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(Transcribed by Bskory)

***Q:** What caused you to get into this field (working with hormones)?*

RP: I had been teaching linguistics and teaching, alternately, but I had been interested in science from childhood - but I saw medical so-called science going off in very perverse directions through the 1950s. So I didn't think of going to the university graduate school in biology because my bad experience in high-school biology - very, very retarded text books and so on - made me think that there wasn't much science in the biological field. But finally, I decided that I needed to use laboratory instruments that were too expensive to get myself so I enrolled in graduate school and figured that just by not arguing with the teachers I could get through the program and get to use the labs - which I did.

***Q:** Now your insight always amazes me because I'm one of those gullible believers when I'm told that I, for instance, should take estrogen because I'm aging. I believed - in fact, I was writing a dissertation on the positive benefits of estrogen until I met you - and it blew all that stuff right out of the water. And I look back at how gullible I was and how easily people are misled into believing what the pharmaceutical industries want them to believe, and so...*

RP: Advertising is very powerful. A group of 13 estrogen companies got together in 1942 when it was already known that estrogen caused miscarriages, sterility, cancers, seizures, and so on... but they had a product and they wanted to sell it as the "female hormone" even though it's also a male hormone, but they got together and with advertising and political pressure, they convinced the FDA to approve the use of estrogen to prevent miscarriages, which it caused actually. By advertising, they got the public interested in estrogen as an anti-aging hormone. So it started really with a definite conspiracy of 13 companies in 1942.

***Q:** And it's continued to this day even with well-meaning individuals like Susanne Summers who advocate the use of bioidentical hormones. She always throws large amounts of estrogen into the equation including estriol. Would you mind talking about that?*

RP: The body has many protective systems for inactivating the strong estrogen - estradiol - and so it has enzymes to oxidize in different ways this fairly reduced form of estrogen. By oxidizing it to estriol or estrone, it reduces the estrogen-like activity. It also has several other systems for destroying estrogen efficiently. If your metabolism is working very well, estrogen should be totally eliminated after about 12 hours following ovulation and implantation. It should be disposed of thoroughly within a few days of ovulation.

***Q:** Having worked in the natural foods industry now for 42 years, when I read my trade magazines I'm still seeing advertisements for estrogen-based products in all the natural food trade magazines. It's still not only in the pharmaceutical industries and the natural foods industry, and I like it that you and Karen can straighten people out.*

***(Karen):** It's not that estrogen is bad, right? It's that it needs to be in a certain ratio.*

RP: I've been thinking of how common estrogen is throughout the universe. Any time an organism is injured it produces estrogen which stimulates growth and repair. An even more common biological material is ATP - the so-called energy molecule. Anytime we're injured, or even when a cell is slightly stressed, it oozes...loses some of its ATP which acts as a signal to other cells to repair the damage. When a lizard is attacked and drops its tail, it's probably a surge of ATP that cuts the tail off. And ATP forms to make a blister, dissolving the tissue between the layers of skin, so that fluid flows in. ATP is our most life supporting basic molecule, hence these potentially deadly destructive effects, cutting off, dissolving tissue so that repair can take place.

Estrogen is just supposed to be biologically active as an excitant at an early stage of injury, like it slightly inflames the uterus to cause the growth of cells preparing a place for the embryo to implant. But if the estrogen stays present too long, it kills the embryo by overexciting the surrounding cells. In the 1950's, my thesis advisor, [Arnold] Soderwall, was demonstrating that by giving an estrogen supplement to a pregnant animal the day that it becomes pregnant, you can prevent implantation by a small amount such as is used in birth control pills - and that's how they work, by a quick abortion, actually, rather than preventing conception. They're preventing implantation. And he found that on the 2nd, 3rd, 4th days and so on, following implantation, if you gave just slightly larger amounts of estrogen all the way up until delivery, staying on the same slope of increasing doses of estrogen, you could kill the embryo or the fetus just by adjusting the dose of the estrogen to counteract the increasing progesterone, which is there to maintain pregnancy. So, at any stage, estrogen produces abortion when it is out of balance with progesterone.

Q: And so, if a woman is pregnant and the progesterone levels don't increase...

RP: When a woman is either having a sluggish liver/low thyroid, so that her estrogen is chronically too high, or her progesterone is chronically low, she will often bleed every month, several months into the pregnancy, as if she were menstruating on cycle - and during any of those cyclic surges of estrogen, that's when miscarriages are most likely to happen.

Q: And then how will this affect the sexual persuasion of the child who, should that pregnancy make it all the way to the end, how will that affect the child being bathed in more highly estrogenic environment?

RP: It damages the sexual differentiation. There is some research that stress, prenatally, causes an inter-sexual differentiation - not definitely either one [one sex or the other].

Q: Would this show up as hermaphroditism?

RP: No, the main thing is that the male has smaller genitals, and the distance between the genitals and the anus is decreased in proportion to the estrogen.

Q: And would that affect a more transgender society?

RP: Uh, ya (hesitating, sounding a bit like "maybe")... they're seeing the distance that characterizes the estrogen exposure of male genitals decreasing in recent decades in polluted countries.

Q: And would you say that oftentimes people say, "Hey, I was born this way," as in

men who are gay and women who are lesbian, truly are this way due to this?

RP: Sure, I think that's a big part of it. You can see it in crocodiles and alligators and ocean... otters and fish and frogs... everyone is affected by the estrogen pollution.

***Q:** And it's amazing to me that you pointed out some things that no one like myself would ever even consider, in their wildest imaginations, would have an estrogenic effect - such as x-rays and radiation. I'd like your feeling on the Fukushima radiation - whether you think that's gone away and harmless...*

RP: Did you read about the mad cow... dairy cow, that turned out to be infected with so-called spongiform encephalopathy? I suspect that it's exposure to the Japanese radiation of the animals in California because the break-out of mad cow's disease in England was in the area where Chernobyl radiation rained down on the pastures. And it followed in the years immediately following Chernobyl radiation exposure.

***Q:** And who came up with the lies about the sheep offal and that stuff causing...*

RP: The Pentagon was doing that in the 1940s following the atomic bomb, and 1950s with the hydrogen bomb, when they... the fallout from the hydrogen bomb drifted across the islands... they sent [Daniel] Carleton Gajdusek [http://en.wikipedia.org/wiki/Daniel_Carleton_Gajdusek], I think his name was. He was a pediatrician, but he was posing as a virologist. He was sent by the military to an area that had been exposed to hydrogen bomb fallout to study what supposedly was additional brain disease, Kuru, that he claimed had been passed on for generations by cannibalism. But actually it was never reported before the hydrogen bomb fallout. In a miraculously short time, he identified what he claimed was a new slow virus and got the Nobel Prize for discovering a virus that probably doesn't exist. The whole thing was a military cover up, basically. He was not virologist, and didn't know anything about it, didn't do the kind of research that could have identified it - and the same symptoms can be produced by radiation.

***Q:** Is there anything we can do to protect ourselves from this radiation - from Fukushima, from x-rays. Every time I go to the dentist, he insists that I must have an x-ray which he of course says is like sitting in the sun, and now they have these new panoramics - they have all this baloney, and it's very difficult to talk them out of doing these x-rays, but you point out that they are estrogenic. Is there anything we can do to off-set any damage from the x-rays?*

RP: Two or three papers were published - I discussed them in my radiation newsletter, January, a year ago. They showed that estrogen was synergistic with radiation in causing cancer, and that the same way that progesterone blocks cancer produced by estrogen, it also blocks cancer produced by radiation.

***Q:** And so if someone knew that they had a history of a lot of diagnostic x-rays, one of the ways they could possibly prevent some of the long term effects is to start using progesterone on a regular basis?*

RP: I think on the long term, that is protective. They know that when they do the so-called Gamma Knife brain treatment, that the symptoms of nerve cell degeneration aren't seen for usually more than 18 months, sometimes several years later - the cells stay in an inflamed condition. They've seen blood serum 20 years after Chernobyl, 50 years after the Japanese bomb exposures, they've seen a chronically inflamed

condition that shows up even in the blood serum that came after exposure, so I think that's the sort of thing that can be reversed even at a late date so that the chronic inflammatory state doesn't persist.

Q: I hope that's true because I was a military kid who had a lot of diagnostic x-rays, which scares me when I think about them.

RP: Vitamin A works with progesterone as another protective thing, but it also happens sensitize you to the radiation that... the radiation breaks down the Vitamin A in your tissues, so if you replace it after the injury, that helps counteract the estrogen-like effects.

Q: What would be a good dose of Vitamin A on average for a 50 year old adult woman?

RP: That's hard to say because being an unsaturated oily material, it can interfere with thyroid function, so the amount you need corresponds exactly to the level of thyroid activity you have. A low thyroid person can get symptoms of Vitamin A poisoning from just a very small amount like 5000 units. When I was in my teens and twenty's, I found that I needed 50-100 thousand units to prevent having acne, or even Leukoplakia following dental x-rays. I would get these white spongy growths inside my cheeks that the dentist said were either cancerous or precancerous, and I found that these big doses of Vitamin A would clear it up completely in a week. And that's a precancerous estrogen-stimulated condition that also appears on the cervix of the uterus. And Vitamin A and progesterone similarly will reverse that.

Q: So, were you taking thyroid at the time?

RP: No, I just happened to be a hyperthyroid person during that period.

Q: You mentioned the hyper and hypo were kind of the same thing?

RP: No. Doctors confuse hypothyroidism with hyper for various historical reasons. The basic thing that thyroid does is increase your oxidative metabolism. When the Synthroid product came on the market, only thyroxine - rather than the complete combination of T3 and T4 - when that came on the market, they wanted to say that thyroxine was the real thyroid hormone and it happens that it doesn't stimulate metabolism until it's turned into T3. And so for about 20 years, there was the doctrine that thyroid doesn't stimulate oxidative metabolism as its basic mechanism. But, in fact, the thyroxine interferes with the oxygen metabolism if it is out of balance [with T3]. It's really the increased consumption of oxygen and production of defensive energy systems that makes thyroid valuable. For example, the oxidative energy is used to convert cholesterol into pregnenolone and progesterone, DHA, male hormones and so on, to counteract estrogen as part of the defense against estrogen. So, if you have excess cholesterol, it's usually because your thyroid is deficient or your Vitamin A is deficient and you aren't converting it to the protective progesterone/testosterone hormones.

Q: We have Dr. Lita Lee on the show because she's so interesting, and I love the expression she first coined, a "Pro-thyroid diet," which includes eating organic. Do you agree with that, or can you elaborate on that?

RP: Well, lately everyone has been calling their stuff organic. I was getting a kind of organic whipping cream for my coffee, and I saw they were putting carageenan in

it. When they can say that carageenan is an organic food just because you get it out of the ocean - the ocean isn't such a great clean food source anymore, and carageenan is highly allergenic and people have died by contact with it, and many people have very serious allergic reactions to it when they eat it. When it breaks down, it becomes carcinogenic, but it's still allowed not only in the food supply, but it can be called organic. Some of the nuclear industry factions were applying to the government to be able to call nuclear waste "fertilized food" - organic.

Q: I have to say I do work as an organic farm inspector and I remember when the USDA was coming up with the standards for "organic." They were going to allow human sewer sludge to be used as a fertilizer, irradiated food to be labeled organic, and GMO food being labeled organic - and people like Karen and I petitioned the USDA and I was very surprised because the federal government, the USDA, listened to our complaints, that they would take away the integrity of the organic industry if they allowed those three things to be labeled organic. So, I know it's a complicated world - it's not always very black and white, but we have to work with some kind of a standard.

RP: Carageenan is the main problem with some of the foods called organic, but naturally it's best if you can get really clean organic foods.

Q: Dr. Peat, you mentioned pregnenolone. That's one of my favorite supplements since you introduced us to it. I wonder if you could elaborate a little bit on the benefit of pregnenolone and some of the scare tactics that are put on the labels saying this causes cancer...

RP: That stuff just seems to come out of thin air. When some of the drug companies in the 40's wanted to get natural progesterone off the market, they said you can't take it orally because it's destroyed by the stomach acid. But there was absolutely no source for that - it was just inserted into an article and then multiplied until all the doctors in the country believed it. And California for reasons that I explained in one of the articles on my website (about conflicts of interest) California decided to call Progesterone a cause of cancer, even though the articles they cited to support that position... some of them were strong arguments showing that it prevents cancer. Their scientific support was really crazy - but, the fact that California got progesterone on their list of cancer agents, that seems to have simply spread over to pregnenolone without any argument at all.

Q: And so why did these companies acquiesce and put that warning on their label?

RP: Because California gave lawyers a law that lets them collect money for suing anyone that they want to. There have been articles published calling it the shake-down state because lawyers were accusing people for having asphalt in their parking lot because asphalt is carcinogenic and so on.

Q: What is your take on pregnenolone? What benefit will that have for people with dementia, for example?

RP: If the pregnenolone is well made and pure, and in recent years everything on the market does seem to be pure if the retailer isn't adding a lot of crazy excipients, but fewer pregnenolone have... Since the 1940's with experiments in rats, it's been known to have essentially no side effects at any dose. They gave rats a 10 gram single dose by stomach tube, which would be like a person eating a pound of it, and the only effect was that the rats weren't hungry until their stomachs had emptied the

stuff out - and, if any of the rats were under stress at the time of the experiment, their stress hormones went down to normal. That was the only side effect - it stopped abnormal stress reactions.

Q: So we can presume this would bring stress hormones down in people too?

RP: After I read the rat experiment and saw that it had made people more efficient in studies of workers using it, I decided to take 3,000 - 4,000 mg every day for a year. I had great resistance and felt no stress, no matter what was happening.

Q: Were there any side effects?

RP: Not at all.

Q: And do you take that much to this day?

RP: No, it was too expensive (laugh). I haven't taken any for years now, but I stopped because for a while a lot of junk was on the market. When I tried to import the pure stuff, the FDA kept getting in the way.

Q: I know you lecture around the United States and in Mexico to many different universities including the Natural College of Naturopathic Medicine, and I am a little curious - what kind of reaction do you get, because you say a lot of things that nobody else is saying.

RP: I pretty much stopped lecturing about 20 years ago when the word got out what I was saying about unsaturated fat. The doctors stopped wanting to hear me when they knew what I'd say about estrogen. And then the health food industry stopped wanting to hear me when they knew what I'd say about corn oil and soy oil and the polyunsaturated oils - fish oil and so on - because those are so important to their business that they didn't want bad information put out about them.

Q: What is it you say about that would be problematic for them?

RP: I see the polyunsaturated n-3 and n-6 oils as being behind all the inflammatory degenerative diseases, and basically all of the degenerative diseases involve an inflammatory component which is amplified by the n-3 and n-6 breakdown products.

Q: And you think the cumulative value of those oils in the human body as they get packed away in the tissue have a metabolic suppressive action?

RP: Ya. The prostaglandins and various isoprostanes [<http://en.wikipedia.org/wiki/Isoprostane>] and free radical breakdown products and so on, those fats happen to inhibit the enzymes which make our natural n-9 polyunsaturated fats such as the mead acid. It's called an essential fatty acid deficiency when you can find the mead acid (n-9) in the blood, but it happens that that's a protective anti-inflammatory fat that gives great resistance to the animals that are so-called deficient in the essential fatty acids.

Q: In other words it would be beneficial to us to avoid those polyunsaturated oils such as corn, canola, safflower, sunflower, almond, all those oils we should avoid?

RP: I try to avoid those as far as possible even avoiding pork and chicken that have

been fed those foods.

Q: I know that in your free time, Dr. Peat, you're a terrific artist. You paint a lot, don't you?

RP: I try to alternate studying and writing with painting or sculpting.

Q: Can I ask you again about Fukushima radiation? I alternate between being positive about it, but because we're in Hawaii and in the pathway, I'm concerned about it. And our air purifier started making a weird noise shortly after the fall-out - could that have been caused by hot particles of radiation?

RP: I don't know how the purifier works, but the particles do produce ionization that could affect electronic devices. The nuclear industry, like the estrogen and oil industry, has been very busy with propaganda ever since the 1940s convincing the public that nuclear power will be good for the public in many ways. They've been selling radioactive potions since the 1920s - people are still selling radioactive rocks as cures. They used to sell it in marbles to cure impotence and arthritis and so on. And you can get some quick relief from x-raying your knee, for example for arthritis - it kills the cells that produce inflammation, but it creates a long-term systemic inflammation that is much worse for the short-term relief. And that's the sort of thing that happens with the breakdown of fish oils - you get short-term suppression of inflammation, but long-term promotion of inflammation. The propaganda covers the spectrum of every kind of radiation. They say that the fall-out in your food is equivalent to flying across the country on an airplane, for example. There are several kinds of lies built into that. Every person who repeats that is repeating layered lying propaganda. For example, it's true that you can say there's a certain amount of radiation from cosmic rays coming through the airplane when you're at 35,000 feet, but it happens that the biological effect of radiation, cosmic rays, at say 10,000 feet altitude on the mountain, or in an airplane, that has less biological effect by a great amount per unit of radiation than the same cosmic rays do at sea level. The cosmic rays at high altitude pass right through you doing very little - but on the way through the atmosphere, they run into air atoms causing secondary and tertiary breakdown - nuclear fission - and it's those fission products produced on the way down, close to sea level, that increase the environmental radiation, and that's why a big part of the reason why cancer rates are much lower, heart disease is much lower, when you live at from 5 to 10 thousand feet elevation above sea level. Closer to sea level, the cosmic are more intense. So, the nuclear industry is turning things upside down to say that eating a banana or a Fukushima oyster or whatever can be compared to cosmic rays - they've got it exactly backwards.

Q: We live on an island, and we like to go out in the suns and be exposed to those rays. Should we be afraid that our cancer levels are going to be increased because we're at sea level?

RP: The ultraviolet produces effects in your skin that are very similar to what x-rays and cosmic rays and gamma rays produce throughout your tissues. It's just that the toxic effect of ultraviolet is limited to 2 or 3 millimeters near the top of your skin. It happens that the red light of sunlight - the yellow, green, orange, red frequencies happen to be neutralizers of the damage done by radiation of the toxic kind. For example, experiments with frogs would give them a certain dose of gamma rays that would kill them very quickly - but if they gave the dose and within the hour gave them some very bright red light following the gamma ray exposure, they recovered - they weren't sick.

Q: *Would that be a good thing for us to do - get one of those red lights and lay under it for a bit for protection against Fukushima?*

RP: Natural sunlight contains enough of that. If you filter out that protective red and orange light, sunlight will even kill plants that normally grow all day in the sun. The blue light and ultraviolet is toxic even to plants, where it's the red light that allows plants to stand the ultraviolet all day.

Q: *So, would that be the far red infrared light bulbs we can buy?*

RP: No, just the red. Red, orange, and yellow are all protective. You don't want too much of the ultraviolet because your blood does circulate up through the surface of your skin and your white blood cells will get killed every time you get sun burned. So you don't want to get sun burned, and having a tan - the melanin pigment captures the biggest part of the ultraviolet and protects your skin from that immune suppressing effect of UV.

Q: *So what's wrong with people who don't tan and they just burn?*

RP: Sometimes a Vitamin D deficiency is involved. Your body knows that it needs more vitamin D so it doesn't make the pigment allowing more ultraviolet to be absorbed. I've seen people who couldn't tan suddenly tanning normally when they took some vitamin D.

Q: *I have in front of me a book you wrote, "Mind and Tissue," about Russian research on the human brain. In the news lately there's all this talk about brain damage to the football players in our country. Are you familiar with this story?*

RP: Not recently, but I know that there's a lot of brain damage in football.

Q: *Can you tell us a little bit about this book, "Mind and Tissue," and the research you have on the human brain and how things work?*

RP: Maybe you've been hearing about the use of progesterone. I think they say it's in the last stage of clinical trials before getting approval to use progesterone for treating brain injury. After many years of animal studies treating with progesterone, they've advanced to the applying it to people with recent brain injuries. It has the same good effects in humans as it does in animals. Even if you cut out a nerve... in a rabbit study for example, several years ago, they removed a centimeter of nerve and then put a fiber bridge across the gap but impregnated the fiber with progesterone and found that the progesterone even facilitated the complete regeneration across a missing piece of nerve. The Russian research interested me because there were here and there across Europe in the 18th century, there were a few researchers thinking in an integral way about what an organism is and what sickness is, and realizing that the whole organism is involved in the sickness process, and the thing that most obviously makes a whole organism a unit is the brain and the nervous system. And that's something that people have been aware of for thousands of years, but in the 18th century a few doctors actually started thinking along that line. It didn't go over well in England, Germany and France - but for some reason, a little later in the 19th century, it really took off in Russia. There was a whole branch of medicine that they called "nervism," realizing that the brain is a factor in everything - cancer, tuberculosis, allergies, trauma, etc. The famous Sechenov, who was before Pavlov, had set the research program to study how nerves were called reflexes and so on. So

when Pavlov began studying organisms and basically how an organism works, he looked at the brain - and the digestive system was another integrating central thing to how an organism exists. Pavlov said that the digestive system is an animal's closest contact with the world and it uses its nervous system to integrate its reactions to the world, so he studied the enervation of the digest system, basically as a way to understand what an organism is.

Q: When we talk about progesterone, and we do sell it in our store, people always ask me are there foods that naturally have progesterone in it that they can eat.

RP: Milk and cheese are the only foods containing measurable amounts of progesterone.

Q: I really like your information about progesterone being an anti-androgen. How would a man use this if he were balding, for instance, and would you remark on when you see thinning of the hair in both men and women and what that relates to?

RP: About 35 years ago, I had been experimenting with the oil dissolved progesterone. A bald man in his 30's asked me for any suggestions. I suggested rubbing some of this oil progesterone on his scalp. He came back two or three weeks later with fuzz on his head and was all enthusiastic about it and started telling his friends. I sort of discouraged the use of it because if a man puts on too much progesterone, it has anti-testosterone effects. If a man isn't expecting it and is willing to stop using it or adjust the dose, it might make him think he is losing his virility. Occasionally, I would mention it to a man, but for about 30 years I avoided talking about it because so many men were just obsessed with the idea of growing hair. And explaining what it does to their testosterone was too involved.

Q: But how would it affect a baby boy - say if you had a baby who has brain damage...

RP: Oh, sure! If there's any - when a man has something more serious than baldness, I don't hesitate to tell him what it does physiologically. A child - the same thing - if they have something really serious, then you don't mind if they delay their puberty a while.

Q: And so that's all do is it would delay their puberty? It would not make them become transsexual or something odd like that?

RP: There hasn't been much research using it on kids or even young animals, but animal studies suggest that delaying puberty is very, very good for the personality and general health of the animal. The more stress they are under, the earlier puberty begins. And precocious puberty is starting to be a big problem around the world - because of exposure to estrogens and such. The brain basically stops developing at puberty. And so in countries where the diet doesn't have so much polyunsaturated fats, puberty used to come around the age of 18 in places that had a lot of coconut in the diet, for example. The brain and personality have a lot more chance to develop if it's delayed for several years.

Q: What about if you had a baby boy who fell into that autistic spectrum and you wanted to use pregnenolone and progesterone? Is there any precautions we should take into consideration?

RP: Pregnenolone is even easier to use. It doesn't have any known so-called

hormonal effects in the cell. It does seem to help the body handle the disposition of water but apart from that and the tone of connective tissue and smooth muscle and such, those aren't recognized as hormone effects. So, pregnenolone isn't considered a hormone but is a precursor, like a nutrient for any tissue that does use the steroid hormones. It just helps balance the things that the body is naturally trying to do, where progesterone will neutralize the androgens as well as the estrogens. The reason progesterone becomes such a massive component in a pregnant woman is that it stabilizes every physiological process. It's there in these massive amounts - 100's of mg of it being produced every day (late in the pregnancy process). Those huge amounts prevent any surges of estrogen or testosterone or cortisol - anything that destabilizes the developmental process - is blocked by these huge amounts of progesterone so that - for example, the adrenal steroid aldosterone that regulates salt balances, if you have too much aldosterone and a lot of progesterone, you don't have salt retention the way you would with just too much aldosterone. And if you don't have any aldosterone but you have lots of progesterone you don't lose salt catastrophically the way you would just with the deficiency of [aldosterone]. All of the steroids' functions are represented in the single molecule of progesterone, even without its being converted into anything else. For example, in 1940's Hans Selye was studying all of the steroids and having his assistants inject large amounts against all kinds of different conditions. Even removing the adrenal glands from a rat, if they were giving these large injections of progesterone, the rat would live with perfect health a fully normal lifespan - no adrenal glands at all, just progesterone.

Q: Since you mentioned how profound a role progesterone plays in brain development in babies, if that were missed out on during the pregnancy could someone compensate somewhat afterward? Give their child pregnenolone or progesterone to try to repair some of that damage?

RP: That was sort of overlooked because of the doctrine that the brain and the heart don't regenerate, but now in the last 10 or 20 years since stem cells have been recognized, a few people are starting to think about that. Stein's studies [John Stein?] of brain injury show that the progesterone is actually helping to regenerate the destroyed parts of the brain, but the animal studies show that the brain really continues growing throughout the lifespan. About 40 years ago, a sort of compendium of changes that occur during the aging process measured the amount of DNA in the brain and found that human brain contains a steadily increasing quantity of DNA up to the age of 90 and more, showing that cells keep increasing throughout the whole adult life span, contrary to the idea that growth is something that happens only in childhood.

Q: If I wanted to administer pregnenolone to one of my grandchildren what would a good average dose be for a child if you wanted to try to repair some brain cell damage?

RP: No one has ever studied that officially. For an adult, even with 10 or 15 mg I've seen people snap out of a depressed mood minutes after taking 10-15 mg, and the body produces about 30 mg/day of pregnenolone, at least. 30-60, something like that. Even those very small doses are sometimes enough to stop a stress reaction.

Q: What if someone wanted to use it for a face-lift effect. Could we use 3 or 4 hundred mg with no problem?

RP: (hesitating) Ya...for an adult I've seen one person had said he was getting no results - couldn't feel anything from 300 mg, and a couple days later he called back

and said he had taken a heaping spoonful of and woke up looking like he'd had a face lift. For a year, I took a heaping teaspoon every day on average and ate a whole Kg in a year, so I was getting about 3,000 mg per day, just to see how it felt.

Q: How did it feel?

RP: Very good. But it didn't feel that much better than 100 mg a day, though. You have to be careful of the excipients. So many products have strange junk, and I don't advise eating silica, for example, is something that's in a lot of products. Methyl cellulose isn't good. Just have to be careful of what the additives are.

Q: Is there any pure pregnenolone on the market anymore?

RP: Oh, ya! There's one company in the U.S. - I don't remember their exact name...

Q: Is that Life Extension?

RP: I don't think they have a pure powder without excipients. They do have some good products. There's one company that sells 20 grams of bulk progesterone for 20 dollars. You can find those things on the internet.

Q: We really like your progesterone and we've experimented with that. I know you speak about how if taken in excess, people can feel a little loopy. We've felt that way, and it's actually kind of a relaxing nice deal.

RP: You don't want to experiment with any of those things when you aren't completely at leisure and don't have to do anything because I've talked to people who would take a 1/4th of a tsp of progesterone mixture and feel drunk.

Q: Why would such a small dose cause that feeling in some people?

RP: If they don't have the antagonistic estrogen, cortisol, then they feel the full effect of that much progesterone. Other people if their thyroid is low and their estrogen high, 100 mg of progesterone and they can't feel a thing.

Q: Is it possible that anyone is really low estrogen?

RP: Occasionally, ya. Very slender person sometimes has a safely low amount of estrogen. The healthy people tend to keep their estrogen low most of the time, and when they are in a low estrogen time is when they can be very sensitive to a big dose of either testosterone or progesterone.

Q: As people age and they tend to get the low [abdominal?] weight accumulation, if they're taking an adequate dose of progesterone, why does this happen?

RP: Depends on what they're eating, I suppose. If you don't eat the right things to support heat production and good energy production, a lot of it will get stored as fat. Some people just eat too much fat or too much starch. The unsaturated fats and starches in general are probably the main causes of obesity. The unsaturated fats turn off the processes that raise heat production and have a catabolic effect on your protein (muscles and such) and the starches stimulate the processes that synthesize fat rather than just accelerating the burning of the sugar.

Q: So, I'm going to ask in my own case. I do take thyroid, and I take pregnenolone

and progesterone, and I'm still cold. So, would it be safe for me to add some DHEA to see if I could kick that heat production up?

RP: My first suggestions would be to check your intake of calcium and sodium as well as magnesium and potassium, but calcium and sodium are often the things that are missing when someone is putting on fat instead of producing energy. I think 2,000 mg of calcium per day is a good safe standard amount. For example, 1.5 to 2.0 quarts of milk will provide enough calcium to keep your machinery running so you're burning calories.

Q: You don't necessarily recommend it in a supplement form as much as a food form.

RP: No, the best supplements of calcium would be egg shell or some oyster shell from a clean part of the ocean, if you can find that. Even those aren't as well assimilated as from milk and cheese.

Q: Recent studies have debunked fish oil as beneficial to heart health. What's your feeling about fish oil supplements?

RP: Studies like that were coming out seven or eight years ago or longer, like 40 years ago. Yellow fat disease was associated with eating too much fat fish. It was known to be seriously toxic as long ago as the 1950's 1960. When the so-called essential fatty acids - linoleic acid and linolenic - when they were identified with not only cancer but heart disease and clotting diseases, then the fish oil industry stepped in to the advertising scene and started saying that those were the safe unsaturated fats. It was just as the fats that were promoted in the 1950s as they were being incriminated as toxins, then the fish oil came in and said "We're not as toxic as those fats." And that's true - they break down so fast that they don't have long-range effects in the stored tissues that the linoleic and the derivative, arachidonic acids, have. But it's only by being less toxic - if you do an experiment and are feeding your control animals a deadly amount of linoleic acid such as corn oil or safflower oil, and then you add some fish oil, it will slightly block those toxic effects of the linoleic acid - and that's how they do the research to show the health benefits from the fish oil. But if you compare it to coconut oil or butter or no fat, the fish oil always turns out toxic. They were showing toxic effects in humans seven or eight years ago - for example, raising the C - reactive protein, an indicator of inflammation in blood.

Q: You mentioned butter, which happens to be my favorite food. I have a horrible craving for butter all the time. Is there a problem with exceeding a certain level of butter?

RP: You can get fat on butter, but in context its main function is anti-stress and anti-inflammation. So if it's in balance with the nutrients you need such as calcium and sodium to keep your metabolism going at a high level, and adequate protein... and gelatin happens to be a protein you can increase considerably without worrying about increasing inflammation. The protein in milk, casein especially, is an anti-stress type of protein - but especially if you supplement that with gelatin, the balance is very anti-stress and, as a consequence, anti-obesity.

Q: And how do you recommend that we use the gelatin?

RP: Oh, it depends on your needs. For treating inflammatory bowel disease and

liver disease, kidney disease, diabetes and so on, they've used as much as an once or two of pure gelatin added per day - even more - people sometimes use temporarily. It's important to have a good gelatin without additives. It generally should be thoroughly dissolved rather than eating it as a powder. It should be mixed with hot water or milk until there are no granules left, so that it's easy to digest.

Q: Would it be unusual for someone to be allergic to gelatin?

RP: Ya, I think it's unusual, but some people think they react more to pork gelatin than to beef, but the only reactions I've heard...where it's mainly just poor digestion of it - getting gas or something.

Q: How could someone offset that initially - could they take some digestive enzymes?

RP: Or, try a different brand of gelatin. Some people do OK with beef gelatin rather than pork.

Q: Do you think Great Lakes gelatin is a good brand?

RP: Ya, they have both the kinds, and they also have hydrolyzed which some people think is much easier to use and they think it might digest more easily.

Q: I'm intrigued that you mention that it has an effect on diabetes. How would that be?

RP: I think it's the anti-inflammatory effect. Diabetes is basically an inflammatory problem resulting from chronic accumulative effect of the polyunsaturated fats that interfere with the use of sugar by the cells - and, at the same time, have a toxic inflammatory effect on the cells of the pancreas that produce insulin. Those cells, incidentally, are actually being regenerated constantly - cells in other parts of the pancreas are gradually transforming themselves into the insulin producing cells. So, it's like a stream of stem cells constantly waiting to replace the beta cells that produce insulin as they're destroyed. But if your body is saturated with the toxic unsaturated fats, every time they get replaced, they are killed again by the breakdown products of the unsaturated fats.

Q: So, are you saying that diabetes has more to do with these polyunsaturated fats and their blocking the metabolic process, than it does with sugar?

RP: Ya. In fact, glucose is a factor in helping to regenerate the beta cells while the unsaturated fats are killing them. Just increasing the sugar isn't enough if you don't remove the unsaturated fat from the diet. 150 years ago in France and England, a couple of doctors demonstrated curing their terminal wasting away diabetic patients by giving them 8 or 10 ounces of sugar per day along with other foods. Where they had been losing pounds /week of body weight, they quickly stopped producing such huge amounts of glucose in their urine, and their weight loss stopped and within a few weeks that they had returned to good health - no diabetes at all.

Q: What are the types of oil that you would recommend, Dr. Peat?

RP: Butter and coconut oil.

Q: Polyunsaturated oils are in virtually every processed food. Could it be that those

oils have something to do with the obesity epidemic?

RP: If you look at the food consumption records, USDA, for the last 40 years, you see that fat consumption, which is mostly the polyunsaturated seed oils, increased about 7% during these years while sugar consumption decreased by about 1%.

Q: You didn't mention olive oil. Is that one of your favorite oils?

RP: It's very good for flavoring and has very good drug actions, the so-called antioxidant factors or anti-inflammatory factors, but it also has 8-10% or even more of the polyunsaturated fats, so you shouldn't use it in bulk. A spoonful or two per day is fine.

Q: If you have a child with diabetes, from what you stated it would probably be possible to actually repair that pancreas if they abstain from all the polyunsaturated oils and get their thyroid in order.

RP: From the research that is what I think is the case. Before I was born, my father was a diabetic and insulin was already institutionalized as the only treatment. He was putting out a tremendous amount of sugar in his urine and had gone down in weight to something like 100 pounds. He refused to get on the lifetime insulin injection program. He looked at the old naturopathic and traditional medicine texts and found that brewer's yeast was a traditional remedy, so he ate brewer's yeast only for, I guess, several weeks. He completely recovered and for the rest of his life was able to eat everything, just like anyone.

Q: Would that be a recommended avenue for a parent to do with a diabetic child?

RP: I think the nutritional factors in the diabetes [corrects himself]... in the brewers yeast are offset by some potential toxic factors. The starch, the high phosphorous content and the estrogen are things that you have to take into account. If you are just curing something over a period of a few weeks, you don't worry about nutritional imbalances and allergic reactions and such, but I think it's better to get the same nutrients from fruit, eggs, and liver, and milk rather than counting on brewer's yeast to do it because of the possible toxic effects from eating too much brewer's yeast.

Q: If there was one thing that you would tell someone, especially a child, who had diabetes, if there was one thing they should eliminate from their diet, what would it be?

RP: Oils.

Q: Ok. That would not include butter and coconut oil...

RP: No. Butter and coconut oil are pretty safe. They have about 2-3% of the dangerous fats, but those are a minimal danger compared to the benefits of the saturated fats.

Q: If someone already has a goiter, is taking these various life-supporting substances that you recommend (pregnenolone, progesterone, thyroid hormone and coconut oil) is there any danger of taking those if someone has an existing goiter?

RP: Ya, I think people who have a noticeably enlarged thyroid gland should use a thyroid supplement or a good simple protective diet until they have shrunk the gland

before they use any of the steroid supplements such as progesterone, because I've known a few people who did have a huge goiter who took progesterone. It normalized the function of the gland so that it was able to secrete the hormone instead of storing it. They went into a hyperthyroid state, but since they knew what was happening they didn't worry about it. But when women, usually in their early 20s or around menopause, when they go into a hyperthyroid state with a 125 resting pulse, for example, and extreme amounts of sweating and oily skin and so on, doctors will immediately want to destroy their thyroid. But when they know that the gland is normalizing itself, then they can just sit it out for sometimes two to four, five weeks as the gland unloads.

***Q:** (caller) What do you think is the best ratio between omega six and omega three? And also have you heard of Leptins?*

RP: Leptins are part of the inflammation promoting system. It's a little peptide produced by the fat cells which... it was promoted by the drug industry 10-15 years ago as a cure for obesity, but then it turned out that it also promotes inflammation and cancer. So

(program ends abruptly)