

# The Placebo Effect

... and Double Blind Controlled trials of treatment

# Anecdotes

- Warts and all
- Asthma ...and the sound of breaking glass
- ...and IV steroids

# Placebo - definitions

- Medicine given to humour rather than cure the patient  
( Concise Oxford Dictionary )
- Dummy / Blank Pill - used as control

# Common Cold treatment- MRC 1950

Outcome day 2	Cured	Cured/Improved
Active treatment	13.4 %	68.2%
Placebo	13.9 %	64.7%

# Cough syrups v Placebo

Table 25.1 Magnitude of placebo response relative to active medication in clinical trials on cough associated with upper respiratory tract infection (URTI). The placebo response is calculated as a percentage relative to the change in cough observed with the active medication. Therefore a placebo response of 100% means that the change in cough severity is equal to that observed with treatment with the active medication.

Study no.	Investigator	Medication	Dosing	Duration of study	Cough measure	Placebo response (%)	Patients
1	Tukiainen <i>et al.</i> (1986)	Dextromethorphan syrup†	30 mg 3 times daily	4 days	Subjective cough frequency on day 4 of treatment	105 <i>P</i> > 0.05 n.s.*	108 patients with acute cough
2	Adams <i>et al.</i> (1993)	Mogastine tablets	200 mg twice a day	3.5 days	Subjective cough severity on day 3 of treatment	88 <i>P</i> > 0.05 n.s.†	109 patients with acute cough
3	Eccles <i>et al.</i> (1992)	Codine syrup	30 mg single dose	Laboratory study on 1 day	Cough frequency at 150 min after treatment	103 <i>P</i> > 0.05 n.s.	91 patients with cough associated with URTI
4	Parvez <i>et al.</i> (1996) Study 1	Dextromethorphan capsules	30 mg single dose	Laboratory study on 1 day	Cough bouts at 120–150 min after treatment	56 <i>P</i> > 0.05 n.s.	108 patients with cough associated with URTI
5	Parvez <i>et al.</i> (1996) Study 2	Dextromethorphan capsules	30 mg single dose	Laboratory study on 1 day	Cough bouts at 120–150 min after treatment	55 <i>P</i> < 0.05	134 patients with cough associated with URTI
6	Parvez <i>et al.</i> (1996) Study 3	Dextromethorphan capsules	30 mg single dose	Laboratory study on 1 day	Cough bouts at 150–180 min after treatment	83 <i>P</i> > 0.05 n.s.	209 patients with cough associated with URTI
7	Freemove <i>et al.</i> (1997)	Codine capsule	50 mg single dose	Laboratory study on 1 day	Cough frequency at 90 min after treatment	104 <i>P</i> > 0.05 n.s.	82 patients with cough associated with URTI
8	Lee <i>et al.</i> (2000)	Dextromethorphan capsules	30 mg single dose	Laboratory study on 1 day	Cough frequency at 180 min after treatment	82 <i>P</i> > 0.05 n.s.	43 patients with cough associated with URTI

The probability values (*P*) refer to the difference between the active treatment and placebo.

n.s., not significant.

\* Not significant on any day.

† Main group analysis not significant on any day but some subgroups with high cough scores did show a significant difference on some days.

## How does true placebo work ?

- Represents the PSYCHOLOGICAL therapeutic effect of treatment
- Interface between body and mind
- The patient MUST believe in the treatment
- Works best with subjective symptoms

# Placebo Effect- best results

Pain

Depression

Migraine

Cough

Asthma

# How does true placebo work ?

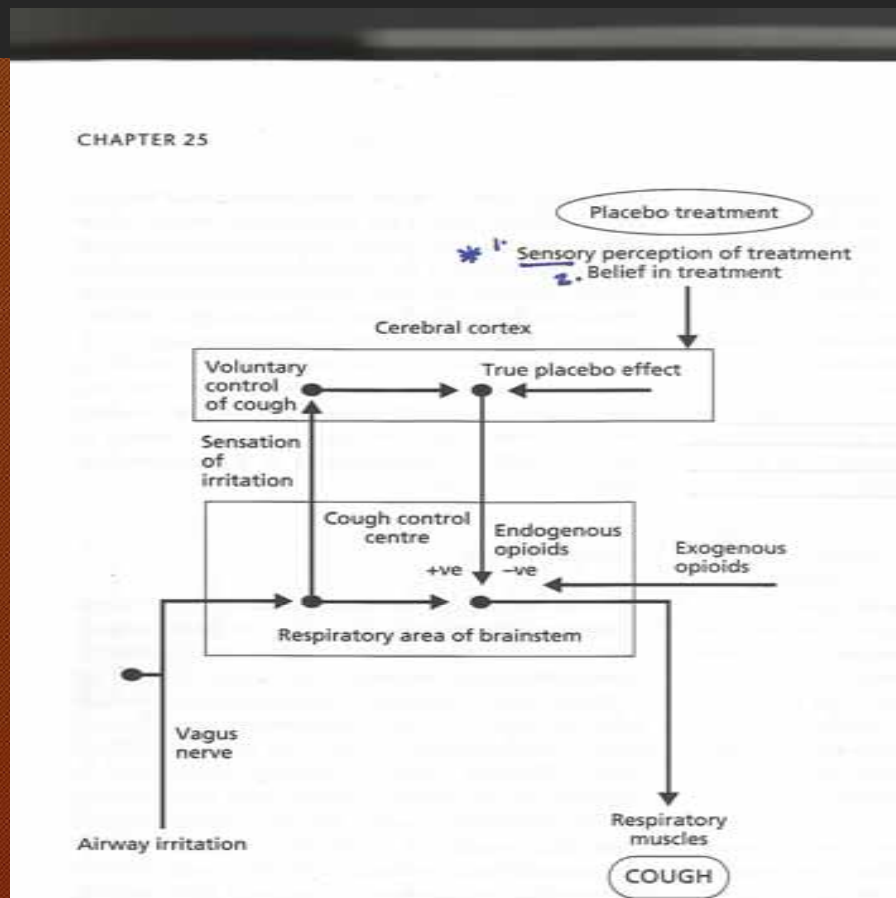
- Very likely through neurotransmitter release



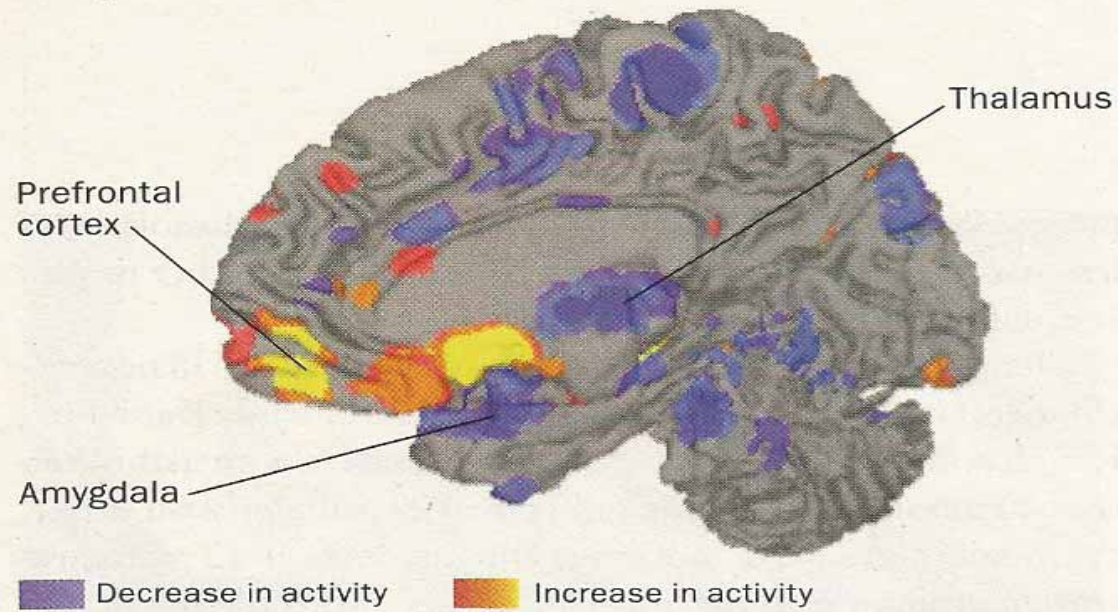
# How does placebo work ?

Pk /Pd mechanisms described for placebo effect

# Brain mechanisms in cough- placebo effect



# Imaging of placebo effect in the brain



**Belief can bring pain relief. When people thought they were getting a painkiller, the prefrontal cortex, which attaches meaning to pain, suppressed emotion areas such as the amygdala and pain perception hubs such as the thalamus, bringing respite.**

# Acupuncture- is placebo control possible ?

REAL Acupuncture	PRETEND Acupuncture
Dr. Ip and his PERSONA	SAME
A needle	SAME
What Dr Ip is saying to the patient	SAME
Needling along Meridians	RANDOM NEEDLING

# Ayurvedic Medication

- Probably easiest to control with look-alike dummy capsules
- But Cochrane reviews of published literature conclude effect usually no greater than placebo
- NB Heavy metals often added to preparations

# Osteopathic treatment

- Impossible to control
- Unless one uses a highly skilled actor

# A physician's viewpoint

- Has this patient been fully investigated ?
- Is there a positive diagnosis ?
- Is the alternative medicine practitioner trustworthy ?
- Proposed treatment is NON TOXIC, REASONABLY PRICED

# A physicians plea to the complementarist

Do not miss a SERIOUS and TREATABLE illness ( Severe asthma, TB, Myeloma, brain tumours )

Patient must be aware of the risks eg - C spine manipulation and stroke, pneumothorax from needle

Alternative medicine practitioner must keep an open mind and liaise with physicians if patient not responding



## The Physician- the biggest placebo

- Bernard Shaw speaking of Sir Ralph Bloomfield Bonnington
- ' He radiates an enormous self-satisfaction, cheering and healing by the mere incompatibility of disease with his presence. Even broken bones it is said have been known to unite at the sound of his voice. His bland ,voluminous energy imposes veneration and credulity on all but the strongest minds '

The End

Thank you !