NCD

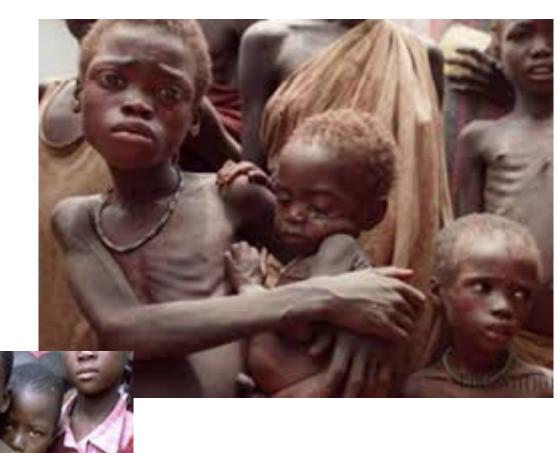
Non-Communicable Disease

-Logic of Life-

Kiyoshi Kurokawa, MD @TICAD6, Nairobi; Aug 26, 2016







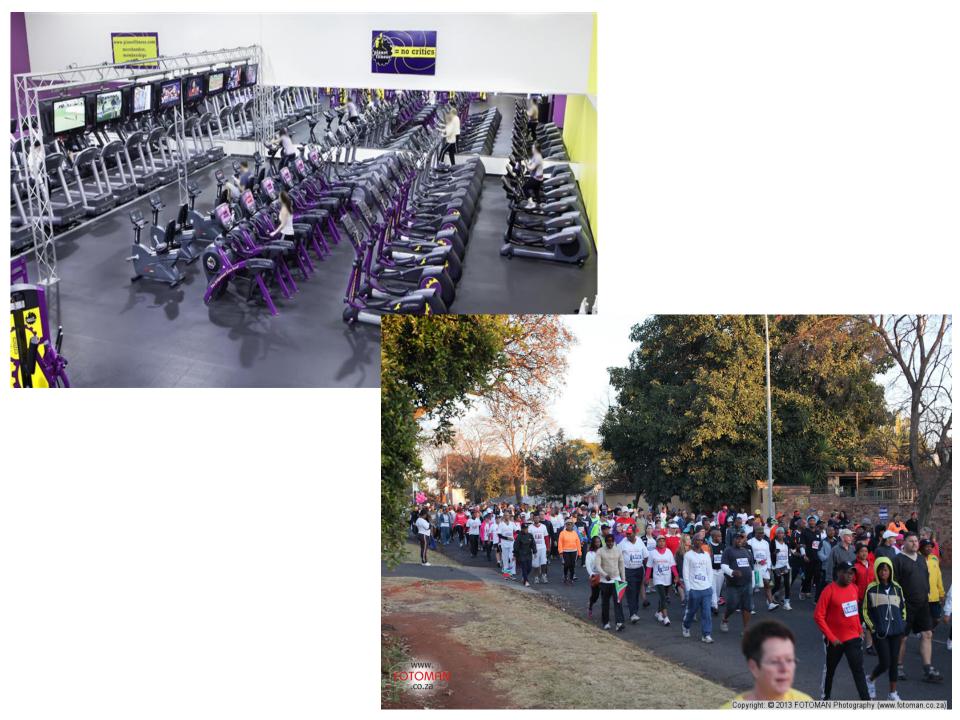












Our History - Starvation and Infectious Diseases Great Rift Valley

Agriculture (~10K yrs ago) and Civilization (5K yrs ago)

Modern history

- →14th Century in Europe, plague city/more naturally immunized
- → As human mobility increases many indigenous people died of infectious diseases due to lack of immunity
- →17-18th Century, Modern science, Industrial Revolution
- → End of 18th Century, Edward Jenner & small pox vaccination
- → More invasion, emmigration, slavary, more and more mobility
- →Thru 1950, TBC had been #1 killer, streptomycin 1943; 1946-48
- → Changing life style, suddenly **Westernized**
- → NCD has become #1 disease burden only recently, 20~30 years
- → What's next??

Life and Environ; Salt

550 million -explosion of life/ Cambrian Vertebrates; amphibians, reptiles to bird, mammals

Sear water --3.5% NaCl and low gravity (1/6G)-Fresh water, River/ponds
--little NaCl and lower gravity (1/6G)

to Terrestrial life --little NaCl and 1.0G gravity and Extracellular fluids- 0.9% NaCl

NaCl Intake of Terrestrial Mammals

Humans in stone ages

Carnivore vs Herbivore

History of Salt and Human Civilization

Via Salaria, Salary
Salzburg, Hall
Table salt, Nordic history
King Louis 14th
Gandhi's salt march

Plasma level of angiotensinogen

T235M (threonine vs methionine)

TT - highest

TM - medium

MM – lowest

T mutation – blood pressure higher

M mutation-blood pressure lower

African Black >90%T

American Black 80-90%T

Caucasian in EU & US ~40-50%T

Japanese ~80%T

Principle of Survival

-sources not abundant in natural life environs,

but essential for survival

Hypertension salt <1.5gr/day

Obesity food & energy storage

Type 2 diabetes glycogen storage/insulin

when insulin rises?

Cholesterol excess fat in natural environs?





