting time during inactive status.

Table I-3 shows the one-year change in the number of patients on the waiting list for each organ and includes patients listed at both active and inactive status. The kidney waiting list

grew by 8.3% while the list for kidney-pancreas shrank by 3.6%. Other modest declines were seen on the liver and heart lists; the largest decline (21.4%) was seen on the lung waiting list. Dramatic changes regarding the lung waiting list in 2005 and 2006 might be largely caused by changes in the deceased donor lung allocation policy that were implemented in May 2005. Changes in the solitary pancreas (pancreas transplant alone, or PTA), pancreas after kidney (PAK), intestine, and heart-lung waiting lists all reflect relatively small numbers of patients.

Table I-3. Patients on Waiting Lists, 2006-2007

Organs	End of Year		Percent Change
	2006	2007	
Total	92,845	97,248	4.7%
Kidney	66,352	71,862	8.3%
PTA	598	585	-2.2%
PAK	988	918	-7.1%
Kidney-pancreas	2,326	2,242	-3.6%
Liver	16,623	16,438	-1.1%
Intestine	234	222	-5.1%
Heart	2,769	2,659	-4.0%
Lung	2,822	2,217	-21.4%
Heart-lung	133	105	-21.1%

The following (Table I-4) represents the amount of reported deaths while on the waiting list.

Table I-4
Reported Deaths and Annual Death Rates Per 1,000 Patient-Years at Risk
Waiting List, 1998 to 2007 – United States

Organ Type	Year									
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Heart-Lung										
Patients	354	347	328	299	290	260	260	223	207	182
Deaths	43	55	46	42	42	20	29	28	21	22
Rate	188.1	242.9	223.8	203.6	210.0	109.1	162.8	181.6	153.5	195.4
Heart										
Patients	7,598	7,446	7,191	7,144	6,912	6,523	6,204	5,883	5,836	5,779
Deaths	864	804	686	718	632	586	526	469	436	374
Rate	220.4	199.1	177.3	183.1	167.2	166.5	159.8	156.3	155.3	141.8
Intestine										
Patients	211	212	247	320	349	356	393	453	491	503
Deaths	48	47	27	44	52	48	56	58	55	49
Rate	583.2	495.9	254	318.8	315.8	306.4	323.7	324.1	263.6	226.5
Kidney										
Patients	53,315	57,055	60,537	64,161	68,173	71,798	76,820	82,369	88,753	94,741
Deaths	2,528	3,318	3,128	3,370	3,730	3,855	4,038	4,141	4,452	4,452
Rate	69.1	84.0	73.7	73.6	76.8	74.9	73.4	70.5	70.3	64.8
Kidney-Pancreas										
Patients	2,891	3,334	3,849	3,961	3,949	3,895	3,946	3,993	3,968	3,780
Deaths	108	169	198	227	223	208	223	208	233	211
Rate	70.2	93.8	89.4	95.5	93.5	89.8	95.9	88.2	98.6	93.4
Liver										
Patients	17,379	20,568	22,959	25,214	25,914	25,623	26,297	26,580	26,720	26,558
Deaths	1,567	2,018	2,017	2,319	2,157	2,096	2,161	2,141	1,974	1,816
Rate	160.0	166.2	142.6	143.1	131.5	129.3	131.2	130.0	121.0	113.0
Lung										
Patients	4,527	4,868	5,142	5,374	5,399	5,549	5,650	5,269	4,801	4,678
Deaths	518	599	519	532	529	489	512	397	295	317
Rate	185.0	190.6	152.8	149.2	145.1	131.6	135.0	115.2	101.7	125.8
All Organs										
Patients	84,437	92,645	99,753	106,181	110,824	113,778	119,385	124,469	130,266	135,568
Deaths	5,462	6,758	6,502	7,114	7,177	7,110	7,334	7,225	7,245	7,061
Rate	109.1	120.2	105.3	109.6	111.7	105.5	104.6	100.2	95.5	89.0
Pancreas after Kidney										
Patients	315	469	770	1,026	1,218	1,324	1,490	1,432	1,400	1,345
Deaths	5	5	10	16	18	16	26	24	30	20
Rate	31.3	25.0	26.4	28.1	24.9	19.1	27.8	24.5	31.0	21.6
Pancreas Transplant Alone										
Patients	429	483	499	617	667	706	795	853	904	963
Deaths	16	9	7	19	13	19	25	33	27	37
Rate	67.3	35.4	25.5	54.6	33.4	45.6	52.9	65.1	49.2	63.2

Source: OPTN/SRTR Data as of May 1, 2008.

Table I-4 Notes:

Patients alive on the waiting list at any time during the year are counted. Period at risk begins the later of January 1 or waiting list registration and ends on the earlier of December 31, date of death, or date of removal for other reasons. Please see Technical Notes for further details about death rate computation. Patients who were waiting for multiple organs in a given year are counted in each organ section, but only once in the "All Organs" section.