



# Clinical use of herbalism

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*Complementary and alternative medicine*  
*Why have knowledge or use it?*

- increased number of positive outcomes
- improved patient compliance
- alternative if pharm. drug problematic (excessive side effects)
- **Medicolegal reasons** – courts expect health professionals to know of proven alternative treatment options
- **Business reasons** - 60% of the public utilise complementary therapies and the market (\$) exceeds conventional treatments
- **CAM: diverse and cannot be an expert in all** - homeopathy, herbalism, acupuncture, osteopathy, massage, aromatherapy etc

# Herbal therapeutic systems

Greco-Roman & Islamic  
(Paracelsus, Galen)

Chinese herbal medicine

Ayurvedic (Indian)

19<sup>th</sup> C North American

18<sup>th</sup> C Middle European

Nth American Indian  
Aust. Aboriginal  
Sth American  
Rudolf Steiner  
(Anthroposophical medicine)

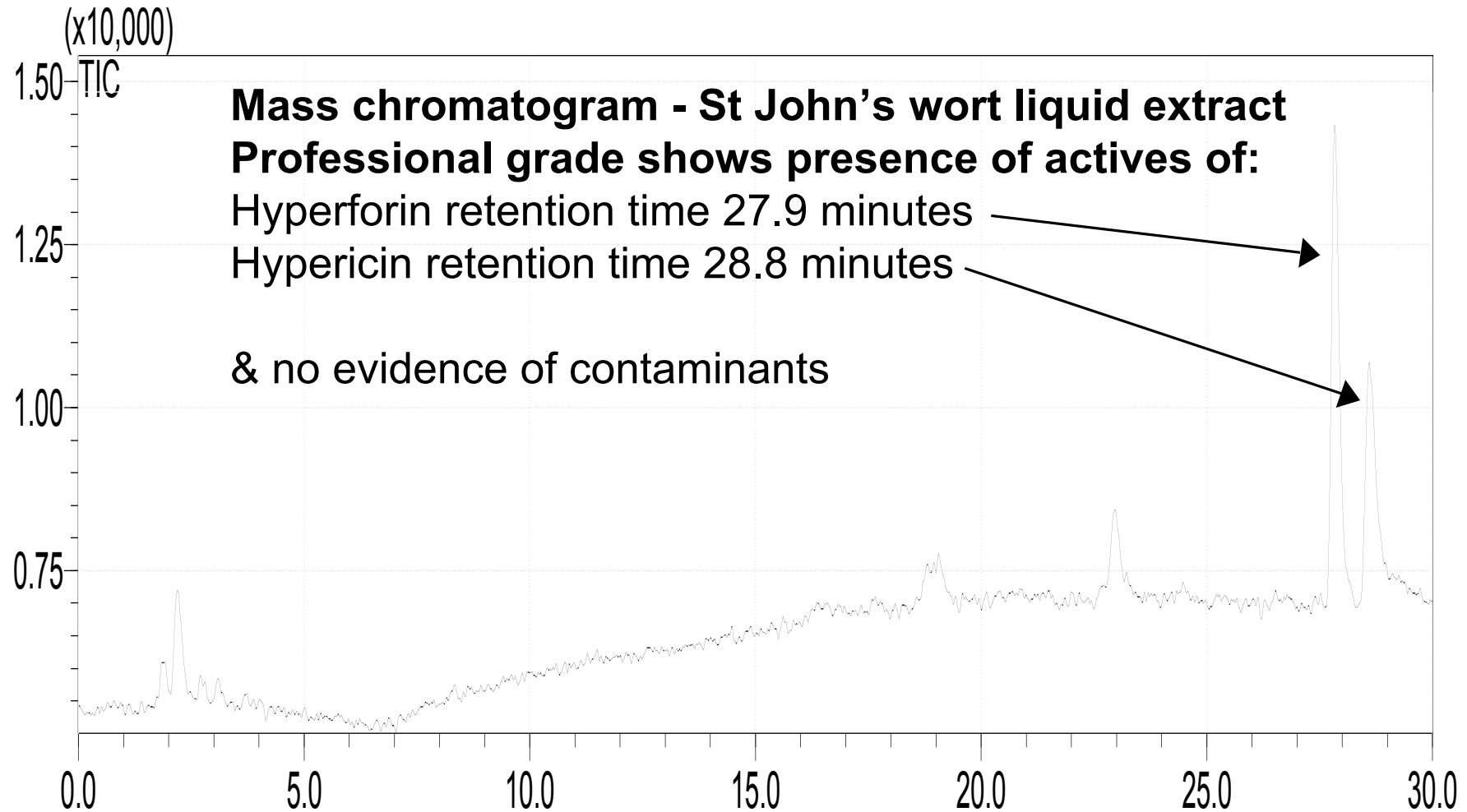
## Formulation of herbs (increasing potency)

1. Topical ointments and poultices
2. Teas, infusions, macerations
3. Tinctures (1:10 extract : alcohol)
4. Fluid extracts (1:1 ext: alcohol)

## Evidence for herbal medicine

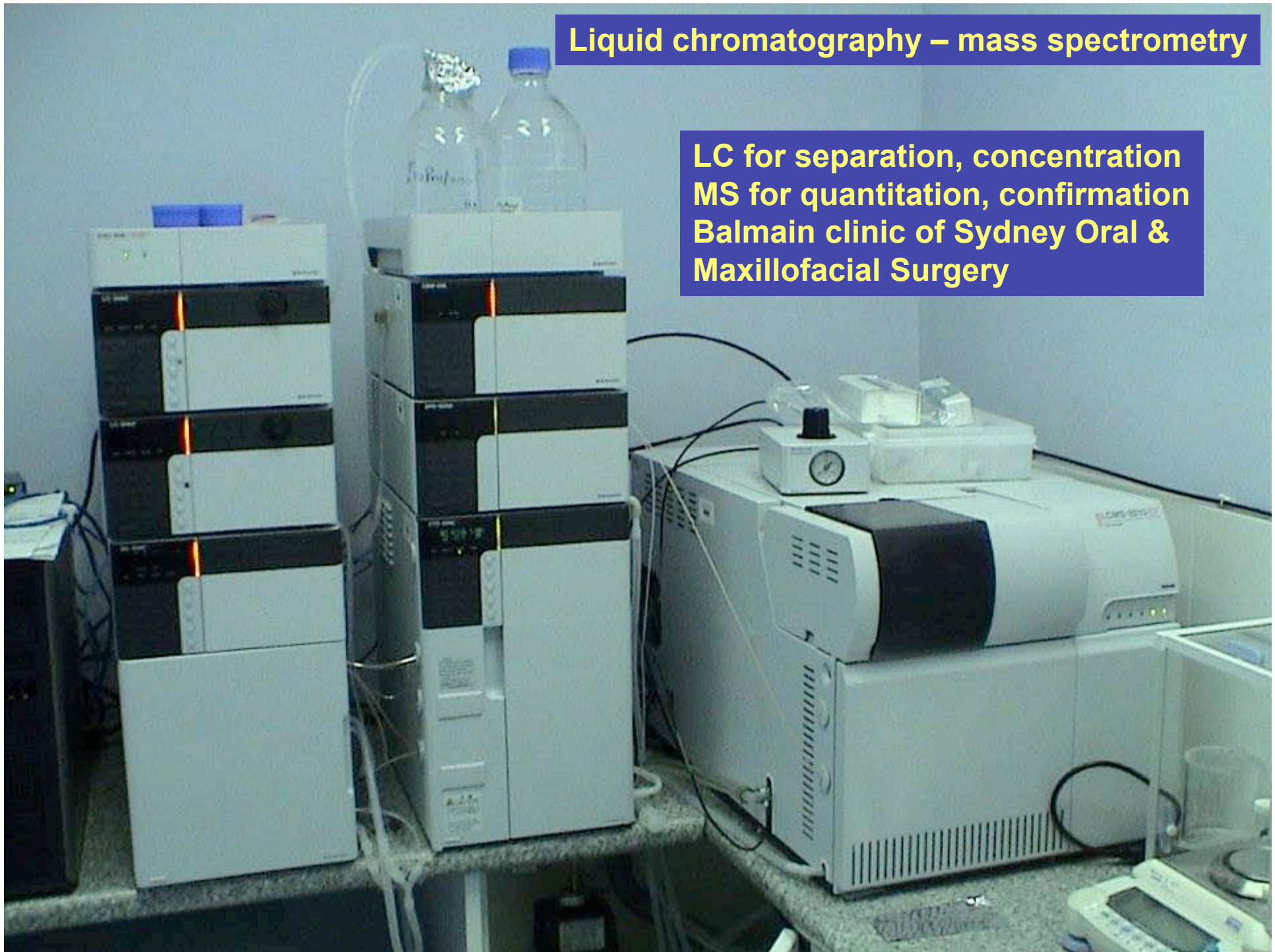
- Historical, extensive, qualitative database on pharmacodynamic actions of whole herb
  - Accumulating evidence with western scientific method but studies can differ enormously in methodology: herb dosage, plant species (eg *Echinacea purpurea*, *E. angustifolia*, *E. pallida*), plant parts used (root, leaves or stems), plant cultivation variables (soil)
1. Hence, differing results for echinacea and its benefit for the immune system (double blind placebo controlled RCTs show 8/9 positive for echinacea, 1 negative result)
  2. Future studies must use standardised methods, particularly chromatograms of presence and concentrations of the active components of the plant

Evidence of actives / adulterants / contaminants in plant extracts  
Analytical method: liquid chromatography-mass spectrometry (Vickers & coworkers, J Chromatography, 2000-2006)



## Liquid chromatography – mass spectrometry

LC for separation, concentration  
MS for quantitation, confirmation  
Balmain clinic of Sydney Oral &  
Maxillofacial Surgery





Principal herbs for pain relief –  
acute and chronic trigeminal pain

<b>Name (Latin)</b>	<b>Indication</b>	<b>Warnings</b>
Arnica	Bruises & swellings	Do not ingest
Black cohosh	Ovarian & uterine pain	C/I pregnancy (aids birth)
Blue flag	CFS, IBS, H/A with GI disturb	none
California poppy	Alternative to codeine/morph	none
Devil's claw	Osteoarthritis, back pain	None
Jamaica dogwood	sciatica	C/I preg & lactation
Kava	Pain with anxiety, stress	C/I preg & lact, liver disease
Nettle	Osteo /rheumatoid arthritis	Allergy (rare)
Pasque flower	Ovarian pain, epididymitis	C/I preg & lactation
Passion flower	Neuralgic pain with anxiety	none
St John's wort	Antidepressant	Drug interact pill, antidep, cyclosporine, digoxin
Valerian	Insomnia, stress, anxiety	Interaction CNS depressants
Withania	Arthritis	none

# St Johns Wort (brief monograph)

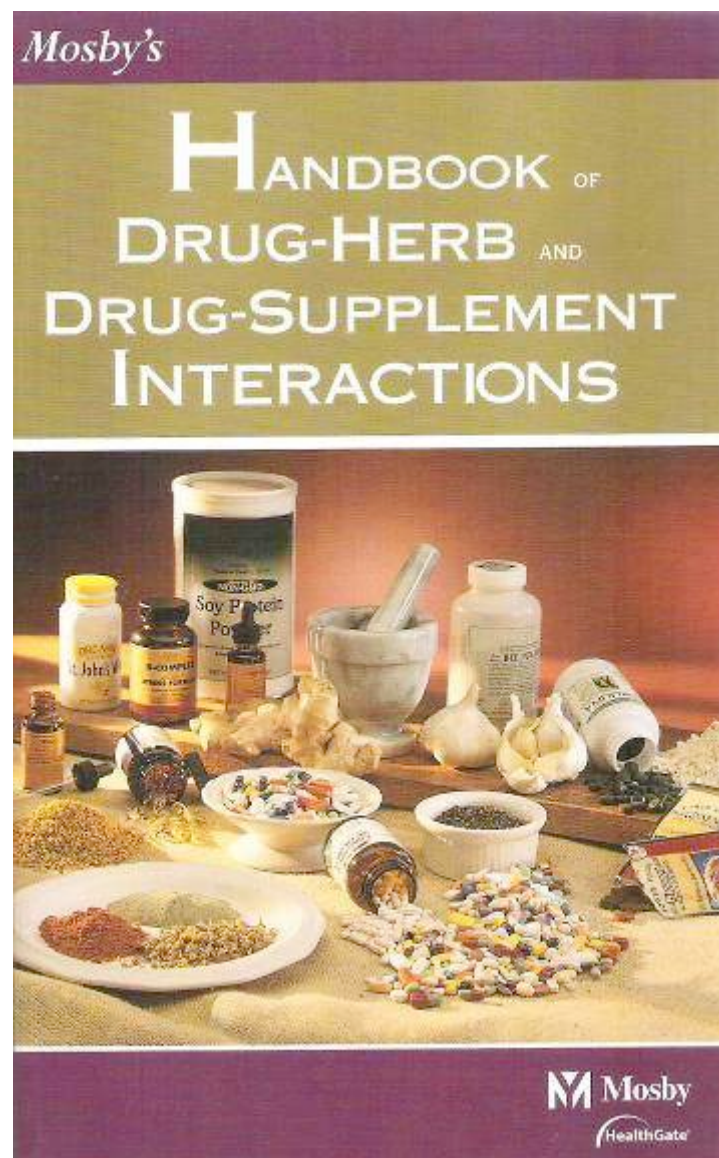
*(hypericum perforatum)*

- ❖ Historically – nervous afflictions, sciatica, rheumatism, topically for shingles
- ❖ Current evidence – antidepressant, anxiolytic, antiviral
- ❖ Actives – hypericin, hyperforin, flavonoids (glycosides)
- ❖ Pharmacodynamics – whole extract (3g dried plant extract, 5ml 1:2 FE) serotonin reuptake inhibitor & antimicrobial, hypericin antitumour activity, bioavailability 15-30%
- ❖ Drug interactions – SSRI (serotonin syndrome), MAOI
- ❖ Side effects for Rx of depression: St J W 2.4% (n=3250) with mild GI complaint / pruritus, conventional drugs ~25%
- ❖ Overdose – has not been reported



# Drug-herb interactions — *pocket reference*

- Cyclosporine: echinacea (dec), St J W (dec)
- Digoxin: foxglove (inc), ginseng (false readings), licorice (inc), St J W (dec)
- NSAIDs/cox inhibitors: feverfew (inc)
- Warfarin: dong quai (inc), feverfew (dec), garlic (inc), ginger (inc), ginkgo (inc), ginseng (inc)
- Tegretol: grapefruit juice (?FE) (inc plasma conc)



## *Case study 1 – recurrent oral aphthous ulceration*

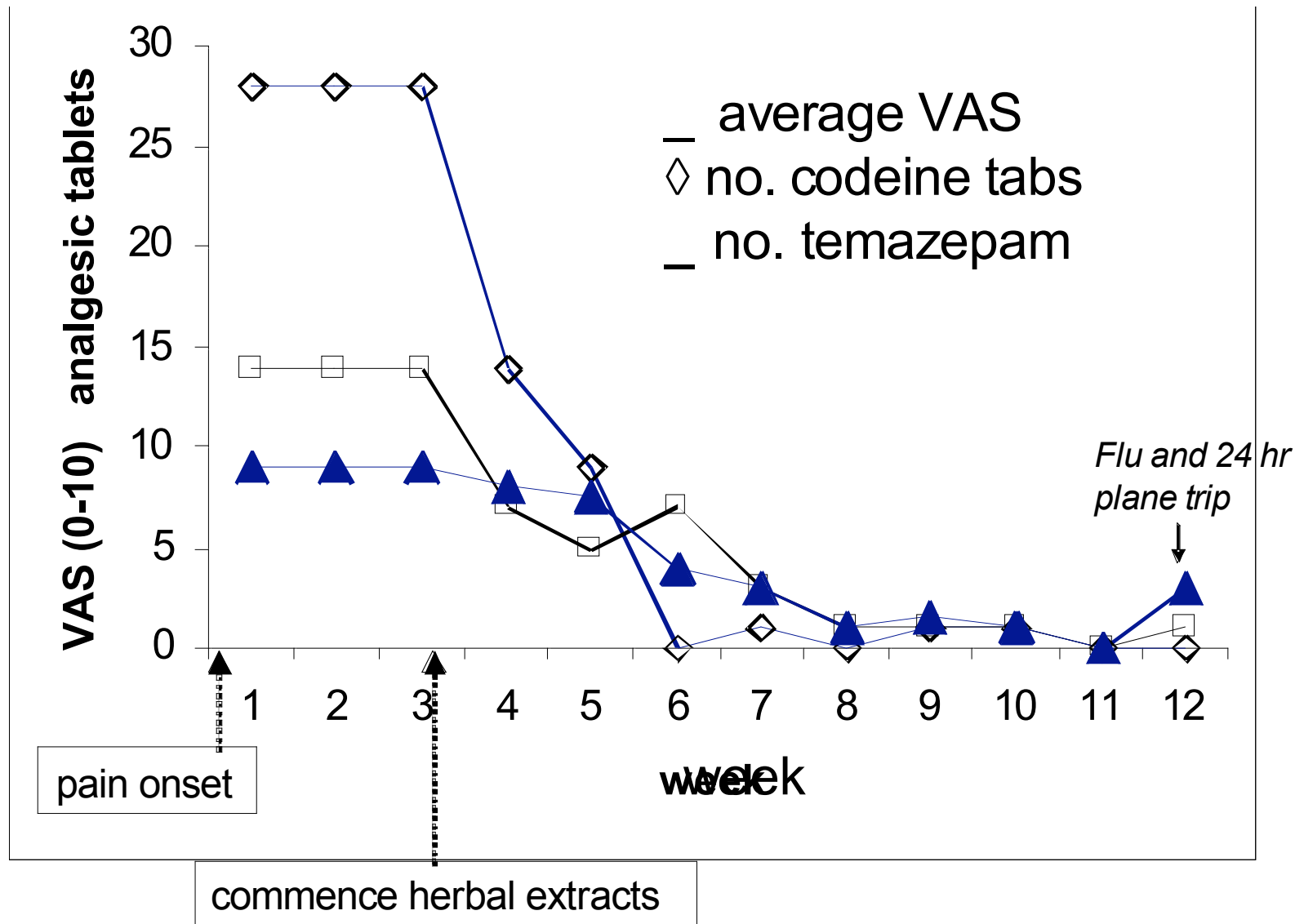
- *58 yr old female, stress++, gave up smoking 2 yrs ago, 15-20 large painful ulcers every 4 weeks for last 2yrs, 5-10mm diam., using Orased, Kenalog / Orabase, Bonjela etc*

### **Herbal prescription (Fluid extracts)**

1. licorice (active glycyrrhizin): antiinflammatory, mucoprotective, antiulcer, anticariogenic
2. ginkgo (active flavone glycosides): antioxidant, circulatory stimulant, cognition enhancing, neuroprotective
3. gotu kola (Indian pennywort containing saponins): antiinflammatory, adaptogenic to stressors
4. raspberry leaf (gallotannins): specific for mouth ulcers
5. + Topical sage tea mouthwash (antimicrobial, anti-inflamm.)

1/12 review: 3 ulcers in 4 weeks; 3,6/12 review 1-2 minor ulcers (3-4mm diam.) per month

Case 2: neuropathic trigeminal pain, fem. 35 yr, 3/52 constant severe throbbing pain after root canal, anxiety) *Herbal FE formula: dan shen (for throbbing pain), St Johns Wort (nerve injury, antidepressant), Lime flowers (GABA-ergic for neuropathy), Kava (GABA-ergic, anxiolytic, sedative)*



## Case 3 TMD - herbal medicine

- 35 yr old female with TMD, jaw pain 15 yrs, back pain 5 yrs, PMT & pain worse during period. Last 6/12 severe pain “8/10 – probably due to stress & anxiety; throbbing, aching, heavy, tiring-exhausting, sickening, fearful, punishing-cruel “
- She ‘could not live without medication and needs complete pain relief’. Interference with sleeping, concentrating, daily tasks, socialising, working, sexual activity, enjoying friendships, laughing, shopping, driving a car
- LE (1:2) formula: valerian (spasmolytic, hysteria & insomnia), kava (spasmolytic & anxiolytic), black cohosh (spasmolytic & oestrogenic pain), St John’s wort (antidepressant & anxiolytic).
- *“I was then referred to Dr Vickers who felt it was largely stress related and hormonal. He made a mixture of valerian, kava, black cohosh and st johns wort to be taken twice daily. After about a week of taking this herbal mixture, all pain and spasms disappeared completely.”*

# Pharmacological comparison

## Herbal medicines:

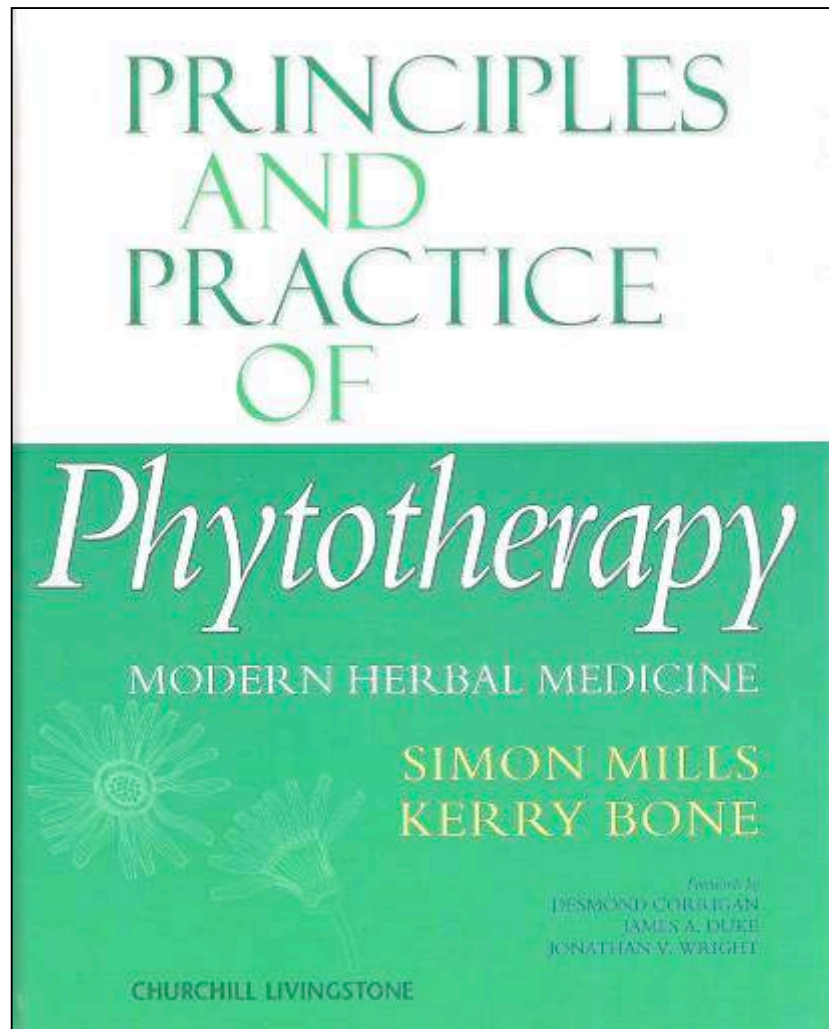
1. multiple constituents but single enantiomer (polypharmacy)
2. consensus is synergistic and modulating effect of constituents
3. variable concentrations of actives (possible unpredictable result), use analysed FEs
4. database of effect largely historical from mainly (tens of) thousands of uncontrolled N of 1 trials over long term
5. less potent but few side effects
6. **For chronic and mild-moderate disease / pain states**

## Pharmaceutical drugs:

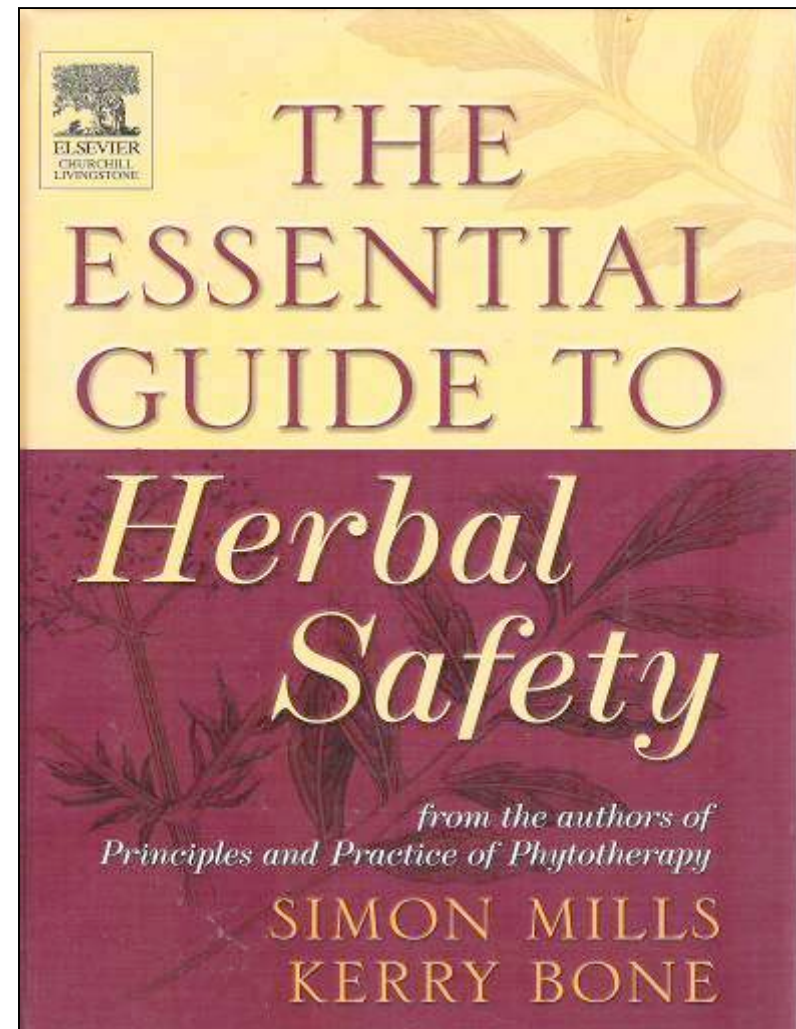
1. if a racemate then multiple constituents (polypharmacy)
2. other drugs administered to modulate side effects
3. known concentration but still unpredictable result, need to give NNT
4. database of effect from controlled studies (mainly hundreds of subjects over short term)
5. more potent but more side effects
6. **For acute and severe disease / pain states**



## Key references - Australia



History & systems,  
materia medica



Pharmacology, toxicology, pregnancy  
& lactation warnings, comprehensive  
drug interactions with reference data

## Scope for using herbal medicine

### **Pain management and disorders**

1. Acute severe pain / infection
2. Chronic mild to moderate pain / infection
3. Oral medicine disorders (e.g. mouth ulcers)
4. Intolerable side effects to prescription drugs

### **Home medicine**

- Colds, headaches, minor cuts, bruises, sprains, menopausal symptoms etc