



# THE OTHER SCIENTIFIC WAY TO MEASURE THERAPEUTIC EFFECT

Rik Hoste DO





# "Find and remove the cause, then the effect will disappear."

**Still DO 1910** 





# "Osteopathic treatment is scientific in that it recognizes the relation between cause and effect in disease, and

seeks to remove the cause rather than to treat the symptoms - the effect of disease."

Smith DO 1919





## CAUSE - EFFECT frame of thinking belongs to a REDUCTIONISTIC concept

OSTEOPATHIC MEDICINE
belongs to a HOLISTIC concept





		Control Reg Number	Pa 1			LabCorp	V 1.
Facing Mis	ro Sourse	Total Urine Volum	e Report Status S / Final	Clinical Inform	odice		
Data Collected T 08/02/10	ine Cellected 09:56	Date Extered 08/02/10	Date Reported 08/03/10				
Patient ID Number Patient Phone Number 80542		Phone Number	Patient SSN	Account 17123375			
Patient Name Sex M			Data of Birth 12/10/86	Direct Laboratory Services 300 Mariners Plaza Suite 321			
Patient Address		M	12/10/96	Mandeville,	1A 70448		
Comments				985-624-919 UPIN: 1336			
PATIENT AGE: 0247-047-08				01.00.10.0012.00		PHY NAME: DAVIS, A	
Torte Requested	CMP14+L	P+TP+TSH+5A	+CBC/D/Pli				
	TESTS	1	ESULT	F1.A/2	UNITS	RIPERENCE INTERVAL	LAB
Glucose, Serum			80		mg/dL	65-99	
Urie Acid, Serum			6.0		mg/dL	2.4-8.2	
BUN			18		mp\II.	5-26	
Creatinine, Scrum			1.74	HIGH	mg/dL ml./min/1.73	0.76-1.27	
eGFR eGFR AfricanAmerican			59	LOW	nL/min/1.73	>59	
eGFR AfricanAmerican Note: Persistent reduction					mizmus, es	~39	
			D. Patients with et				
			have CKD if evide				
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			10			8.77	
BUN/Creatinine Ratio Sodium, Serum			138				
					mmolt.	135-145	
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Potassium, Serum Chloride, Serum			4.5 101		mmolt.	3.5-5.2 97-108	
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#### **REDUCTIONISM**

quantitative data



qualitative data

#### MSQ: Migraine-Specific Quality-of-Life Questionnaire

Further Investigation of the Factor Structure

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measurable influences affect measurable outcomes

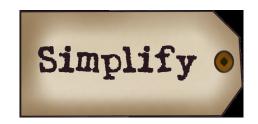


a whole consists of multiple interdependent segments and cannot be broken down into seperate measurable segments





symplifying the situation







overviewing the situation





frame of reference = the object



frame of reference = the subject





concept of truth



concept of probability and meaningfulness







- Why do we so often use this cause-effect way of thinking?
- What is the meaning of holism?
- What are the consequences of a holistic concept for
  - Scientific osteopathic research?
  - Osteopathic training?
  - Osteopathic diagnostics?
  - Osteopathic treatment?





#### CAUSE-EFFECT way of thinking



tunnel vision easiest solution

It works as long as you are in the tunnel!





#### **OSTEOPATHIC MEDICINE** within a HOLISTIC concept



**SCIENTIFIC?** 





#### Criteria of 'science'

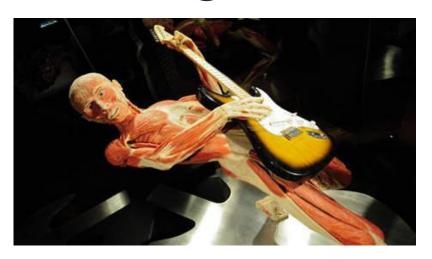


logical - objective - systematic





#### Logical



osteopathic medicine is based on ANATOMY, PHYSIOLOGY, EMBRYOLOGY, ...





#### **Objective**



what we treat is objective (patient, structures, ...)





#### **Objective**



the parameter (mobility) we use, is often not testable

(function – dysfunction)





#### **Objective**

before treatment





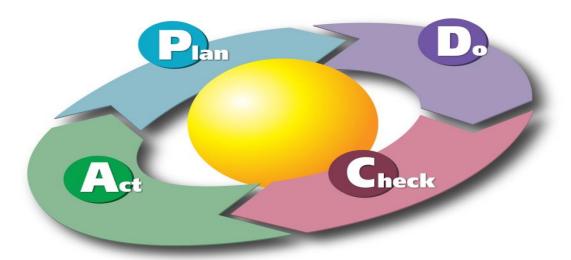
after treatment

effects and effectiveness are testable





#### **Systematic**



osteopathic diagnosis and treatment are conducted systematicaly





### What is the meaning of holism in relation to science?

How do we define health and disease in a holistic scientific concept?





#### **Defining health and disease**

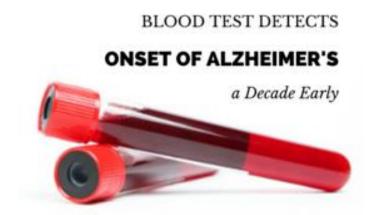


by means of standards





#### Standards in a reductionistic concept



blood pressure, cholesterol, liver enzymes, ...





#### Standards in osteopathic medicine



ptosis of the kidney, hypertonia of the piriformis, external rotation of the left temporal, ...





#### Standards fit in a cause-effect relationship

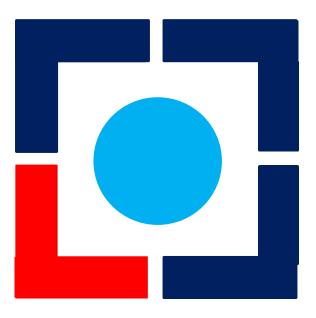
### HOLISM is more than

- standards
- a full body diagnosis
- treating structures that are not directly involved in the complaints of the patient





#### Holism is the whole

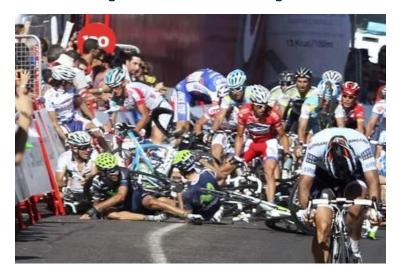


the WHOLE is the PATIENT





#### patient = complex adaptative system



chaotic not calculable





### Holism for SCIENTIFIC OSTEOPATHIC RESEARCH

- Basic Research
- Clinical Research





### BASIC RESEARCH concerns TECHNIQUES for

- diagnosis
- treatment







### BASIC RESEARCH in OSTEOPATHIC DIAGNOSTICS reliability studies



focus: intra-examiner reliability (same patient, same structure, same osteopath)





# BASIC RESEARCH in THERAPEUTIC TECHNIQUES effects of osteopathic techniques

Can we influence a certain parameter through a certain MANUAL TECHNIQUE?

**SHAM TECHNIQUE** 





### CLINICAL RESEARCH in OSTEOPATHIC TREATMENT

#### effectiveness of the whole treatment



**PRAGMATIC RCT** 





### CLINICAL RESEARCH in OSTEOPATHIC TREATMENT

### osteopathic treatment (black box design) versus

no treatment - standard treatment

**SHAM** TREATMENT **DOES NOT EXIST** 





#### Holism in OSTEOPATHIC EDUCATION





- Focus on high level background and knowledge of basic sciences
- Focus on the principles of the techniques, and not on the technical aspect only





#### Holism in OSTEOPATHIC DIAGNOSIS

#### symptoms belong

- partly to the disease (~ differential diagnosis)
- partly to the patient





#### Holism in OSTEOPATHIC DIAGNOSIS

#### inhibition tests

- **≠ defining the** cause
- = defining what to do NOW for this specific patient to make him/her function better!

what will I treat?





#### **Holism in OSTEOPATHIC TREATMENT**

#### how will I treat?

- direct or indirect techniques
- global or localized techniques





#### Holism in OSTEOPATHIC TREATMENT

#### how will I treat?



parameter = typology of the patient





#### OSTEOPATHIC MEDICINE

# WHERE SCIENCE MEETS HOLISME

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