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Short Communication

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Mathematical Formulae That Validate the Germ Terrain Duality Theory; The Comparative Size of the Immanent Cellular Dust [Microzymas]

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Drug dosages, whether calculated via the ratio (rainbow), proportion, formulae or dimensional analysis method are determined by various factors. These factors include the weight of the patient and the route of administration. Both weight and route of drug administration are terrain related parameters.

The Germ-Terrain duality theory of disease states that the etiology of certain diseases/diseased states is better explained as a complex interplay between germs and the inherent anatomical/physiological integrity of the body cells.

It argues that the etiology of certain diseases is not fully explained merely by the presence of germs (Germ Theory) or by a mere loss of cellular integrity (Terrain Theory). As a result, the prevention and treatment of such diseases should focus not just on fighting germs but on maintaining/restoring the anatomical/physiological cellular integrity. The Germ-Terrain duality theory is a harmonization of the current Germ Theory (popularized by Loius Pasteur) and the hitherto discarded Terrain Theory (popularized by Pierre Bechamp) [1-2].

The oral terrain [tablets, capsules and syrups] - ph 5.7 to 7 -is anatomically and chemically different from the venous [hypodermic injection] - ph 7.4 or anal [suppositories] -ph 6.7 terrain. The mathematical formulae for calculating drug dosages and infusion rates thus validate the germ terrain duality theory viz Cockcroft and Gaunt equations, Clarke's Rule and Young's Law, the first and second generation Daugiradas formula for haemodialysis etcetera.

Clarke's Rule: child's weight in pounds, divided by 150 pounds, and the result multiplied by the adult dose to find the equivalent children dosage.

Parkland Formula for total fluid requirement in 24 hours is 4ml multiplied by total body surface area.

Cockcroft and Gaunt formula is (140 - age) (weight in kg)/ 72 × serum creatinine for men and the same multiplied by 0.85 for women. Daugirdas mathematical formula is $Kt/V = -\ln (R - 0.03) + [(4 - 3.5R) \times (UF \div W)]$
Where W= post dialysis weight in kg

What is the relative size of the immanent cellular dust (maximum size 500 nanometer) viz a viz other more widely known minuscule and microscopic entities? [3] There are 25,400,000 nanometer in one inch.

Entity	Size in nanometer	Size relative to the microzymas
Bacterium	1000	2 [that is TWICE the size of a microzyma/cellular dust]
Atom	0.25	0.0005 [that is 0.0005 the size of the microzymas which is 2,000 times SMALLER than the microzymas/cellular dust]
Red blood cell [human]	10,000	20
Grain of very fine sand	62, 500	125
Speck of dust	50,000	100
Ovum	100,000	200
Spermatozoa [length]	50,000	100
Fungus	300	0.6
Protozoa	50,000	100
Virus	300	0.6
Human DNA strand	2.5	0.005
Strand of human hair	90,000	180
Thickness of a sheet of paper	100,000	200
Proton	0.000001	0.000000002
Stem Cell	5,000	10
Electron	0.1	0.0002
Chromosome	30	0.06
Antibody	15	0.03
Zygote	150,000	300
Mustard seed	2,000,000	4,000
Smoke particle	100	0.2
Water molecule	1.5	0.003
Atom of gold	0.33	0.00066
Coronavirus	125	0.25

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