

Bioterrorism and Biosecurity

September 23, 2016: The activities of several extremist groups world-wide have been focused on methods to inflict high mass casualty incidents. They seek weapons of mass destruction which they would not hesitate to deploy into densely populated regions in America or anywhere in the world. Fortunately, the level of security guarding nuclear arsenals is high and the required security clearances and ongoing government surveillance over key personnel working in the nuclear weapons industry is also high. The control over nuclear weapons and raw materials makes it difficult, but not impossible, for a group of determined extremists to acquire essential materials and technical skills to build a nuclear device or buy an operational one on the black market.

However, a far less secured and less government regulated industry with equal potential for high mass casualty incidents exist in virology laboratories throughout the world today. Advances in virology have far surpassed existing public policy controls and government regulatory safeguards that would serve to secure laboratories at reasonably the same level as the nuclear weapons industry. Laboratories are not closely regulated and key scientists have not been vetted and cleared by extensive background screening procedures or kept under the close surveillance protocols as they were during the Manhattan Project while developing the first atomic bomb during WWII.

To some readers this commentary may just be dismissed as alarmist. It is nonetheless important to understand that the technology to create deadly viruses is available; and, dangerous pathogens could be under development now in any of the many unregulated laboratories operated by unsupervised scientists. International public policy and global multinational government regulation have not kept pace with the advances in biological sciences. It is assumed that scientists regulate themselves; however, if any scientist who is also an extremist either religiously or politically engineers a novel virus or reanimates an extinct virus as scientists have been doing with the Spanish Flu virus that killed an estimated 100 million people worldwide in 1918, they will have a potential weapon of mass destruction in terms of mass casualties. Ask the U.S. CDC why they keep the deadly smallpox virus alive and on hand in their laboratories in Atlanta, Georgia? Further, what security clearance investigations have been conducted on the U.S. CDC scientists and what ongoing security surveillance protocols have been implemented to ensure their compliance with high level bio-hazard security risk procedures?

Scientists who are working in biosyn research are designing novel viruses in laboratories as small as a single car garage that have the potential for high infectious rates and high case fatality rates. CRSPR cas9 technology is available without regulatory restrictions and is capable of manipulating the genome of existing or bioengineered microscopic organisms altering them to become designer pathogens posing a dangerous public health risk. The laboratory equipment and technology are available for sale at reasonable cost without government regulation controlling the means for someone with the requisite skill and knowledge to create new viruses with the intention for release on populations. It is easier to buy this new technology than it is to buy a gun in America. Who is minding the store today?

The Science of the New Age of Terror: Bioterror or Biological Warfare

Some viruses and biological agents are potentially dangerous if not secured properly in high security laboratory conditions. This paper concerns the risks of bioterrorism or the intentional release of a dangerous biological organism; and, is increasingly necessary in view of global insecurity and the ongoing quest by some groups for means of causing mass casualties.

A critical appraisal of these potential new population health risk issues could help prevent international viral storm epidemics that could be intentionally inflicted on densely populated areas of the world. The Ebola virus, Marburg virus and Small Pox are devastatingly infectious viruses with exceedingly high case fatality rates. And, to date, attempts have been made to acquire them by

groups with ulterior motives. Today, more than ever before in history, scientists have the technology and the requisite skill to engineer a dangerous novel virus or reanimate a formerly extinct virus into an even more infectious disease organism with an even higher case fatality rate than that which existed in nature. The cost of this new technology is within the means of trained biological scientists and can be procured without government oversight or regulation.

The Influenza virus is unique in its ability to recombine and evolve into highly pathogenic unique strains. Genetic engineering has selectively enhanced the transmissibility hence the need to be current with this virus and as well as many others. Since no broad spectrum vaccine exists for all viruses, it is important to consider the possibilities for the development of a bioweapon and enforce measures to prevent or mitigate any intentional release. Public health systems globally must prepare to detect a pandemic early and respond promptly. Developing countries need to prepare for a potential public health emergency as there is increased traffic across international borders resulting from high volume international travel. Potentially harmful viruses do not respect international boundaries and they travel at the speed of air travel; and early in the infection stage, they can be virtually undetected and carried by passengers on any airplane to a destination of intended impact.

Bioterrorism

Filoviruses and smallpox are dangerous viruses which are a major threat to any nation; indeed, the world swarms with viral zoonoses. Some genetically-engineered viral proteins that can be transfected exist and this reality underscores the need for governments globally to monitor the activities of laboratories with genetic engineering capabilities. Genetic fingerprinting forensic studies; and the use of genomics for manipulation of agents including viruses are critical [1]. The threat of emerging infections and bioterrorist attacks has heightened the need for a more sensitive, specific, and timely pandemic disease surveillance system [2,3]. Many countries in the developing world are not prepared even as they rely on the importation of biological and medical supplies. In the event of an intentional pandemic attack, the magnitude of human deaths in these unprepared areas would be significant.

The primary purpose of reporting diseases is to trigger appropriate public health response so casualty figures are reduced and public fears allayed [4]. Continual virus global movement has prevailed because of failure to identify early the vertebrate reservoir and effectively and quickly quarantine infected animals or humans [5]; and in part, because of the lack of ecological data supporting or refuting any alternative modes of transmission [6].

Recently, the U.S. Centers for Disease Control and Prevention has funded the development of electronic laboratory reporting (Jorgensen, 1997). A more thorough understanding of the pitfalls of such existing reporting systems can provide insights into the development and implementation of new methods in infectious disease surveillance. With recent funding for activities to defend public health against terrorism and naturally occurring diseases, development of automated reporting systems has accelerated [7].

Reverse Genetics

Artificial generation of influenza A [8], B [9], and C [10] viruses are now possible through dynamic systems that rely on intracellular synthesis of influenza viral RNAs by a cellular enzyme called RNA polymerase I that transcribes ribosomal RNA in the nucleus of eukaryotic cells. Influenza viral segments are encoded by cDNAs flanked by the RNA polymerase I promoter and the RNA polymerase I terminator or a ribozyme sequence. RNA polymerase I transcription in transfected cells results in the efficient synthesis of RNA transcripts with defined 5' ends whereas the integrity of the 3' ends is achieved using the nucleotide-specific RNA polymerase I terminator [11] or a self-cleaving ribozyme [8]. RNA polymerase I transcripts are neither capped nor polyadenylated therefore they exactly resemble influenza viral transcripts. Cells are transfected with

eight plasmids to provide all eight viral RNAs, as well as four plasmids for the expression of the polymerase and NP proteins that are required to initiate viral replication.

Although this approach requires the co-transfection of cells with 12 plasmids, it is highly efficient and routinely yields 108 plaque-forming units of influenza A virus per mL of cell culture supernatant. In one modification, both the RNA polymerase I transcripts (for vRNA synthesis) and the RNA polymerase II transcripts (for mRNA synthesis) are derived from the same template [9], which reduces the number of plasmids required for virus generation to eight. In another modification, the eight RNA polymerase I transcription units for the eight viral RNAs were combined [11], allowing the generation of the entire viral genome from a single plasmid.

These dynamic biological systems revolutionized influenza virus research by allowing researchers to study the functions of viral proteins, their contributions to the viral life cycle, and role in pathogenesis and host range restriction. They are invaluable tools for the generation of influenza virus vaccines and vaccine vectors. In fact, reverse genetics has permitted the generation of inactivated and live vaccine strains for H5N1 viruses that could not have been produced by conventional approaches. Fouchier and other researchers from the Erasmus Medical Center Rotterdam, The Netherlands in September 2011 announced they had successfully engineered a mutant form of influenza H5N1 (avian influenza) that was transmissible by respiratory route between ferrets. Given that ferrets' immune response to influenza is considered to be similar to the response in humans, the studies suggest that the engineered H5N1 is likely to be transmissible from human-to-human.

The researchers suggested that the transmissible flu they had created remained as lethal as the original strain on which their work had been carried out. A strain estimated to be fatal in ~30-60% of cases in humans [12-14]. Several months later it became widely known that a second research group, led by University of Tokyo and University of Wisconsin Professor Yoshihiro Kawaoka similarly had engineered a mammal-to-mammal transmissible form of H5N1 [15,16].

Counter bioterrorism measures

Identification of viral sources, surveillance, disease reporting, early detection and management of a bioterrorism attack are means of preventing and mitigating mass casualties in bioterrorist epidemics. As the popular saying goes; to be forewarned is to be forearmed, giving advance notice of an impending virus outbreak. There is hope that the tools and the imaginations of molecular biology will find the means to prepare some effective biological defense [7]. There is also a possibility of linking rapid detection to rapid responses through vaccine and therapeutic antibody development in an attempt to abort epidemics caused by new viruses while as it rages [17].

Decisions about the treatment or prophylaxis of emerging infections must take into account the effect on patients' health and the potential risks such as a mother's health and that of the fetus. In preparation for bioterrorism emergencies, the U.S. government stockpiled medications and vaccines, rated by the FDA, as one of the categories B through X indicating they could pose risks to the fetus or that insufficient information exists to evaluate their potential fetal risk. Some are routine healthcare products like ciprofloxacin, gentamicin and doxycycline while others are reserved for emergency preparedness and response activities, and for deployed military personnel such as small pox and anthrax vaccines [18].

Some emergency response medications and vaccines fall outside of the FDA labeling system because they are not licensed by the FDA. Some are newly developed and still in pre-licensure clinical trials; others are no longer licensed and pre-date the classification system [18].

In an emergency with high risk of life-threatening exposure to an infectious pathogen, vaccinations and prophylaxis when available will be used for pregnant women despite unknown risks to the fetus. Other measures that can protect persons who are unable or choose not to receive vaccination or prophylactic medications include; selective or mass population quarantine

for prevention of exposure to persons who may be infected, avoiding public gatherings and restricting travel to affected areas [18]. Since public health does not have the power to order any type of quarantine, it will be decisions made by public administration and the political will of government executives such as governors and the President and global heads of state to issue a mandated enforceable order for quarantine.

A plan by multi-national scientists to conduct research on enhancing mutating H7N9 avian flu to mimic person to person spread was greeted with controversy, following the backlash of similar research on H5N1 in 2011. In letters published in Science and Nature journal, Fouchier and colleagues from a dozen research centers in the US, Hong Kong and Britain outlined plans for what they called gain-of-function research to create potentially stronger strains, including ones that might easily spread through the air between laboratory animals. They opined it was promising research which could highlight the most important mutations for public health officials to watch and monitor the natural spread of the virus or determine how to manufacture vaccines.

The Obama Administration tightened oversight of research involving dangerous germs while the U.S. Department of Health and Human Services announced an extra step. It is expected that in addition to scientific review, researchers proposing to create easier-to-spread strains of the new H7N9 will have to pass special review by a panel of experts weighing risks and potential benefits [19]. However, since the technology is readily available cheaply without a security clearance or government license, could scientists globally engage in various dangerous genome altering experiments even while under the surveillance of international governments?

A complication of the new science of genetic engineering is that the cost of doing these risky procedures are much lower than the cost of developing other weapons of mass destruction; and, anyone with the requisite skill, and a reasonably small investment in laboratory equipment, could be engineering a novel virus that could be catastrophically dangerous if intentionally released into densely populated regions of the world; and, they could do it given the current existing weak to nonexistent governmental controls to prevent such dangerous experiments.

Public health priority

In the event of outbreaks, masses of people will fall ill and likely die, hence the need for improved public health community measures and deployment of adequate resources toward developing a local, regional, national, and global response plan. The second reason this should be considered a top public health priority is that such outbreaks overlap with preparedness for naturally occurring outbreaks of other communicable diseases. The core functions of public health are assessment, policy development, and assurance; therefore, the public health system is tasked with providing ongoing surveillance of infectious diseases as well as ensuring that populations and communities have access to health services when necessary. The infrastructure to promptly identify and respond to naturally occurring infectious disease outbreaks if synchronized will help in this regard [20].

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Michael W Popejoy* and Bernard A Onoja

¹Royal Society for Public Health, USA

²Department of Virology, University of Ibadan, Nigeria

Email: dr_popejoy@hotmail.com

VLCC Shape up Waist & Tummy Shaping Gel

October 08, 2016: This product is an innovative product strong enough to minimize the appearance of sagging, flabbing and bulging tummy. It helps to slim the flabby, slag & less taut Tummy and waistline area. It is a non greasy, fast to absorb, with a great active delivery system, quick and ease to apply. Smoothes and tightens the skin. Firms tissues and Restores the waist & tummy in shape. Waist & Tummy tend to suffer from ungainly flab, uneven skin texture and dimpled skin. And it is affected by the laxity of the tissues due to pregnancy, weight gain or age.

Skin is constantly replenishing itself. When we younger our skin's turnover rate is about every 15-18 days. When it starts approaching the mid-thirties the process slows down to as much as every 28 days. The upper most layers, the *epidermis*, is where we shed our skin cells and reveal the newer cells that are produced in the *basal* layer (the bottom). The next level down is the *dermis*. This level contains oil glands, nerves, capillaries, your body's melanin (the cells that are responsible for coloring and a tan) plus sweat glands that moderate your body's temperature. The dermis also contains natural *collagen* and *elastin* in addition to fat and water storage. Collagen and elastin are responsible for the springiness that gives your skin its youthful vitality. Without this, your skin would feel like crepe paper and would almost split down the middle when you were pregnant or had excess weight. We tend to lose a lot of our elastin and collagen as we age, hence the skin-thinning and laxity that we hate so much.

Many female bodies hold excess fat in our thighs, buttocks, hips and stomach. Men seem to hold it in their abdomen and general waist area. Men seem to also have **better** connective tissue as opposed to Women, which betray them and fails to keep superficial fat IN or unrestricted, creating cellulite. And as we age our metabolism slows. Resulting in stubborn pockets of fat in areas that we don't want it and fat loss in areas we'd like to keep it. It causes appearance of sagging, flabbing and bulging.

Prime reason for cellulite is adipose tissues. Adipose tissue, singularly a fat cell being an *adipocyte*, this layer is very important. One may hate it and despise its effects on his thighs and abdomen but we need it. There are primarily two types of fat... White Fat and brown fat. But we have to worry about the white fat because we have this only. Without a fat layer you would freeze to death, have no energy stores and have to eat constantly, your body would not function properly, you'd burn muscle tissue more often, and worse. But, we all have a little more than we'd like or need - so if you can't work it off, get it sucked out. Since cellulite is no ordinary fat, it needs special attention and will not disappear with just routine exercise or dieting.

Shape up Waist & Tummy Shaping Gel is the result of extensive re-search and ongoing R&D at VLCC. Based on ancient knowledge and goodness of Ayurveda this product made with herbal Extracts and Essential Oils. Shape up Waist & Tummy Shaping Gel has been specially formulated to slim the flabby, slag & less taut Tummy and waistline area and to reduce cellulite. It firms skin and increase skin elasticity. It's a hydrating, tightening, smoothing, silky texture, non greasy easy to apply and get absorbed quickly. It makes the skin smooth, taught and restores the body's youthful look with visible results.

Application method

For an optimal result, take the shaping gel crème and spread on the stomach and waist line area and massage for several minutes till get absorbed. On stomach with smooth strokes from the bottom to the top at an angle. On waist line, make circular massage movements from top to bottom. Repeat several times till the product absorbs completely.

Dosage & duration

Crème Gel: 5 - 10 gm, 04 Weeks, apply twice a day. VLCC Shape up is a highly effective combination of fat burning actives for a topical treatment of waistline and tummy area.

1. The Active Substances are Mentioned below

- Cyprus Pertinuis (Cyprus) Oil
- Ptychotis Ajowan (Ajowain) Oil
- Citrus aurantifolia (Lemon) Oil
- Foeniculum Vulgare (Black Pepper) Oil
- Punica Granatum Linn (Pomegranate) Oil
- Rosmarinus Officinalis (Rose Mary) Oil
- Geranium sylvaticum (Geranium) Oil
- Quercus infectoria (Majuphal) Extract
- Cynodon Dactylon (Doorva Grass) Extract
- Triticum Vulgare (Gehun Ankur) Extract
- Spirulina Platensis (Spirulina)
- Soy Isoflavones (Genistein)

The biologically actives form of soy isoflavones (Genistein) improves the collagen content in the skin and in doing so, strengthens the connective tissues. Furthermore Genistein. Inhibits the formation of new adipocytes and this in turn will lead to the breakdown of fat.

Consequently, this will result in:

- An increase on skin firmness.
- A reduction in adipose tissue.

These highly active compounds in combination were first used by VLCC, as a fat loss stimulant and to increase the metabolic rate. Ingredients activate the breakdown of lipids in fat cells of the adipose tissue. To enhance the penetration into deeper skin layers, ingredients are blended into active carriers and easily absorbable crème gel system. A in-house human study with Shape up Waist & Tummy Shaping Gel showed (after 6 weeks treatment), an very effective Multiple targeted firming, anti-cellulite and slimming action

- Cellulite reduced by 32%.
- Abdominal girth reduced by 3.8%.
- Firmness of skin improved by 60%.
- Skin smoothness 23%.

Shape up Waist & Tummy Shaping Gel

Biochemistry of the fat breakdown

Neutral fat (triglycerides) is stored in fat layers, also called adipose tissue. The metabolism of fat is regulated by hormones. The hormone Epinephrine (adrenaline) is the initiator of the breakdown of neutral fat. It leads to the release of free fatty acids from the adipose tissue into the blood system.

Epinephrine binds to the adrenergic receptor on the surface of fat cells. Binding leads to the production of the second messenger cAMP inside the fat cell. The messenger cAMP activates the enzyme lipase that leaves neutral fat into free fatty acids and glycerol. Free fatty acids are then transported into the blood system and used to generate energy.

The actives in VLCC Shape up Waist & Tummy Shaping Gel formulation are incorporated in such a manner that enhances the penetration and active delivery mechanism. So, it involves in all mechanisms of lipolysis: fatty acid liberation, transport and decomposition, supports sub-cutaneous fat diminishment & energizes the fat-liberated tissue cells. It is used to stimulate fat burning and therefore contouring the body. Also Smoothes and tightens the skin, thus

- a. Optimizes your fitness efforts to reshape your body.
- b. Restoring its youthful contours.

The ingredients of Shape up are very traditional and these ingredients stimulate fat breakdown. The actives inhibit the activity of phosphodiesterase, the enzyme that normally leads to the breakdown of the messenger cAMP. Thus it increases the half-life of cAMP, the activator of the lipase enzyme. And thus initiates the release of fatty acids and increases the breakdown of neutral lipids in the adipose tissue.

Study design

A Crème Gel formulated using the above mentioned ingredients and then tested over 04 Weeks by twenty five women at the age of 24 to 48. The product was applied twice daily on the stomach by massaging with both hands simultaneously in smooth strokes from the bottom to top at an angle. Repeat several times. And on Waist line & bottom area, massage one side after the other, by circular massage movements from the bottom to top. Repeat several times.

The test parameters were firmness and elasticity (measured with Cutometer MPA 580), Skin fold thickness and abdominal girth. Study results After 04 weeks treatment the condition of the skin was clearly improved. Skin texture (firmness & elasticity) is assessed after 14 days by 22.72% and after 28 days by 46.15%. Shape of Waist line area assessed as 15.9% after 14 days and 33.3% after 28 days. Skin Tightness assessed as 15.9% after 14 days and 46.15% after 28 days.

Change in girth of the abdomen of the individual test persons. In 16 cases the abdominal girth was reduced after the treatment period. In 2 cases there was no change and for 7 test persons there was a slight increase in the girth. In average the girth of the abdomen was reduced by 2.5cm after 4 weeks.

Claims with shape up waist & tummy shaping gel

Ingredient claims: Shape up is a highly effective combination of fat burning ingredients for topical treatments of all body parts you feel concerned about. It interacts at an early stage with the lipid pathway and keeps the amount of stored lipid at a normal range by:

- a. Reducing lipid uptake into the adipocytes.
- b. Reducing lipid accumulation in the adipocytes.
- c. Accelerating the cAMP pathway.

Reduces the size of the lipid droplets

- a. Decreases the lipid amount in adipocytes.
- b. Smoothes and ameliorate skin appearance.
- c. Increases the cAMP, therefore it also helps to remove the lipids which are already present in the adipocytes.
- d. Accelerates the breakdown of body lipids.
- e. Refines body contours & Smoothes skin.
- f. Firms and tones.
- g. Exclusively designed to target the problem waist and tummy area.
- h. Massaging effect makes the cream penetrate faster and deeper into the skin.

The thermogenic formula with Shape up prevents the appearance of body fat and by its firming properties helps restore the body's smooth contour. Shape up shapes, firms and contours while it leaves the skin with a silky touch. Reshaping Body with an immediate and efficient skin tightening effect for visible firmer skin.

Dermatological tolerance: The dermatological tolerance of Shape up Waist & Tummy Shaping Gel has been carefully watched in healthy volunteers (determinations of irritating effects to the skin – not seen, even a single case). In

addition, it is well formulated from the ingredients that will decrease the irritation potential of many substances.

Manufacturing of the product

We manufacture the product by following the "Good Manufacturing Practice" in accordance to the WHO-GMP & ISO 9001:2000 guidelines. Shape up is a highly effective combination of fat burning ingredients for topical treatment of thighs, buttocks, hips, waist, tummy and arms.

Shaping cream

Helps to reduce fat deposits and minimize skin's puffy appearance in problem areas. Thermogenic formula to tone and smooth the skin and to increase the metabolism and Hydrolysis by stimulating the action of messenger hormone cAMP. For optimum results, use in conjunction with your daily fitness program.

Shape up: is a combination of lypolytic substances for a topical treatment of problem zones such as waist, tummy areas.

It consists on following ingredient

A brief detail is given below separately about all the ingredients.

- a. Spirulina Platensis (Spirulina)
- b. Soy Isoflavones (Genistein)
- c. Triticum Vulgare (Gehun Ankur) Extract
- d. Cyprus Pertinuis (Cyprus) Oil
- e. Citrus aurantifolia (Lemon) Oil
- f. Camellia Sinensis (Green Tea) Extract
- g. Quercus infectoria (Majuphala) Extract
- h. Rosmarinus Officinalis (Rose Mary) Oil
- i. Punica Granatum Linn (Pomegranate) Oil
- j. Geranium sylvaticum (Geranium) Oil
- k. Piper nigrum (Black Pepper) Oil
- l. Ptychotis Ajowan (Ajowain) Oil

Spirulina platensis (Spirulina): Spirulina platensis is classified as a blue-green algae. It is a simple, single cell form of algae that lives in warm, alkaline fresh-waters. The word "spirulina" is derived from the Latin word for "helix" or "spiral". This denotes the physical configuration of the organism when it forms swirling, microscopic strands.

In Japan, Spirulina is a popular food supplement and is marketed as a nutritional supplement in many other countries. It has a very impressive ability to synthesize high-quality concentrated nutrients. Spirulina is a rich source of both proteins and rhamnase sugars (complex natural plant sugars). It also contains chlorophyll, carotenoids, minerals, gamma-linolenic acid (GLA) and some unique pigments. Spirulina is one of the few plant sources of vitamin B12 and is usually only found in animal tissues.

Soy Isoflavones (Genistein): It contains the soy isoflavone Genistein, will successfully fight cellulite in the following two ways:

- a. Its skin thickening and strengthening activity will enhance the firmness of the skin.
- b. Genistein is an inhibitor of phosphodiesterase and as such, it acts directly on the fat metabolism.

Phosphodiesterase is an enzyme that inactivates cyclic AMP (cAMP), which itself stimulates

The enzyme lipase that breaks down fat. Therefore, the overall reduction of fat is made possible and the amount of fatty tissue will decrease.

Triticum Vulgare (Gehun Ankur)

Constituents: Proteins 12.4, starch, 67.9, fat 1.4, fiber 2.5.

Action: Natural source of Vitamin E. Emollient, laxative. Wheat Germ is the "heart" of the wheat kernel, the embryo of the seed, and a concentrated source of several essential nutrients. It is the by-product of wheat milling, and offers an excellent source of protein and vitamins. It is the richest source of Tocopherol (vitamin E) of plant origin and is also rich in thiamine, riboflavin and niacin, Vitamin B1 and B3, dietary fibers and minerals (potassium, calcium, zinc, magnesium and iron). As a dietary management it is reported to be beneficial in hyperlipidemia in humans (13). Wheat germ oil contains the following fatty acids (Table 1).

Table 1: Components in Wheat germ oil.

Component	Amount
Linoleic acid (omega-6)	55%
Palmitic acid	16%
Oleic acid	14%
Linoleic acid (omega-3)	7%

Functions of important constituents of wheat germ oil (12) (13) (15)

Vitamin E is a very important antioxidant. It is helpful in preventing the body's aging process.

Vitamins B1 and B3 are very important to maintain energy levels and maintain healthy muscles, organs, hair and skin.

Wheat germ oil is particularly high in octacosanol - a 28 carbon long-chain saturated primary alcohol. Octacosanol has been studied as an exercise and physical performance-enhancing agent.

Linoleic Acid has anti-inflammatory and moisture retention properties.

Presences of Wheat Germ Oil along with other actives especially with Hydroxyprolisilane helps in facilitate the delaying of aging of the skin. Being a rich source of Vitamin E, B1 and B3, it is a strong antioxidant and healthy and beautiful looking skin, which is free of freckles and dead cells. Invariably it delivers more youthful looking skin.

Nagarmotha (Cyperus Pertenuis)

Constituents: Fat, sugar, gum, carbohydrates, essential oil, aluminous matter, starch, fiber and ash. There are traces of an alkaloid. β sitosterol, 4 α , 5 α - oxidoeudesm- 11- en- 3 α - ol from (rhizomes); pinene, cineol, alcohol-isocyperol (essential oil from the tubers); linolenic, linolic, oleic, myristic and Stearic acids and glycerol (fatty oil); a sesquiterpeneketone- Mustakone and copaene, cyperotundone, sesquiterpenes- (+)- copadiene, (+)- epoxyguaine, (-)- rotundone and cyperolone; cyperenone designated as isopatchoul- 4(5)- en- 3- one and aureusidin (essential oil); two sesquiterpenic ketoalcohols, α - rotunol, β -rotunol, kobusone and isokobusone; oleanolic acid and its glycoside, oleanolicacid- 3-O- neohesperidoside alongwithsitosterol, sesquiterpenes- α - cyperone, cyperene, β -selinine and cyperenone (tubers); luteolin and aureusidin (leaves).

Cyperus (Cyperus rotundus): also known as Nut grass is a plentiful species occurring throughout the plains of India, especially South India. (12) Nut grass is an anti-inflammatory medicine, a general and nervine tonic.

Constituents: α -cyperene, β -selinine, cyperene, cyperotundone, patchoulone, sugeonol, kobusone, and isokobusone. It is reported to be Analgesic; Antibacterial; Antibiotic; Antispasmodic; Antitussive; Aromatic; Astringent; Carminative; Contraceptive; Diaphoretic; Diuretic; Emmenagogue; Lithontripic; Sedative; Skin; Stimulant; Stomachic; Tonic; Vermifuge (19). An essential oil in the tubers has antibiotic activity and has been shown to arrest the growth of Micrococcus pyrogenes (19).

Action: Refrigerant, aromatic, stomachic and alterative. The tubers are bitter, astringent, cooling, anti- inflammatory, and smooth muscle relaxant, antimicrobial.

Therapeutic evaluation: In clinical trial oral administration of root powder of Cyperus rotundus, 1gm twice daily, in 64 patients of obesity produced significant reduction in their body weight. Blood pressure of hypertensive obese patients was also reduced significantly, whereas there was no change in the blood pressure of normotensive patients.

Lemon (Citrus Aurantifolia)

Constituents: lemon juice contains citric acid 7-10%, phosphoric and malic acids, also citrates of potassium and other bases, sugar, mucilage and ashes. Lemon peel contains a volatile oil, hesperidin 5 to 8%. (*Citrus aurantium*) is a popular fruit grown widely all over India. Flowers and Dried Peel of the fresh fruit contains a volatile oil called oil of neroli, a fragrant yellowish liquid of bitter aromatic taste. This Oil is aromatic, internally stomachic and externally stimulating, and tonic. This also has antispasmodic and anodyne properties. It is a source of anti-oxidants and chemical exfoliants. This essential oil is refrigerant, antifungal and antibacterial (19).

Green tea (Camellia Sinensis): Tea is widely cultivated around the whole world. Black tea, green tea & Oolong tea are known as three major kinds of manufactured teas and the green tea appears as the richest in flavonoid compounds. Generally fresh green tea leaves can contain about 20-35% of polyphenols in a dry weight and the composition of this plant varies with the age of leaves, season and climate. The major components of green tea extract are catechins – compounds displaying anti-radical and anti-inflammatory activity. Except for these compounds the tea contains, interestingly from the cellulite point of view, caffeine. Caffeine is a methylxanthine which stimulates lipolysis by acting through phosphodiesterase inhibition, which leads to the increase in the concentration necessary for triglyceride hydrolysis cAMP. Apart from it, the tea contains beta-adrenergic stimulators –theobromine and theophylline, which are methylxanthines. These properties make green tea extracts a useful ingredient in lipolysis.

Pomegranate (Punica Granatum) oil

Constituents:- Bark and the rind of the fruit contain tannin 22 to 25% and the root bark contains punico- tannic acid 20 to 25% , mannite,sugar, gum, pectin, ash 15% an active liquid alkaloid pelletierine and oil liquid 'isopelletierine" and two inactive alkaloids me hyl- pelletierine and pseudo-pelletierine.

Action: Astringent, cooling & Refreshing.

Pomegranate oil: Pomegranate fruit extract, from the tree Punica granatum, contains several polyphenols and anthocyanidins (pigment that gives certain fruits their dark red colors), which are highly antioxidant, protecting hair and skin from environmental stress.

Majuphal (Quercus Infectoria)

Constituents: - The principal chemical constituent of galls is tannin or tannic acid (gallo-tannic acid) 50 to 60 or 70 % and about 3% of gallic acid. When strongly heated, Gallic acid is converted into meta-Gallic acid.

Action: Astringent and styptic. They are rich in tannins and are known for their ability to combat various viruses, while at the same time strengthening the tissues. They are one of the strongest natural astringent herbs available and also are antiseptic.

Rosemary (Rosmarinus Officinalis) oil: This crisp and clean smelling essential oil is great for stimulating the brain, improving memory and mental clarity, while helping with a variety of congested respiratory tract problems, stiff muscles, coldness as well as boosting the liver and gall bladder. It is also used for improving hair and scalp health.

Origin of rosemary oil: it is a shrubby evergreen bush that grows up to 1.5 meters (4 feet) high with green-gray needle-shaped leaves and pale blue/lilac flowers that bees just love and is originally from Asia, but is now cultivated in France, Tunisia and Yugoslavia. The name is derived from the Latin 'Rosmarinus' or 'sea dew', as it is rather fond of water. The Egyptians, Hebrews, Greeks and Romans considered the herb as sacred and even in the middle Ages it was used to ward off evils spirits and used as a protection against the plague. It was burnt in French hospitals during epidemics.

Extraction: Rosemary oil is extracted from the fresh flowering tops by steam distillation. It yields 1.0 - 2.0%.

Chemical composition: The main chemical components of rosemary oil are α -pinene, borneol, β -pinene, camphor, bornyl acetate, camphene, 1, 8-cineole and limonene.

Therapeutic properties: The therapeutic properties of rosemary oil are analgesic, antidepressant, astringent, carminative, cephalic, cholagogue, cordial, digestive, diuretic, emmenagogue, hepatic, hypertensive, nervine, rubefacient, stimulant, sudorific and tonic.

Uses: Rosemary oil has a pronounced action on the brain and the central nervous system and is wonderful for clearing the mind and mental awareness, while having excellent brain stimulant properties, as well as improving memory. It helps with headaches, migraines, neuralgia, mental fatigue and nervous exhaustion and the antiseptic action of rosemary oil is especially suitable for intestinal infections and diarrhea, easing colitis, dyspepsia, flatulence, hepatic disorders and jaundice and relieving pain associated with rheumatism, arthritis, muscular pain and gout. It also helps for arteriosclerosis, palpitations, poor circulation and varicose veins. The diuretic properties of rosemary oil are useful with reducing water retention during menstruation, and also with obesity and cellulite. On the respiratory system, it is effective for asthma, bronchitis, catarrh, sinus and whooping cough. Because of its astringent action, it is also effective for countering sagging skin. Its stimulating action benefits scalp disorders and encourage hair growth. On the skin, it helps to ease congestion, puffiness and swelling and can also be used for acne, dermatitis and eczema, but a very popular use of this oil is the use in hair care products, as it has a pronounced positive effect on the health of the hair and scalp. It increases the circulation to the scalp and is therefore also effective for promoting hair growth. Rosemary, in the dried form, is extremely high in [iron](#), [calcium](#), and [Vitamin B6](#).

Summary: Rosemary oil is effective for mental fatigue, circulation problems, pain relief for the muscular system, decongests the respiratory tract and is a skin and hair booster. The diuretic properties of rosemary oil are useful with reducing water retention during menstruation, and also with obesity and cellulite.

Geranium (Geranium sylvaticum) Oil: This fresh essential oil has a firm place in aromatherapy, as it helps to balance the mind and emotions, while stimulating the adrenal cortex and balancing the hormonal system and stimulating the lymphatic system. On the other hand, it balances the production of sebum in the skin, while keeping it supple and helping with the healing of wounds.

Origin of geranium oil: The plants originated from South Africa, as well as Reunion, Madagascar, Egypt and Morocco and were introduced to European countries such as Italy, Spain and France in the 17th century. There are about 700 different varieties of the plant, yet only 10 supply essential oil in viable quantities, as the normal garden geranium produce far too little oil for extraction. It is a hairy perennial shrub, often used in hedgerows, and stands up to about one meter high (3 feet) with pointed leaves, serrated at the edges and it has pinkish-white flowers. In early times geraniums were planted around the house to keep evil spirits at bay.

Extraction: The leaves and stalks are used for extraction, and the oil is obtained through steam distillation.

Chemical composition: The essential oil is composed of various chemical constituents and includes α -pinene, myrcene, limonene, menthone, linalool, geranyl acetate, citronellol, and geraniol and geranyl butyrate.

Therapeutic properties: The therapeutic properties of geranium oil are astringent, haemostatic, cicatrisant, cytophylactic, diuretic, deodorant, haemostatic, styptic, and tonic, vermifuge and vulnerary.

Uses: Geranium oil can be used to help in the treatment of acne, bruises, burns, cuts, dermatitis, eczema, hemorrhoids, lice, as a mosquito repellent, ringworm, ulcers, breast engorgement, edema, poor circulation, sore throat, tonsillitis, PMS, menopausal problems, stress and neuralgia.

Ajowan (Ajowan Ptychotis): Is native to and produced mainly in India but

also cultivated in Iran, Egypt, Pakistan, and Afghanistan. The oil is steam distilled from the seed or herb of this tall graceful tree growing to 30 meters high with bright green heart-shaped leaves, and powerfully fragrant yellowy-white flowers. It is related to Cumin but tastes more like dried thyme. For flavoring purposes, use thyme as a substitute. Ajowan oil is spicy-medicinal and strongly odored; it is generally used as a cheap perfume in soaps. The seeds are often chewed on their own for medicinal value, tasting bitingly hot and bitter, leaving the tongue numb for a while. Cooking mellows it somewhat, when crushed; they have a strong and distinctive thyme-like fragrance. Ajowan seeds are used for indigestion and gas relief in Middle Eastern countries like Iran and Egypt. The seeds contain an essential oil which is about 50% thymol which is a strong germicide, anti-spasmodic and fungicide. Thymol is also used in toothpaste and perfumery.

Principal constituents: The alcoholic extract was found to contain a highly hygroscopic saponin, with a hemolytic index of 500. Yellow, crystalline flavones (m.p. 291-94°) and a steroidal substance (m.p. 140-50°) have also been isolated from the fruits¹. The principal constituents of the essential oil from the fruits are the phenols, mainly thymol and some carvacrol. The Indian Pharmacopoeia requires Ajowan oil to contain not less than 40 percent thymol. The remainder of the oil is called 'thymene'. Thymene, which constitutes c.45, per cent of the oil, has the following composition: p-cymene, 50-55; g-terpinene, 30-35; α - and β -pinenes, 4-5; and dipentene, 4-6%. Presence of minute amounts of camphene, myrcene and D3-carene are also reported.

Pharmacology: Preliminary pharmacological studies of the oil indicated that it had a parasympathomimetic effect and produced contraction of the isolated ileum, tracheal chain and bronchial musculature in guinea pigs. It depressed the cardiac musculature in frogs and caused a marked fall in blood pressure in cats. On account of its low toxicity, further trials of the oil as a hypotensive agent are recommended. The drug also seems to possess some anti-diuretic effect³.

Indications: Ajowan is much valued for its antispasmodic, stimulant, tonic and carminative properties. It is administered in flatulence, atonic dyspepsia and diarrhea, and often recommended for cholera. In the Unani system, Ajowan is used as a crude drug to enhance the body's resistance, and is prescribed in amebiasis. It is a potent antimicrobial agent. The seed powder showed hypocholesterolemic, hypotriglyceridemic and hypophospholipidemic effect whereas serum cholesterol binding reserve and HDL were increased (Agrewala and Pant, 1986).

Black pepper (Piper nigrum) Oil: Black pepper contains about 3% essential oil, whose aroma is dominated (max. 80%) by monoterpenes hydrocarbons: sabinene, β -pinene, limonene, furthermore terpinene, α -pinene, myrcene, Δ^3 -carene and monoterpene derivatives (borneol, carvone, carvacrol, 1,8-cineol, linalool). Sesquiterpenes make up about 20% of the essential oil: β -caryophyllene, humulene, β -bisabolone and caryophyllene oxide and ketone. Phenylether (eugenol, myristicin, safrole) are found in traces. Loss of monoterpenes due to bad storage conditions (especially for ground pepper) should be avoided. The most important odorants organoleptically in black pepper are linalool, α -phellandrene, limonene, myrcene and α -pinene; furthermore, branched-chain aldehydes were found (3-methylbutanal, methylpropanal). The musty flavour of old pepper is attributed to the formation of heterocyclic compounds (2-isopropyl-3-methoxypyrazine, 2,3-diethyl-5-methylpyrazine) in concentrations of about 1ppb. (Eur. Food Res. Technol., 209, 16, 1999) The essential oil of white pepper has received less attention; the content of essential oil is lower (1%), and the most abundant compounds are monoterpene hydrocarbons: limonene, β -pinene, α -pinene and α -phellandrene. Organoleptically most important are linalool (although occurring as a minor component), limonene, α -pinene and phenylpropanoids (eugenol, piperonal); furthermore, short-chain aldehydes and carboxylic acids have been found important. In overstored white pepper, scatole is formed (2ppm) and imparts an disagreeable, faecal flavour. (Eur. Food Res. Technol., 209, 27, 1999) The pungent principle in pepper is an alkaloid-analog compound, piperine; it is the amide of 5-(2,4-dioxymethylene-phenyl)-hexa-2,4-dienoic acid (piperinic acid) with azinane (piperidine); only the trans,trans conformer contributes to pepper's pungency. Several piperine-analogs have been isolated from black pepper where the acid carbon backbone is partially hydrogenated (piperanine) or two

carbon atoms longer (piperettine); amides of piperinic acid with pyrrolidine (piperyline) or isobutylamine (piperlongumine) have also been isolated. Total content of piperine-analogs in black pepper is about 5%. Black pepper is native to Malabar, a region in the Western Coast of South India; today, this region belongs to the union state Kerala. Pepper is cultivated since millennia. The wild form has not yet been unambiguously identified, but there are closely related pepper species in South India and Burma. While black and white pepper were already known in antiquity, but green pepper (and even more, red pepper) is a recent invention. Pepper reached South East Asia more than two thousand years ago and is grown in Malaysia and Indonesia since about that time. In the last decades of the 20th century, pepper production increased dramatically as new plantations were founded in Thailand, Vietnam, China and Sri Lanka. In the New World, Brazil is the only important producer; pepper plantations there go back to the 1930s [1-7].

Actions: Warming, mental stimulant, physical energizer. *Culinary* spices have been used through the ages for their flavour appeal and stabilizing effects in foodstuffs, but only recently has their effectiveness as antioxidants in edible fats been clearly demonstrated. The Lypolytic activity of spices has received little scientific attention and it was therefore of interest to obtain some quantitative information on five spices used extensively in the baking industry. Lypolytic activity observed in samples of commercially available material.

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Mohd Ismaeel Khan*

Herboveda Healthcare Private Limited, India

Email: mismaeelkhan@gmail.com

Money and Medicine: The Inextricable link

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Big Pharma

Apart from the words President Trump, few other utterances possess the ability to make every man, woman and child tremble with genuine fear. Similar to The Donald, the term Big Pharma has come to connote something dishonest, malevolent, and thoroughly distasteful. An enigmatic entity consisting of corporations, regulators, politicians, and a growing number of physicians, Big Pharma has a vice like grip on western culture, shadowing us all like an ominous cloud.

From the world of academia to the world of politics, Big Pharma is a contentious, unavoidable topic of discussion. Sen. Bernie Sanders, Vermont's answer to Doc Brown, was one of the first mainstream politicians to single out Big Pharma for criticism. For well over a decade, in typical Sanders fashion, the 74 year-old has worked tirelessly to break down the barrier surrounding patent protection for new medication.

The disheveled looking renegade has spoken at length about radically slashing prescription drug spending. Unsurprisingly, the bold proposal has angered drug company lobbyists and high ranking officials, some of whom had, and continue to have, intimate connections with the Bush and Obama administrations. Up until quite recently, Sanders' warnings of a prescription fuelled America went largely ignored. Some labelled him a sensationalist, some labelled him a demagogue, and some labelled him a Communist. It appears he was and is neither of the three. Sanders' predictions were in fact as accurate as they were prescient.

In October of 2015, when asked to rank the most important issues of the 2016 presidential campaign, New Hampshire residents ranked drug abuse as the number one area that needed addressing. This, in their opinion, was a more pressing issue than job creation and economic growth. Politicians started voicing their concerns, with the prophetic Sanders labelling addiction "a disease, not a criminal activity."

More recently, cast your minds back to Super Bowl 50. Amid ads plugging savory snacks and sumptuous sports cars came an ad that was strange and striking. No, not the ad for Mountain Dew's 'Puppy Monkey Baby.' This ad, even more unexpected than a puppy, monkey, baby freak show, addressed OIC, or Opioid Induced Constipation. Considering a prime time, 30 second ad during the Super Bowl costs somewhere around \$5 million, the condition must be very real and somewhat rampant.

Why, so many asked, was such a random advertisement airing during one of the most widely viewed sporting events in world history?

And the answer might have something to do with the fact that many drug companies have an inalienable, financially lucrative interest in painkiller medication. Although the advertisement sought to address the issue of OIC, the far greater issue concerns Opioid use and Opioid addiction.

What exactly are opioids? They are a class of drugs that include the illegal drug heroin and the legal prescription pain reliever's oxycodone, hydrocodone, codeine, morphine and fentanyl [1]. Up until the last decade of the 20th century, opiates were either prescribed for the treatment of short-term pain or for chronic pain caused by terminal illnesses. However, in the 1990s, a dangerous myth swept across the medical community. Many doctors, manipulated by Big Pharma propaganda masquerading as medical literature, believed these drugs to be neither destructive nor addictive. The prescription of opiates became much more frequent and the self-serving desires of drug companies were assuaged.

Recent studies show that nearly 22 million Americans, ages 12 and up, struggle with substance abuse, with 2 million suffering from a disorder involving prescription pain relievers [2]. On May 11th of this year, shortly after meeting with presumptive Republican presidential nominee Donald Trump, House

Speaker Paul Ryan drew attention to the work he and his associates were doing to address the nation's drug and opioid addiction crisis: "Right now, more Americans die every year from drug overdoses than car accidents. We are acting on 18 bills to deal with this. I hope that each and every one of you will be back here when we sign this bill." Indeed, prescription drug overdoses are crippling middle class America, and opioid addiction has enabled this epidemic to gain traction. Paul Ryan made a valid point, and that's a statement you seldom hear a liberal make.

In 2015, according to various road crash statistics, 32,675 people were killed in motor vehicle crashes, with prescription drug and heroin overdoses alone claiming more than 29,000 lives [3]. Overdose death rates are four times higher now than they were ten years' ago, and with 260 million prescriptions written for opioids on a yearly basis, the gap is widening [4]. And just to put that 260 million figure into perspective - The U.S. has a population of 319 million.

The Centers for Disease Control and Prevention, a leading national public health institute of the United States, recently published its guidelines for the prescription of opioids for chronic pain. As the nation's health protection agency, CDC stated that opioids should only be used when the benefits for pain relief clearly outweigh the risks, with avoidance of concurrent Opioid and benzodiazepine use if at all possible. The progressive move received widespread approval from academics, addiction treatment professionals, divisive politicians like Hillary Clinton and Jeb Bush, as well as President Obama. Everyone with a conscience, it seemed, was behind the CDC initiative, everyone except those who stood to make a financial loss.

After all, advisory guidelines could hamper pharmaceutical company profits, and heavyweights like Purdue Pharma, Johnson & Johnson, and Endo Pharmaceuticals rushed to combat the threat. They made weak claims that such actions would make it too difficult for patients to access necessary medication, and, unsurprisingly, the feigned cries of concern worked. To this day, their legal representatives have succeeded in keeping the CDC from implementing policies of a genuinely substantial nature.

After all, there's money in medicine, and no one understands money-driven medicine quite like Big Pharma.

Take the Sackler family, for example, the people behind Purdue Pharma. As one of the richest families in the U.S., the Sackler's reportedly made their billions - 14 to be precise - from providing doctors and hospitals with huge amounts of OxyContin, a synthetic analgesic drug that Peter Shumlin, Governor of Vermont, recently labelled "the match that ignited America's opiate and heroin crisis." (Vermont has one of the highest rates of opioid addiction in the country).

It's no coincidence that rising death tolls come at a time when the pharmaceutical industry is aggressively encouraging medical practitioners to prescribe highly addictive opioids. Primarily used for pain relief, opioids are now being prescribed for all manner of complaints, from persistent coughing to diarrhea. Acting on opioid receptors, the potent drug produces morphine-like effects, making the painkiller incredibly addictive and highly dangerous.

I had the opportunity to interview Alan Cassels, a University of Victoria researcher and the co-author of 'Selling Sickness: How the World's Biggest Pharmaceutical Companies are Turning us All into Patients' (co-written with Ray Moynihan). For two decades, Cassels, a former naval officer and diver, has immersed himself in very different waters, namely the murky ponds of pharmaceutical policy research.

Primarily focusing on three areas: prescription drug information, pharmaceutical industry persuasion tactics and medical media, the Canadian is one of Big Pharma's most vocal adversaries. When asked to describe Big Pharma's influence on the world of prescription medication, Alan had this to say:

"I think that pharma's influence on the act of prescribing is persuasive, pernicious, and very unhealthy for society and the health of the population.

This is based on 20 years of observations of the industry and its bamboozlement of doctors and especially specialists who pretend to practice evidence-based medicine without realizing the 'evidence' it is basing prescribing decisions on has been thoroughly corrupted by, altered and misshapen by the company's marketing products."

Keen to discuss Big Pharma's underhanded tactics, Cassels continued, "The pharmaceutical industry funds the misleading and frequently deceitful courting of politicians and health policymakers, who end up making decisions that favor the industry's profit margins. It also funds unscrupulous marketing campaigns to consumers by buying patient and disease advocacy organizations or infiltrating those who cannot be bought."

Cassels concluded the interview with an ominous assertion, "What isn't transparent, and is the most egregious concern, is the permeation of almost every organ that has a hand in physician education and training, all under the banner of 'evidence-based' (medicine), blindly purveying and spreading the idea of a drug for every ill."

Because Big Pharma thrives on the notion that a drug exists for every ill, Cassel's final point is especially striking. With drug prices in the U.S. rising by 10% on an annual basis, suppressing the seemingly irrepressible greed of drug companies appears to be an improbable and unenviable task. Today, with prescription drugs becoming more expensive and legally allocated for a prescribed duration, heroin, once an outlier drug, has become a popular choice for upper-middle class Americans. With its ability to tranquilize the body and suppress pain, heroin often evokes temporary states of euphoria. In stark contrast to stimulants like cocaine, heroin is a depressant and is favored by users looking to self-medicate. After the euphoric effects wear off, however, a user may start to experience severe withdrawal symptoms, and it's common for long-term users to lose their teeth, experience respiratory illnesses, as well as manic depressive states, a loss of appetite, and chronic insomnia.

It's no secret that heroin has made the transition into middle class society. No longer just a big city drug, heroin use is rampant in the suburbs. The U.S. is a country that loves to self-medicate, and heroin offers a transient escape from varying levels of anxiety and despair. Many users are well educated twenty-something's. Scaremongering and lectures on the detrimental effects of heroin no longer work. Did they ever?

The sooner people realize that substance abuse, like cancer and diabetes, is a disease that requires close attention, the better. Labeling users criminals and dishing out prison sentences is an archaic, all too primitive response. A change is needed, however, tangible results are impossible to achieve if the pharmaceutical industry continues to manipulate and influence the treatment programs of patients across the nation. Arnold S. Relman, MD, who served as editor of The New England Journal of Medicine from 1977 to 1990, was one of the first to speak about the dangers posed by the "medical-industrial complex," the network of corporations which supply health care services and products for a profit.

Dr. Relman, just like the aforementioned Sanders, was chillingly accurate and largely ignored.

Today, with medical ghostwriting rampant in the world of academia, Relman's warnings seem more relevant than ever before. This dishonest practice often involves an anonymous author employed by the industry or its service agencies to produce seemingly independent manuscripts for peer-reviewed journals and conference presentations. Corporate-funded medical ghostwriting continues to capture public interest and continues to blur the lines between ethical and legal practices. Common logic tells us that reputable studies require a reputable author, and this is where things take an even more sinister turn. Physicians are approached and encouraged - often through financial incentives - to attach their names to manuscripts as though they had conducted actual research. As many of these published papers are inaccurate and misleading, there is a certain irony in a doctor lending his or her name to doctored information.

ProPublica, a non-profit newsroom that specializes in investigative journalism, famously ran a piece which disclosed payments from pharma companies to

doctors and other health care providers. The report named and shamed more than 20 well established, U.S. based doctors. Generously compensated by various drugs manufacturers, each medical practitioner received more than \$500,000 for speeches and consulting [5].

AstraZeneca, Johnson & Johnson and Eli Lilly, to name just three juggernauts of the pharmaceutical industry, have had to pay out sizeable sums in federal settlements over allegations that they approached doctors to promote drugs for unsanctioned uses. The major issue here has little to do with the fact that the physicians most probably violated both medical school policies and federal laws (the money they received was never reported to either their affiliated academic institutions or the IRS).

No, it's more worrying that these professionals promoted the 'findings' at national medical conferences and/or departmental meetings.

Seemingly undeterred by all of the negative publicity and bad press, the divide between medical practitioners and the pharmaceutical industry continues to erode, both domestically and globally.

China, with a population of 1.357 billion people, is struggling to provide healthcare for its vast and rapidly ageing population, and this challenge has presented Big Pharma with a new and lucrative opportunity. Although China harbors ambitions of developing and promoting its own pharmaceutical sector, the Middle Kingdom has little option but to reluctantly accept significant contributions from overseas. The U.S., unlike China, presents one major challenge for pharmaceutical companies - patent cliffs, a term which refers to the phenomenon of patent expiration dates and an abrupt drop in sales that follows for a group of products capturing high percentage of a market.

Eastern Asia, and especially China, on the other hand, is a relatively new market, thus presenting pharmaceutical companies with a relatively open field, and it's no secret that the communist nation's regulatory environment is - at best - questionable. Furthermore, the world's most populous nation offers a wealth of patients willing to participate in clinical trials.

How to stop big pharma?

Well, that's the multi-billion dollar question that offers little in the way of concrete solutions. Ever since the 1930's, when the Rockefellers privatized healthcare in the United States, a subculture of unethical behavior and profit driven medicine gradually became mainstream. Today, if you happen to study any list detailing the most powerful companies in the U.S, you will see a number of pharmaceutical corporations listed. Big Pharma's influence, from drug wholesalers and chain pharmacies to medical conferences and academic journals, is extremely powerful. The next president of the U.S. will have a major part to play in the demise or further ascension of Big Pharma, and if that president happens to be an orange haired, mini fingered baboon, don't bet on a rapid demise any time soon.

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John Glynn*

Ludwig Von Mises Institute, USA

Email: dr_popejoy@hotmail.com

Evaluation of Technical Quality Standard Orthopedic Operations Forensic Testing Methods

December 26, 2016: The Annotation

The scientific article is a multilateral comprehensive, case critical forensic and legal view of the author - There are many needlessly yearly maimed and prematurely dying orthopedic patient in Czech Republic, by the view of experienced scientists cybernetics and also an experienced Head of State investigator of the Ministry of Labor and Social Affairs Czech Republic, with specializing in criminal cases resulting in death injuries in the workplace - in contradictions of European rules and the harmonized Occupational Health and Safety Laws EU for the implantation sets THA products with "CE" conformity assessment in common market EU.

Introduction

The international community represented in the OECD countries, the provision of health care in the last 30 years it is mass - industrial and economic phenomenon. They make up a large share of the Economics performance of any OECD country. Everywhere contributes significantly to providing the conditions for an intensive global spread of communicating industry medical information - particularly in advanced diagnostic and therapeutic methods, also operates a worldwide collective international trade in Medical Devices: Also, each state of the OECD it difficult to finance the costs of maintaining the health of growing population the growth of new findings from medical research. This is a problem in the health sector to provide care for the whole civic population - that most of the population to maintain the level mentally and physically well healthy, well lifelong self-sufficient and socially active people - until old age expectancy of citizens.

In 2010, among OECD countries conducted worldwide research quality of doctors' decisions in all medical ranks, in terms of the accuracy of your diagnosis, and choosing the right individual treatment - and it was found that in all OECD countries are about equally educated and experienced physicians everywhere to use comparable management methods, archiving Health patient documentation, comparable technical equipment of ambulances, and network of hospitals with modern medical devices, information technology, drug - but there are unfortunately style medical work in any medical sector for patients extremely risky ways and there are the serious conclusions finding that medical errors in diagnosis or therapy compared with optimal actual medical knowledge databases OECD - there are always constant relative frequency of serious errors of 10% of the underlying medical decisions, with statistical accuracy and reliability of statistical parameter within the tolerance field of +/- 2%, with a 95% statistical reliability!

This is obviously a tragic finding that often harms fundamentally the real health of individual patients or medical errors in any medical field even shorten their life expectancy standard for probable life expectancy. When you're forced to, for example, over two years to go for various reasons, about 10 times to various medical examinations - therefore already in your seventh visit fell hope for perfect diagnosis or proper choice a treatment for just 50% only by Bayesian probable reckoning - you should risk no further reckless for doctor visits, perhaps, that you will take away forever probable serious health consequences till rest your life! Horrible patient Health situation, similar dangerous as in the civic secret continual internal war in each of State from OECD Countries!

This worrying situation has been even more in 2013 completed such as the US statistical official expert estimate that because of repeated medical errors in the US each year die needlessly approximately 380,000 patients - and me to logically add that approximately equally reasoned expert estimate there are an equal number about 380,000 patients are needlessly badly mutilated every year and therefore unnecessarily and prematurely every year eventually dies as a horrible result. Doctors and criminalists with the structure, causes and patient outcomes or the personal responsibility of individual doctors - never scientifically or forensically biostatistical not deal, therefore I am probably the first scientist who has publicly addressed the problem begins, at least at the

level of forensic analysis, statistical sample.

I have my professional occupations - as a State investigator causes of fatal accidents at work, so I'm very suspicious that none of criminologists and forensic doctors USA, never thought that would be a scientific and civic reasons it was wise to look at least a representative sample should be the order of the range in dimension of cohort about 1200 thus unnecessarily patients who died after medical errors - and see thus in detail and the statistical guarantee what specific common medical errors were the cause of death and which of them were criminal in the field "faulty medical technical work illegal processing" - and most importantly, who would be under reasonable financial and educational conditions - efficiency henceforth avoid!

How to Prove the Court Illegal Medical Use of Orthopedic Implants Minimal Technical Sufficient Evidences Forensic Engineering

Many routine daily medical activities in standard orthopedic procedure, such as "Classic orthopedic surgery THA adults, for example, men aged 60 to 70 years" - is fundamentally linked to the mandatory implementation by "CE" Conformity assessment and some explicitly technical sub-medical activities, such as those defined in the Technical requirements for specific implants used by Directive 93/42 / EEC Medical Devices, including orthopedic implants are specified according to their approved certified guides with the nature of distributed products by user Protocol "CE" - in user networks of hospitals in the EU or OECD with defined enforced prevalence of known user risks and by the mandatory product instructions with respects to defined technical conditions legal users, mandatory preliminary processing Planning, etc.

It is absurd to claim that any medical activity as a whole is a "Lege artis" if it contains even only one a partial fatal illegal technical error in the use of Health resource therefore contrary to proper compliance with certified installing instruction, right sequential logic ordering, bad technical quality of some partial work, a user absence of any mandatory technical operation of a particular mandatory inter operational hall measurement of well centrifred anchoring components in Hip bones, use of proper corporate implantation of the instrumentation, bad functional technician testing product after assembling set THA, accepting misinterpretations of radiology images contrary Geometry 3D completed implantation - in conflicts with the technician rules of the firm radiological mandatory installing Masks on the product orthopedic screening and by technician firm instructions and by the Protocol "CE" with guaranty full and safety functional THA set implanting perfect biomechanics safety anchoring in human bodies for long terminated planned post operational patient usage, etc.

According to the some technical disruption safety legal principles of forensic technical engineering so clearly each time for a total finished of orthopedic work as defined "illegal implanting medical Work" and there are frequent criminal causes for the next health causal consequences of heavy injured patient - then it is full responsible always erring user, while the Czech culprits - orthopedists, radiologists and forensic doctors, many judges - surprisingly in the Czech Republic tries such orthopedic murder or mutilation life difficult for the patient to issue fraudulent "There are Health patient problems unfortunately, probable extreme frequental Events, but in the context of compliance keeping usual being accepting level by rules usual medical capabilities "lege artis", including Court medical Message from Medical Forensic Institute recorded, despite it is scientific forensic technical conscious indecent Nonsense! Obviously, this is a shameless science culpable deception, which is still in the Czech Republic as masse Phenomenons often repeated - and should be illegal situation improper use of health resources, to properly understand and evaluate the responsibility of individual physicians and inforced wrongful judicial definitely Judge depended derived low satisfaction of living damaged patients - any righteous civil or criminal processing Court, but when even criminal police Czech Republic

protect none of heavy injured patients by fatal ignoring the objective registration of technical criminal errors processing implanting in accordance with lack legal technician respects to the mandatory technical instructions of the product - then unjustly desperate patient would have to pick it up probably handled the justify posthumously only! I wanted to use my many years of experience in the State investigating the real causes of fatal occupational accidents at dangerous work, I recommend indicated significant association explained, at least in this technical article in case forensic "in-depth study" of orthopedic patient safety, though I did not succeed definite technical evidence of a completed implantation crime in any Court of the Czech Republic, with no real support of Czech criminal Police, none of legal support from the State Prosecutor's Offices Czech Republic. This article is a humble scientific global urgent warning that similar violations with ignoring the Human Patient Rights - do not recur never in other OECD countries! SAFE OUR SOULS, justify, scientific integral cognition, medical ethics, Logics, Legality - including in Czech Republic too! I sacrificed for those ideals my health definitely, probable die too.

Radiological Sufficient Forensic Traces Illegal Implantation Kit THR

The following two post-operative radiographs, the first One it is with false geometric coordinates Xi, Yi, Zi for the spice of metallic stem - in the false depth in difference 5.8 millimeters of femoral axis of the spice stem by Technician requirements for the Clinic Planning, to recognize on the orthopedic post operational screening - with extreme sagittal eversible and it's definitely defined by usage firm radiologic installing mask of the used stem, clearly since the RTG Image of 16 November 2007 with criminal evidence definitely too - and the next one RTG Image with understandable way for orthopedic Amateurs including - RTG Image was dated till 28 November 2007, it is clear from each solité image that the process of destruction of the hip bone was unequivocally and unreservedly to Hall District Orthopedic of the Regional Hospital Mlada Boleslav in the date 13. November 2007 criminal assembling Kit THR definitely, when namely the orthopedist MD. František Vurm proceeded without proper clinical technical processing Plan and therefore in shaping preparing beds" by hand orthopedic rasping the proximal form of femoral bone", namely the next imposition of the proximal portion of the metal stem in the cavity of the femur after assembling- it has been destructed preliminary unconsciously cavity with a fake hole, and this fatal mistake of sacrificing the integrity of the shape of the femur correctly and in time found out why when the orthopedic attempting subsequent pushing of the shaft by hand taking of orthopedic hamer to hit, the spike of the shaft ripped through a false path, it drove in fact a fake bullet hole in rasping shaped cavity femur - and the metallic shaft" Bicontact S, cement less", nominal cross-sectional dimension 13 mm, hung their beveled sides transverse to the axis of the femur catastrophic unacceptable angle of 13.67 degrees eversible (roughly tenfold exceeding the permissible angular misalignment tolerance inaccuracies specified assembling contrary by the manufacturer technician requirements) and therefore illegally spike pierced the soft bottom of the muscle of the right thigh of the patient and stayed for extremely dangerous time, mostly it used to be with patient mortal Exit after 3 days probable usually - it was going for next 17 days mired deep in a stilly mechanical dysfunctional crashed a position where it caused local hemorrhage blood swelling and prolonged oppression of blood swelling arose permanent destruction features anatomically nearby nerve ischiadicus permanent elegiac damage to both its branches (peronealis, tibialis) - i. e., a full violation handling right knee, right calf, ankle, Achilles heel of the right foot, the metatarsal and toe of the right leg with destruction right calf muscle and the emergence of disorders of blood circulation to the skin caused by repeated infections phlegm on the pastern.

The third picture shows the schematic design of technical inspections prescribed alignment dual imaging or placing locating corporate standard shaft - so there is a faulty position of the apex of the stem at the first X-ray November 16, 2007 at the wrong depth axis of the femur by 5.8 millimeters - clearly it technically, forensically descriptive and orthopedic already proved sagittal geometric unacceptable misalignment of the shaft, which orthopedists and radiologists unfortunately illegally "just intuitively stared at RTG images" the defendant District of Regional hospital Mlada Boleslav," while the error was unquestionable proven to methodically according to the instructions - when

postoperative position and shape of this shaft must exactly match the profile and size and position properly implanted corporate standard radiological B. Braun Germany at the correct depth and the correct orientation towards the Trochanter Massimus of the femoral bone - which in this case meant and still means a clearly incorrect broken toe position of the shaft of the tragic 5.8 mm above which should be resolving the immediate reoperation THA no later than November 16, 2007 - in such a situation, when forensic doctors along with the guilty asserts that "not refute the shaft of the X-ray image from 16 November 2007 to see" it in terms of technical rules implantation liars or bad educated absolute medical amateurs, constantly working in orthopedics Czech Republic! When in such a situation the judge JUDr. V. Cepl left in a court case 36 C 181/2009 convince them that it is legally "by local medically feeling of legality" and by false forensic expert medical opinion, that acts against the injured patient as sheer unthinking simple-minded man, and he will not let the plaintiff in Court in time to explain "by written or by official legal Speech", never - then the judgment of 36 C 181 / 2009-221 of September 24, 2012 [6] it is completely false criminal argumented, one-sided, inherently unconstitutional judicial processing. Who's out later reviewing criminalist Czech Republic and the Republic of prosecutors deemed the event in order to follow the rules implanting as "Lege artis" despite my written objections already dated in my letter to the Judge JUDr. Vojtěch Cepl, since July 17, 2012: covers consciously illegal orthopedic work, protects high traffic potential probable next murder orthopedic patients "for reasons of impunity incurable constant medical fatal stupidity, out of technical knowledge's and technical responsibilities of Physicians untouched." I'm a crippled patient too. It is demonstrably still growing my orthopedic and forced another next Health complication and growing mortal risks, namely fatal fallen with proximal repeated breaking of femoral bone - that's for I have been needlessly dying prematurely as a lawless civic patient, whose Constitutional Rights to Health and the right to proper with medical legal procedures only, No one in the Czech Republic look at it from the point of view criminal anthropology Labor of Czech policy, nobody helped me!

For a completed finished "The Czech civil Court processing" no forensic arguments were accepted - by the judge from me - and no false arguments of Knowing Institute - Central Army hospital Prague were never again controlled by forensically scientific objectively and factually verification reviewed material facts of the case, because neither had a similar importance unconstitutional biased civil lawsuit undergo yet another with a next higher degree of judicial civil court. The only solution is actually appeared and continue to appear - only consisted criminal controlling implanting procedures, which, however, are equally shallow and crime senseless arguments District Prosecutor's Office in advance rejects "that everything after all were closed in the examination of conditions Lege artis judicial civil procedures" and it fundamentally rejects for the next prosecutor's office never opened again and publicly closed civilian trial to challenge and rethink publicly medical criminal mistakes in criminal penalty Court proceedings! Czech to become "officially no challenge to find the World blame". So I am just paying privately for built Idea "Justified laws CZ" with losts of my private life - but never in Czechia still learned nothing for better safety medical orthopedic legal processing future!

Under these liars and absurdly maintained "untouchable petrified circumstances and principles of functioning of the judiciary Czech Republic" now remain in CZ only one unalterable truth - that we all have to die sometime, but I have keeping enforced preferences, thanks to "Lege artis"!

But I'll be objectively still deteriorating biostatistician well predictable health problems increasingly suffer needlessly, and a few years earlier as a result of medical illegality die, probably compromising the ability of social self-sufficiency and by self-services only! It is similar for the other similar patient - yearly needles dying or with heavy injuring preliminary dying: about 40 thousands Patients in Czech Republic yearly, with the false criminal arguments about "Lege artis" in many medical cooperating ranks with Radiology, Surgery, Traumatology, Neurology, forensic medicine, verify processing in archiving Health Patient Documentation EHRs, etc... parallel - acceptable usual legal supervised frame of Czech Justice" Czech made"! It should be urgent warning for the all countries OECD! It could be probable as a Mass idiocy infectious! We have all rules Occupational Health and Safety Laws, implanting including - Laws is full international perfect harmonized!

I am educated in Cybernetics, I should give you the easy logical key to recognize the false medical hypotheses or false medical Court messages or the False Court processing Trials: Each of medical hypotheses or Court medical knowing Message are always scientific legal NONSENCE, when there are only one explicit disruption the Space of viable phenomena - defined by the taking conditions of feasible possibilities out of summary taking the natural science conditions - Physics, Biomechanics, Geometry 3 D, Description Geometry 3D, time analyze of postponed moving of solid pieces 3D, criminal tracing, etc. Each of participants in Court processing, when Judge is taken the rejected false Hypotheses after that again, like as" It could be true maybe despite your criminal arguments, Mr. Antonín Cuc [1] " in other summarized archiving arguments including - he is liar surely or unlettered ignorant! Then the Court processing trials are FALSE surely always. When my Judge to keep the false arguments from Medical Court Message again as TRUE for ever without critical scientific angle, my Human Rights to the justified legal Court processing were lost definitely.

Then The Criminal police Czech Republic, so as the prosecutors State Offices Czech Republic - They have been refused unthinkingly my scientific evidence that the Regional Court in Prague, ref. 36 C 181/2009 has regularly worked repeatedly with absurd medical false hypotheses for example: about the post operational my fallen with post operational declination of stem from the femoral axis, like as if they could be true may be.- I became already at that moment European martyr of Czech science, object of public ridicule, needless injured and dying Patient sacrificed, impudent laughter around the standing court experts, medical experts and lawyers of Czech Republic, Horrible public execution of my Constitutional Rights, when the Advocate of the Regional Hospital Mladá Boleslav was the Mrs. JUDr. and Medicine Doctor Dagmar Záleská - as she is well experienced so as high educated in Forensic Medicine - and She has problems till today's - to difference the Puncture axial moving stem through the proximal femoral bone in the surgeon hall - with false idea of MD Jozef Cyprich from Central Army hospital Prague, about "alternative" post operational Breacking the spice stem only from perfect last coaxiality out of the space femoral distal depth of cavity after November 16, 2007 without any lengthwise disruption the surfaces of femoral cavity by radial moving the metallic spice only with fixed stability Centrum of moving in proximal femoral bone - when the reoperation surgeon Protocol is describing after the reposition bad THA in date November 30, 2007 only axial puncture hole from "Fausse route stem" since November 13, 2007 definitely? Admirable Anatomic and Biomechanical criminal Nonsense, but for the Advocate Mrs. Záleská were all "Lege artis", by the constant similar intellectual guaranteed level of Regional Court Prague processing trial No 36/181/2009 resulted till to the judgment No 36 C 181/2009-221 since September 24, 2012. You must never forget who killed me with the endless stream of dirty falsehoods by Court processing.

Figure 1 RTG image THA Surgery since date November 16, 2007 from the Regional Hospital Mladá Boleslav, There was false geometric position of femoral component - stem, to detect easy in the orthopedic screening with comparison with the radiologic firm installing Mask in the same view and scaling, there were false Profil so as false Dimension, namely the spice of stem on coordinates Xi, Yi, Zi in the difference 5,8 milimetres higher in femoral depth, the Diagnose is Crash,"Fausse route stem", reoperation immediately inforced, the patient is mostly dying in the duration 3 days, when it was with false radiologic interpretation"Sumery THA - finished O.K. by the view and by the way - intuitive illegal medical working, i tis out of"LEGE ARTIS", definitely!

Figure 2 RTG image since date November 28, 2007 from the Regional Hospital Mladá Boleslav, the Crash" Fausse route stem" was surgeon Poly trauma from surgeon Hall in Regional Hospital Mladá Boleslav since the date November 13, 2007, but it was firstly diagnostic till the date November 22, 2007 in the RHB Clinic Malvazinky, Prague 5, re operated as THA till November 30, 2007 in the Regional Hospital Mladá Boleslav, but the full plegic nerves ischiadicus in the right underknie was never reconstructed on the Neurochirurgy Clinic, despite it was possible - medical actually till 4 month after Crash - nobody from my Physicians in th Regional Hospital Mladá Boleslav, they have not the adequate interdisciplinary medical knowledge's for the polytraumatic diseases, this is no "Lege artis".

Figure 3 the post operational criminal testing coaxiality the stem and femoral bone on the orthopedic screening by the product instruction and firm installing radiologic etalons. It is easy to evidence the geometric false position stem to diagnostic since the RTG image November 16, 2007 as sagittal declination angle with 13,68 grads definitely, when some forensic Physicians to such tragedy said - as the Court medical message No 36 C 181/2009-123 since March 27, 2012" It wasn't possible to detect Crash before November 22, 2007 and it was all medical activates in level "Lege artis" including patient injuring", it could say only a liar or a uneducated Judge.

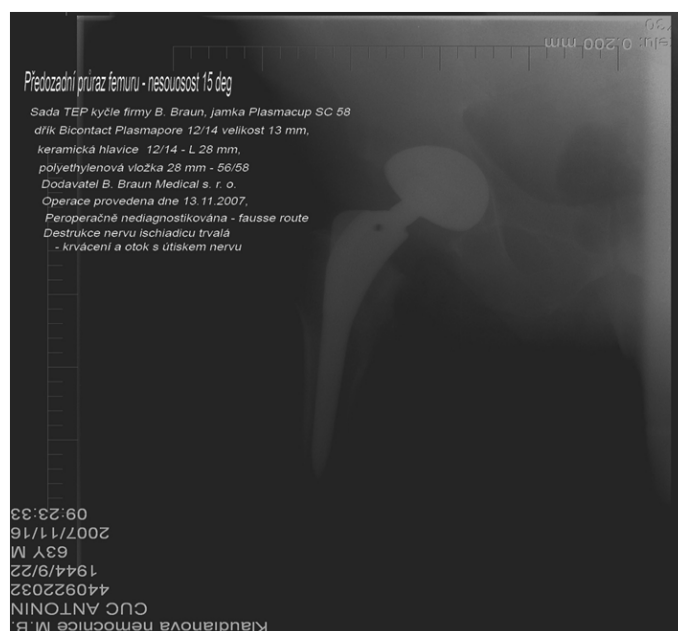


Figure 1: RTG image THA Surgery since date November 16, 2007 from the Regional Hospital Mladá Boleslav.

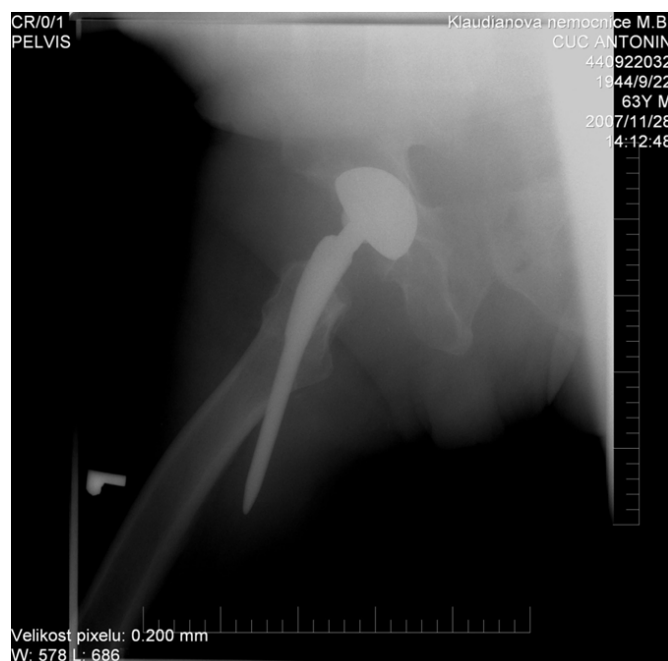


Figure 2: RTG image since date November 28, 2007 from the Regional Hospital Mladá Boleslav.

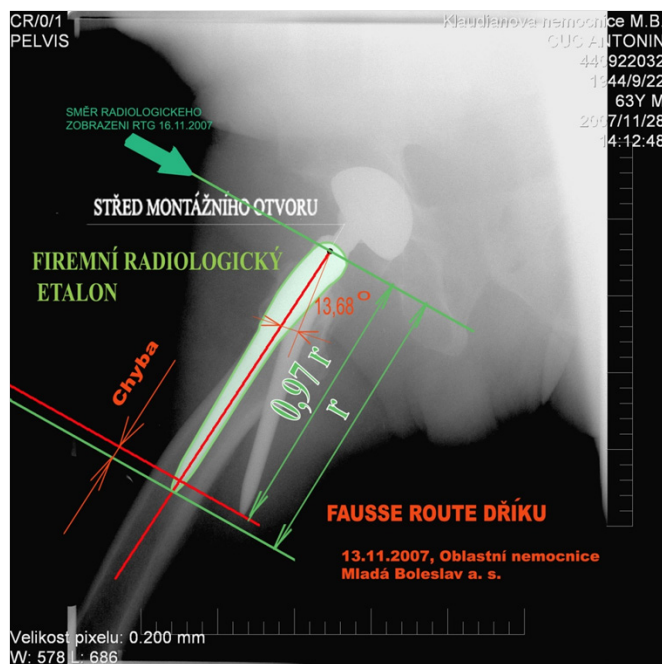


Figure 3: The postoperational criminal testing coaxiality the stem and femoral bone on the orthopedic screening by the product instruction and firm instaling radiologic etalons.

Methods of Sampling Biostatistic Tests for Technical Quality Implantation

Technological research and development in orthopedic methodical processing in the world very uneven, and for example, when comparing modern methods of computer sampling successful solutions sports injuries including scientific follow orthopedic rehabilitation of top sportsmen or for example, when comparing sampling orthopedic locomotion and rehabilitation processing of people engaged for years in the global aerospace research - clearly state that the same or analogous intellectual statistical approaches can be used to compare the success of solving civic health problems of an aging population of the whole State, for example statistic comparison among efficiency standard activates in Orthopedic Clinics and so as international comparisons problems the some diagnosis and therapy, similar patient risks and similar tasks in the next post operational rehabilitation in orthopedic Clinics for adult male patients with classic surgery THR, ranging age class from 61 to 65 years of age, etc.

According to orthopedic world encyclopedia sources - Lit. /3/, injuries or death to the patient can easily occur when orthopedics THA of the most common of these frequent reasons: faulty mainframe anesthesia, incorrect orthopedic technical mainframe operations, failure to identify place and person, absence of mandatory clinic Plan of Surgery, lack of prevency of patient risks of post-operative stroke, heart attack, pneumonia long immobile patient, post operational infects, post operational patient harend fallen - it all this is highly critical of the current track in the postoperative period of about one year following the surgery THA. However, in such a context lacking focus on the objective - Community interest - on the best available health patient for the longest period of life postoperative patient. In vain I am an orthopedic faculty clinics CR offered its cooperation and use my utility model 21532 Czech Republic -based industrial international design repeatable flawless excellence of production systems for selected standard orthopedic procedures, with minimal Patient risk and minimum operating costs, with perfect surgeon Medical Devices, IT support, for example fields: total hip, total knee arthroplasty, reoperation total hip and knee, substitution spinal griddles in the EU with best medical interdisciplinary information and intellectual projection controlling, coordinated medical Center - probable in locality Brno - City, Czech Republic - with the active participation of neighboring industry and medical, biostatistics experts from Germany, Austria, the Czech Republic,

Hungary, Slovakia, the registry expert auspices of the Faculty Orthopedic clinic of the Medical University Hospital Brno as research activates EU.

While in the research and development of healthcare orthopedic Medical Devices, there are common joint investigation teams collaborating physicians - orthopedists, radiologists, electro-engineers and mechanical engineers, so very final stages of the mass use of health remedies, that is not based on subsequent defective cross-sections, rambling interface "in processing information channel", it is with limited contextual interdisciplinary technical knowledge and skills of users physicians, but with lack of specific technician training for respects to Technician requirements of Law and there no supervision - who understand partially to the legal obligations of texts, as the technical manuals and legal explanatory notes of producer - about CCA most 70% understandable only, and then we could be sure: the growing number of needless unnecessary deaths or injured patients. It is tragically criminal tracing actual causes by testing casual injured patients. Legal, medical, technical, civic frequent problem is full stored usually for ever - It is Allen in a common grave with the complainant and all culprits, relieved everything will turn again at the old, petrified, meaningless, but long being experienced with extreme patient risk of illegal orthopedic technician medical services in the country.

Many doctors improperly underestimate the importance of RHE small statistical samples for testing efficiency orthopedic surgeries. For example, if I take as a basis the public worldwide debate of all medical disposable medical records of my hundreds of visits in the orthopedic Ambulancy and radiologic Ambulancy, hospitals, rehabilitation medical Centers, neurological rehabilitation and other outpatient visits and my official "layoff reports" after hospitalization of many hospitals of the Czech Republic, which I related to three THR operations collected in the years 2004 -2015, is therefore not surprising that this is an archive of about a range of about 820 different entities - patient health records. All of this recess is binding exclusively to my three operations THR. It is there in my small database I could detect about 40 fatal logic mistakes in the medical diagnostic and therapeutic medical contradictions, medicaments contradictions, bad identification health problems in parallel situated organs, etc. Obviously I have discussed many of these health records with the forensic orthopedics and so do conclusions: there are usual bad medical diagnosis, "necrosis of the femoral head" in the Czech orthopedics very miserable, because I always diagnosed correctly this diagnosis as a patient reliably itself, namely by descriptions of patient inherent difficulties by orthopedic encyclopedia, Lit /3/, in time - and always it was been at least about two months before as my experienced orthopedists: although so I do correct timely - my doctor has resulted never the adequate light medical therapy for me. By the Court orthopedic expert said - it was more better for me to begin with non surgeon method treatment only", later maybe it was adequate with a light orthopedic intervene to corrector my joint in the lubric surfaces in the small local micro abrasive conflicts in joint - it was absurd to recommend "Surgery THA", but many Orthopedic Clinics have no staff with the modern orthopedic education, progressive orthopedic treatments. Physicians have not preferred minimize risk and the best Health status after efficiency light cheap treatment, etc. No orthopedic expert would take part in the testimony by Court trials against his older colleagues Orthopedist with a Řitíc his lack of knowledge's progressive orthopedic treatments. My orthopedic MD František Vurm was waiting 2.7 years till to growing problems with necrosis to usage THA definitely, but it was fatal My Day, when I was illegal crippled with "Fausse route stem" in November 13, 2007.

The Synergistic Effect of a Utility Model 21532 CR to Improve Innovations and the Top Management of Orthopedic Procedures

Any Mass errors of orthopedists or even individual medical orthopedic crime, you can always test as a well-defined contradiction between legal and actual mass phenomena between the legal and the actual individual result of individual transformation process in a functional, long-term statistic stabilized the processing channel, with a standardized process documentation, specialist in staff, with comparable technical equipment of workplaces, with mostly comparable similar technical errors of past medical work in the previous period with the necessary prevention of their recurrence, etc.

The same is similar probable true of any innovative suggestion, project of innovation, verification predicted hypotheses with implemented project. We could collect gradually and amplify monitored real statistical parameters, after run-up to the routine operation transformal channel - namely, as anticipated differences between the next and current actual values of significant statistical parameters of an existing transformation, the channel at different horizons of time, and the changes during the realization of investment and substitution technological changes, gradually best decision making in training staff to perfect master new technologies, etc. - and then we can come to measure the actual parameters postrealisation conditions of all Mass operation of existing transformation channels, such as Orthopedic Clinics innovated in defined field - technically comparable working with Surgery robot loading system in rules CAD/CAM - "automatic THR processing Planning and Managing in 3D", with strong computerized strategic decision support from industrial database patients, orthopedists, computer support for the strategic decision of TOP management Orthopedic Clinic, storage of orthopedic implants, blood services, safety storage Medicaments with safety stock, control usual patient contradictions by prescriptions of medicaments, standard main clusters of patient in databases EHRs including RTG archiving, minimize growing entropy in the Channels, etc.

The Utility model 21532 can dramatically improve the design and control of complex systems operational activities in managing the flow industrial streams of innovation with minimal patient risks and minimize statistic risk to accept a bad decision by strategic repeated management decision making.

It could be taken so as in the nets of Orthopedic Clinics with high frequency parallel perfect functional archiving and sharing information, in the parallel being Channels, as to design the worldwide dispersion excellency closed group modular systems of integral usage medical devices in clinics for all OECD Countries! I am offered my private industrial Laws to the Utility model 21532 Czech Republic for the representative world producers Medical Devices with database user software including [2-6].

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2. Stížnost žalobce a žádost o právní pomoc, A. Cuc, dopis k rukám českého ochránce práv z 7/2012 - k neústavně vedenému procesu Krajského soudu Praha, čj. 36 C 181/2009, a rozsudku, který se opírá o kriminalisticky falešný soudně lékařský posudek - criminal analyses false Court medical message and judicial hypotheses - reprinted and published continuously on the personal profile A. Cuc, LinkedIn, with english annotation Complaint and a request for legal assistance A. Cuc, letter to the attention of the Czech Ombudsman July /2012, it was refused in September 19, 2012 definitely.
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5. Štefan Jiří, Hladík Jiří a kol.: „Soudní lékařství a jeho moderní trendy“, Nakladatelství Grada, 1. Vydání 2012, Praha, ISBN: 978-80-247-3594-8, součástí publikace je DVD s 412 barevnými a černobílými fotografiemi, The represenative summary about forensic Medicine in Czech, methods, tasks, input materials, forensic medical evidences, explanation, examples.
6. Trestní oznámení předané na Státní zastupitelství a kriminální policii ČR „2 ZN 2818/2014“ ze dne 30. listopadu 2014 - na zavinění těžkého doživotního zdravotního zranění a narůstající zdravotní komplikace a zkrácení zbytku života pacienta Antonína Cuce o několik let, viníky lékaři z Oblastní nemocnice Mladá Boleslav a viníky lékaři, kteří v komplotu vytvořili falešný soudní lékařský znalecký posudek z Ústřední vojenské nemocnice Praha čj. 36 C 181/2009-123 ze dne 27.3.2012, že zmrzačení se událo při falešném výkladu dodržení podmínek lékařské práce v podmínkách „Lege Artis“ a vědomě tak ovlivnili podjatým způsobem falešných lékařských hypotéz i falešných soudních znaleckých výpovědí falešně kriminalisticky zargumentovaný následný rozsudek čj. 36 C 181/2009-221 Krajského soudu Praha čj. 36 C 181/2009-221 ze dne 24.9.2012, trestní řízení bylo s kriminalisticky falešnými argumenty definitivně zastaveno v 7/2016 bez možnosti odvolání stěžovatele. A criminal complaint filed at the State Prosecutor's Office and the criminal police of the Czech Republic for illegal medical implanting THA and illegal argued „respected Lege artis“, despote it is absolute Nonsense by the ignoration explicit Technician requirements of Directive 93/42/EHS Medical Devices. The Penalty Court processing was refused with the false criminal arguments from Criminal Policy Czech Republic and from State penalty Office from Regional District Prague in July 2016 definitely.

Antonín Cuc*

Ministry for Labour and Social Affairs, Czech Republic

Email: betrueac@gmail.com

A Voice for Epilepsy

December 26, 2016: On December 03, 2002 and I remember being wheeled down the hall at the University of Alberta Hospital in Edmonton, Alberta, Canada by the porter, the silence was almost eerie, you could hear a pin drop. Most people would probably be nervous even scared, I was about to undergo neuro surgery that was hopefully going to change my life forever. I wasn't scared at all, I was excited and from my smiling I think the porter thought I had already been medicated, not at all, I was just looking forward to my life changing for the better.

Let's go back 44 years when all of this started for me, it was 1972 and I was 3 years' old, that is when I had my first convulsion/seizure. My parents were eventually told that I had epilepsy. Phenobarbital (phenobarb) was the medication I was put on and one I stayed on for the next 6 years. Before I started nursery school I had suffered one of the worse seizures, it left my entire right side paralyzed. I would have to drag my right leg when walking and my mom tells me she would have to do daily exercises with me to get my muscles and strength back working. My parents were never told why this happened, a magnetic resonance imaging (MRI) was never done back then, I actually didn't have my first MRI till my early 30s. The most frustrating thing for my parents, or maybe more upsetting was that they were told that this was probably a permanent thing, me being paralyzed, what the doctors didn't know was "I am very stubborn" and I wasn't going to stay like this. They prepared my parents for me being in special needs classes, never being right handed and that I would most likely have speech impairments. I proved them all wrong.

Well after almost a year of having my right side paralyzed I miraculously came through, started getting movement back in my right leg and arm and my speech was just fine, perfect for that matter. I continued on the medication and did make it through school, I was never in special needs classes either. I went till I was 9 years old and my seizures were actually tapering off, they were gone. I was kept on the phenobarb for a couple more years just in case the seizures decided to come back, but they didn't. I was about 11 years old when I was taken off all meds.

Well I was seizure free, at least I thought I was. I had gone almost 11 years with no seizures, no auras, nothing, then one day when I was 20 years old (1990) it hit me like a brick wall. They were back. I was devastated. I had just moved out on my own, had my own car, a job, everything was going just like it should. I was now back seeing a neurologist and yes put back on meds, which I hated but knew I had to take them. Tegretol and Topomax were two of the meds I would be on for the next 11 years. I did try others but the side effects for me were horrible, effects like depression, weight gain and low self-esteem. I had always been such a happy, vibrant, and energetic person, so for me this was like hitting that brick wall again and again.

In 1994 I had my first son, Mathew, who is now 22. My pregnancy actually went very well, and yes I stayed on all my meds through the whole thing that is one question that allot of people ask me about my pregnancy. The amazing part was that I didn't have single seizure during the pregnancy. Shortly after Mathew was born, the seizures returned but I never let them interfere with what I liked to do. I continued playing soccer, even went to boxing (just recreational) and was heavily involved on boards and committees in my community. Time went by, seizures came and went and meds were changed a few times.

It was at this time in my life that I made a decision, one that changed my life forever! I asked the physician I was working with, Dr. Jeffery Moss, what he thought about me going to see a new neurologist, to get a second opinion. The first meeting went awesome, the neurologist asked me so many questions, but the one that stood out the most with me was "have you ever been tested to see if surgery is an option?" I replied with a very strong voice, "NO". A few weeks later I was called by the U of A Hospital in Edmonton, Alberta to schedule an appointment with a neuro surgeon. The meeting went extremely well, the neurologist I saw was amazing and had such a great attitude. He explained the testing and how it was going to take place; 8 days of having electrodes glued to my head to monitor where the seizures were coming from was what I was about to undergo shortly after my week of testing I was brought back into the

hospital to meet with the neuro surgeon. He came right out and said "Ann you qualify for surgery".

From the MRI I was diagnosed with Mesial Temporal Sclerosis (MTS), which if I would of had an MRI when I was younger I might not have had to live with the seizures like I did, but that's in the past its time to move forward. MTS is scarring of the inner portions of the temporal lobe, which may be caused by head trauma, lack of oxygen or brain infection; however, it can also occur without any apparent reason to. It is said that MTS can cause a form of temporal lobe epilepsy, which would definitely make sense in my case.

I was very lucky that I got in for surgery only 3 months after the testing. It wasn't till the next day (after surgery) that I was actually aware of what was going on around me. I felt the bandages on my head, and there was a lot, I had 50 staples in my head. The actually surgery was called Left Selective Amygdalohippocampectomy, including the preparation, surgery, and intensive care afterwards, it was about 8 hrs. When it was explained what was removed or what they even did, I was told that the left parahippocampal gyrus, left amygdale and left hippocampus were removed; structures within the left temporal lobe. I stayed in the hospital for 6 days, what surprised me the most was that I forgot how to walk. I had a therapist come in the room and they explained why they were there, that we need to reprogram my brain to tell me legs to walk, it was crazy but true. I struggled for a couple days than it was like I had a magic wand, I was back walking again.

One of the side effects from the surgery was memory loss, short term; I had to sit down with another therapist and work on numbers and words like I was in elementary school again. It has been 12 years now since my surgery and YES I am 100% seizure free, my last seizures were 2 days before my surgery, a long time ago. Some people would think, why are you still talking about it? It's over with, move on, but you know what, this is me moving on for me, helping others is my passion and I know that with my personality, someone who isn't scared to talk about their experiences, that maybe I can help others with their epilepsy.

I was asked in 2012 to be an Epilepsy Advocate for Canada. I was ecstatic about this, "me representing Canada". I am on a team with a handful of others from around Canada who are all epilepsy advocates, we are positive and want to spread awareness. I also started an Epilepsy Support Group on Facebook several years ago, it is called "Life after brain surgery - Epilepsy needs to be talked about". You can tell that helping others is who I am and that is why I do what I do now and that is Public Speaking. To me there is not enough Epilepsy Awareness around the world and I want to change that. My goal is to get out and speak at seminars, conferences and forums, it is great to hear the medical side of things but I truly believe that sometimes hearing it from a patients point of view helps others understand, I know it would had helped me.

I am 47 years old, mother of three boys (22, 18, and 9) and I am not afraid to get my feet wet or definitely not afraid to step out of the box, I had epilepsy but it never had me!

I want to be an international voice for Epilepsy. In the past few years I have shared my story at medical seminars, conferences and forums and I am hoping that others will invite me to share my amazing story at future events. I have spoke in Chicago, Phoenix, Baltimore USA, Calgary, Toronto, Edmonton and Red Deer Albert. My next two talks will be in Madrid, Spain March 2017 and London, England Aug 2017.

Epilepsy needs to be talked about, who wants to go first? I do!

Ann Marie Gillie*
Epilepsy Advocate, Canada
Email: pace_ann@yahoo.ca

Story on Testicular Cancer Survivor

December 26, 2016: I am a testicular cancer survivor. I was born in Saginaw, Michigan, in 1975. When I was just a baby, my parents divorced, and we moved to a suburb of Detroit called Bloomfield Hills. I attended Cranbrook Kingswood School from kindergarten through high school. After graduation, I moved to Ann Arbor, Michigan, where I earned a bachelor's degree in psychology from the University of Michigan. After college, I returned to the Detroit area. I worked during the day while earning an MBA from Wayne State University at night.

Suddenly, one Thursday morning in October 2001, my busy world came to a standstill. At 26 years old, I was diagnosed with testicular cancer. I couldn't believe it, so I went to another doctor for a second opinion. He confirmed that I had cancer. The testicle was the epicenter of the disease. I went right into surgery. My left testicle was removed.

Although the surgery went well, my visits to the doctor did not stop there. It soon became clear that the cancer had spread ("metastasized") from the testicle. The disease was making its way up my body. The form of testicular cancer I had was a "non-seminoma." That means it was a mixture of many different types of cancer cells, as opposed to a "seminoma" tumor, which consists of only one type of cancer cell. Non-seminomas are much more aggressive and spread much faster than their counterpart.

I knew what the next chemotherapy was, but I did not understand what that meant. What is chemotherapy? What color is it? How will it make me feel? I called my brother. I started sobbing. I could barely talk. My world was shattered. But, I was not going to give up.

My oncologist told me that the treatments might make me sterile. So, I went to a cryogenics laboratory to bank sperm. After that, it was time to start chemotherapy. My chemotherapy recipe was known as BEP: Bleomycin, Etoposide (aka: VP-16), and CisPlatin. My regimen included three cycles of chemotherapy. Each cycle lasted three weeks. One cycle included:

Week 1: Monday, Tuesday, Wednesday, Thursday, Friday-8 hours of chemotherapy each day

Week 2: Wednesday-2 hours of chemotherapy

Week 3: Wednesday-2 hours of chemotherapy

The treatment weakened my body and wiped out most of my white blood cells. In fact, I was in such bad shape; the doctors were forced to delay my chemotherapy while my body recovered between cycles. In addition, the chemotherapy caused many side effects: throat sores, mouth sores, skin rashes, dry skin, cystic acne, extreme fatigue, hair loss, numbness in my fingers and toes, and partial hearing loss. But the most damaging side effect was a blood clot that developed in my left arm. The clot formed around my port, a medical implant that was an access point for my chemotherapy. The doctors had to remove my port, pull out most of the blood clot, and then pump me with blood thinners to break up the rest. With all the side effects and delays, the chemotherapy lasted for five months.

At last, after all the treatment, I thought my fight was over. I slowly returned to the gym, started going out socially, and got back into life. Although I was happy to be alive, every day was a challenge. I did not have as much energy. I looked different. I struggled to find my post-cancer identity. Just as I was getting comfortable with myself, I learned the fight was not over.

Nearly one year after chemotherapy, a routine CT scan showed four tumors along my spine. Rather than risk cutting the spine, the surgeon went in through the stomach. He made an 11-inch incision, placed my organs to the side, and took out each tumor. The surgery lasted for four hours. It was successful.

Finally, I was freed from the disease and began my road to recovery.

I made a vow to myself while I was on chemotherapy. I looked at others in the oncology clinic and realized that I was different. Each day, my room was filled with family members and close friends. With so much support, I did not have a chance to lose hope. However, in many of the other rooms, hope already

seemed lost. As I walked down the hall with my chemotherapy IV-pole on the way to the bathroom, I saw other people fighting cancer alone. They were lying in bed, motionless, watching television or staring in space. Their only stimulation was a nurse checking in for a minute or two on the hour. I knew this was not right. It upset me. I felt guilty because I had so many good people and so much positive energy around me. I made a silent promise that if I were given life after cancer, I would help these people.

So, how could I help? I walked into the other rooms, one at a time, and introduced myself. "Hey, what's up, I'm Jonny. What's your name? I have testicular cancer. What type of cancer do you have?" Many were older than me. A few were younger. Although they were exhausted just like me, everyone was friendly and welcomed my conversation. We shared stories, emotions, and opinions about many things in life. We all had our own type of the same disease. Some fought for themselves, others for their children, and yet others for a spouse. But no matter the motivation, we were all fighting for life. And I wanted to help them get it back.

I wondered: "What if every cancer fighter could talk to a cancer survivor, who not only had beaten the same type of cancer, but who also was the same age and gender as the fighter?" The cancer survivor would be an angel-walking, living proof that the fighter could win too. What an amazing connection. This is why I created Imerman Angels.

I want to thank "each" of you for taking the time to learn about our mission. The number one way to help is to connect us with cancer fighters and survivors. They are the lifeblood of our service. No one should fight this disease alone.

Jonny Imerman*

Founder, Chief Mission Officer, Imerman Angels, USA

Email: jonny@imermanangels.org

My story on Breast Cancer Surveillance

December 26, 2016: My story

My childhood was a big challenge for me, as I am a child of war! My three sisters and I were left without father who had died in the lines with the phrase "gone missing". And my mother, who had passed away early, left us for our grandmother. It was such a horror that I cannot even think of it now! This persistent hunger, and child's labor where possible. Frankly speaking, we were growing up in hunger, cold and vulnerability. I have been studying at school only till the 6th form, and then I deliberately added a few years to get work at the factory and went to evening school. That is to say, since my childhood I have clearly understood that...it is necessary to work and study, as knowledge – is power. Light aim helped me and tempered me. After graduation from the school I studied at the evening department of Kyiv Technological Institute of Food Industry in the specialty of engineer-economist. For many years I have been working in the specialty and was actively involved in social work, therefore, my character aimed at human values. During my working experience (50 years) I was awarded many times, I have the following awards for public work: Order of Princess Olga, Mark the Star of Hope, Mark for Selfless Work and Professionalism, Honor in Golden Fortune rating "Labor Glory", Order of Saint Anna and other.

And at one point, working my summer cottage I felt a sharp piercing pain in my breast. The next day I was at the doctor. And when examining I heard...cancer and the need to visit oncologist immediately. And 3 days after examination I have passed right-sided radical surgery. Three days after the operation I was injured. The artery of serratus muscle was pierced. Also another urgent surgery was made – sealing of arteries. And three days after I was discharged from the hospital to die...My husband was told to get ready as I would not make through the month. After discharge from the hospital I could not walk, and treated myself crawling on the floor, doing physical exercises and searching for ways to survive. Six months after the enormous efforts I Got up and started to fight for my life and lives of all Ukrainian women. I began to unite Ukrainian women who have been diagnosed with breast cancer. And lately I united and organized 32 divisions with 140 thousand Ukrainian women treats the sufferers as I am.

My organization «Donna-Ukraine» is a unique organization in Ukraine. For the time of work "Donna" developed many programs for survival and free examination of those in need. Also, "Donna" constantly defends the rights of women of this category.

I am a president of the public organization of disabled women, «Donna-Ukraine» for many years and I am happy to live, and also support those women. I am happy to know that I bring warmth and kindness to their family. Their tears of gratitude and joy for returning to life give me strength and fill my life with meaning.

Larysa Yashchenko*

Donna Ukraine, Ukraine

Email: donna-2004@i.ua

Shame on the Congress

December 26, 2016: In the United States, what appeared to be an epidemic caused by the Zika virus has become a pandemic the number of American citizens infected with the Zika virus increases on a daily basis. One would presume that in the absence of vaccines to prevent it and drugs to treat it, our scientific research facilities would be putting other projects aside to create and develop means of prevention and treatment. To do so will require a great deal of money, and president Obama requested from the Congress \$1.9 billion to get these programs started; in turn, the House of Representatives sent to the Senate a bill for \$1.1 billion which the scientific community would accept gratefully.

There is an American company, Aethlon Medical Inc. (AEMD, NASDAQ), that has just announced that one of its devices, the Hemopurifier, can remove the Zika virus from human blood as it has with HIV, HVC, and Ebola [1]. This sequestration from samples of whole blood may facilitate testing for the virus while on a larger scale, in cases of overwhelming viremia, by reducing the viral load it may assist the inundated immune system in controlling the infection. It is probable that Aethlon will be seeking approval and sufficient funding to enable the company to carry out a clinical trial against Zika, running parallel to others engaged in developing immunization and treatment options.

But none of this can be accomplished until both houses of Congress have returned from their seven-week vacation, are in their chambers, and can agree on a bill that is languishing because the Senate will not pass the House version which defunds Planned Parenthood. President Aka Cancall the Congress to convene under Article II, Section of the Constitution this ille dealtith in after paper.

As a physician in training, I lived through and with the permanent disability results of infection with the polio viruses in the 1950s and '60s. Polio is easily transmitted, primarily through contact with fecal matter but also from contact with salivary secretions and urine. Thus, it is transmitted from person to person. I fear that this mosquito-born Zika virus, also contagious in the person-to-person sense, can be so easily transmitted through mosquito bites, that it will infect more people than did the polio viruses and elicit a greater incidence of post-paralytic neuromuscular impairments from the Guillian-Barre syndrome than we saw from polio fifty years ago, with a prevalence of permanent disability that will swamp the Social Security and commercial disability systems to the point where a necessary tax increase will fall primarily on the working people.

As we face this pandemic, hands are tied because ideology is preventing the flow of monies to research facilities that have the means, staff, and equipment to pursue development of a treatment against Zika and a vaccine to prevent it.

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Franklin David Nash*

Center for Scientific Analysis of Policy, LLC, USA

Email: docnash@scipolicy.org