A quick word from my sponsor Fiterix™

- Major effect on the faulty immune system reducing the pro-inflammatory markers of anti-TNF factor, C Reactive Protein and IL-6.

- Increases antioxidants and reduces the oxidative stress from Krebb’s Cycle in each mitochondria as measured by reduction in 8-hydroxydeoxyguanosine (8-OHdG)

- Prolongs the life of cells by stimulating Temelorase and lengthening the telomeres at the end of each Chromosome hence prolonging cell life.

- Reduces fibrinogen, blood pressure, and HDL/LDL ratio and can reduce the atheroma in each coronary artery

- Stimulation of Brain-Derived Neurotrophic Factor Increases repair of neurons in the brain and promotes neurogeneration and increases grey and white matter enlarging the Hippocampus
aka GFW (going for a walk)
A quick word about walking

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Our factory setting is to be in a sociable group, supportive environment and have a purpose.

**People**
- Connect
  - Sociable

**Place**
- Take Notice
  - Nature

**Purpose**
- Be Active, Give
  - Autonomy
  - Keep Learning
Loneliness  
Hostile  
Rejection

Fear and Chronic Stress

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Loneliness and Stress

● The experience of loneliness is stressful.

● Chronic stress, via its effects on the endocrine and immune systems, enhances risk of long term conditions, (similar risk as smoking 20 cigs a day for CVD)

● Lonelier people experience more sleep disturbances and engage in less physical activity than less lonely people with increased pain, depression, fatigue and poor health.

Nature and Stress

The contribution of green space to health and wellbeing in deprived communities lies partly in an enhanced “sense of place belonging”, a reduced sense of social isolation and offering opportunities to manage or mitigate stress.

A study of allotment gardening using salivary cortisol as a measure of stress, found that gardening led to greater stress reduction than a restful indoor task (e.g., reading).


How does nature benefit health?

(a) More positive social interactions and
(b) Less stressed, mindfulness and greater understanding
(c) More exercise,
(d) Better quality environment for health promotion (i.e. has lower levels of air pollution)

Sense of Purpose and Stress

- A greater sense of life purpose—the extent to which people report having meaning and direction in their life—predicted lower levels of chronic stress at a 10-year follow-up.

- Individuals who reported having high levels of purpose strongly believe in the ability to influence their health.

Chronic Stress

Inactivity
Poor diet
Obesity
Smoking
Inactivity and chronic stress

- Chronic psychosocial stress, increases the risk of physical inactivity and contributes to the epidemic of disease.

Chronic Stress

Stress Hormones

Inactivity
Poor diet
Obesity
Smoking

Chronic Inflammation

Mitochondria as a key component of the stress response. Manoli et al. Trends in Endocrinology and Metabolism  Vol 18 No 5 2007

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Inflammation: The cause of Causes

Chronic Inflammation
Starts in children as young as 6 years old

- Diabetes
- Anxiety and Depression
- Obesity
- Dementia
- Cancers
- Arthritis
- Cardiovascular disease
Inactivity causes inflammation

1. Increases visceral fat
2. Reduces anti-inflammatories
3. Damages healthy cells
Inactivity: trilogy of inflammation

1. Increases visceral fat

2. Reduces anti-inflammatories

3. Damages healthy cells
Reducing inflammation – fat

Variation in visceral fat content in men with the same waist circumference

Visceral fat = 0.5 L
Visceral fat = 1.1 L
Visceral fat = 1.2 L
Visceral fat = 1.3 L
Visceral fat = 1.7 L
Visceral fat = 1.8 L
Visceral fat = 4.2 L
Visceral fat = 4.3 L

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Visceral fat reduction with exercise

Fat loss after 13 weeks of walking 60 mins a day and no weight loss


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Inactivity: trilogy of inflammation

1. Increases visceral fat
2. Reduces anti-inflammatories
3. Damages healthy cells
Inside a healthy cell

Chromosomes keep dividing

Immune system is switched off until needed

Mitochondria, healthy and active. Providing lots of energy
Sedentary, high fat diet and stress

Oxidative Phosphorylation

Reactive Oxidative Species

Anti-Oxidants

Mitochondrial DNA

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Physically active, low fat and not stressed

Mitochondria

Oxidative Phosphorylation

Reactive Oxidative Species

Anti-Oxidants

Mitochondrial DNA
Telomeres get shorter

Senescence: the end of the cell


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This causes inflammation

Immune system is constantly switched on
We have a new disease that conventional medicine cannot treat

Chronic Inflammation
Inflammation: ‘the cause of causes’

- Inflammation of Heart and arteries
- Inflammation of joints
- Inflammation of brain
- Inflammation of metabolic system
- Inflammation of brain
- Inflammation of visceral fat

Chronic Inflammation
Starts in children as young as 6 years old
Social Prescribing

Pathway of Ill Health

People

Place

Purpose

Chronic stress

Poor health behaviours

Mitochondrial damage, telomere shortening, and chronic inflammation

Cardiovascular disease, diabetes, cancer, depression

https://www.youtube.com/watch?v=kYPRV-Ynilk
Is being Healthy everyone’s cup of tea

Policies that nudge individuals towards healthy lifestyles promote the welfare of those individuals, as judged by themselves.

Should Happiness be the goal

- Happiness was famously analyzed by Aristotle as being the sole ultimate goal of human existence, meaning that he viewed it the only thing important in its own right, not merely as a means to an end.

- Whereas money and technology and even health, for example, are mere tools, i.e., useful solely as a means to some, further thing.

- If good health is the sole ultimate goal then any minor imperfection creates anxiety and can become a focus of one’s life.
The Benefits of Happiness

- happiness produces greater cooperation, energy, motivation, and creativity.

- Similarly, positive feelings are associated with a stronger immune system and fewer cardiovascular problems,

- whereas anxiety and depression are associated with poorer health behaviours and problematical physiological indicators such as chronic inflammation.

Meet Bob
Let's get Bob active
We can give him NHS treatment
‘Bob, why don’t you get off the bus a stop early?’
‘Bob, you really should take the stairs instead of the lift’
‘Bob, why don’t you try Betty’s keep fit class on a Tuesday?’
‘Bob, have you tried cycling to the shops?’
Or we can link him with a group of supporters who walk 2 miles to Anfield
and to Bob, that is not exercise or health
Physical Activity is now hidden behind a much greater experience for Bob

It is invisible to him

It is a ‘means to an end’ not the end itself

‘The end’ is now getting to Anfield

And finding this greater value for each person will help create the industrial scale required
Green Gym Vs Aerobics

Comparison of heart-rate response during two sessions of activity

Heart Rate

Time Minutes

Green Gym
Step aerobics

V Reynolds 1999
OCHRAD
The focus has moved physical activity from a venue-based strategy...
… to a community based activity where activity happens everywhere

Social Prescription
But to get real scale we need to get lots of people becoming activity leaders themselves.
Level of Engagement

800,000+
Over Three Years

East Sussex 44,775
Belfast 36,326
Hounslow: 29,702
Annan/Stranraer 38% of population

300,000+
In 2016 & 2017
Beat the Street in 2016 – 6 Months

- 18 Interventions delivered across the UK

- Decrease in Inactivity (P<0.001)
- Increase in Frequent Physical Activity (P<0.001)
- Increase in Frequent Active Travel (P<0.001)

N = 3,103
Changes

- Beat the Street Stranraer (N= 167)
Summary

● We live in a stressful environment

● Isolation disconnection to nature and lack of purpose create chronic stress.

● Chronic stress causes poor health behaviour and leads to Chronic Inflammation (CI)

● CI is the “cause of causes” of most long term conditions

● Health, diet, activity should be means to the end which is Happiness

● Increasing SP should move to a social movement through digital platforms and Insight
Building Active Communities

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