

life skills contentment empathy
understanding support
wellness coping
mindfulness

People caring for people



RAMSAY MENTAL HEALTH

Trans Cranial Magnetic Stimulation (rTMS) setting up a service in the Private sector

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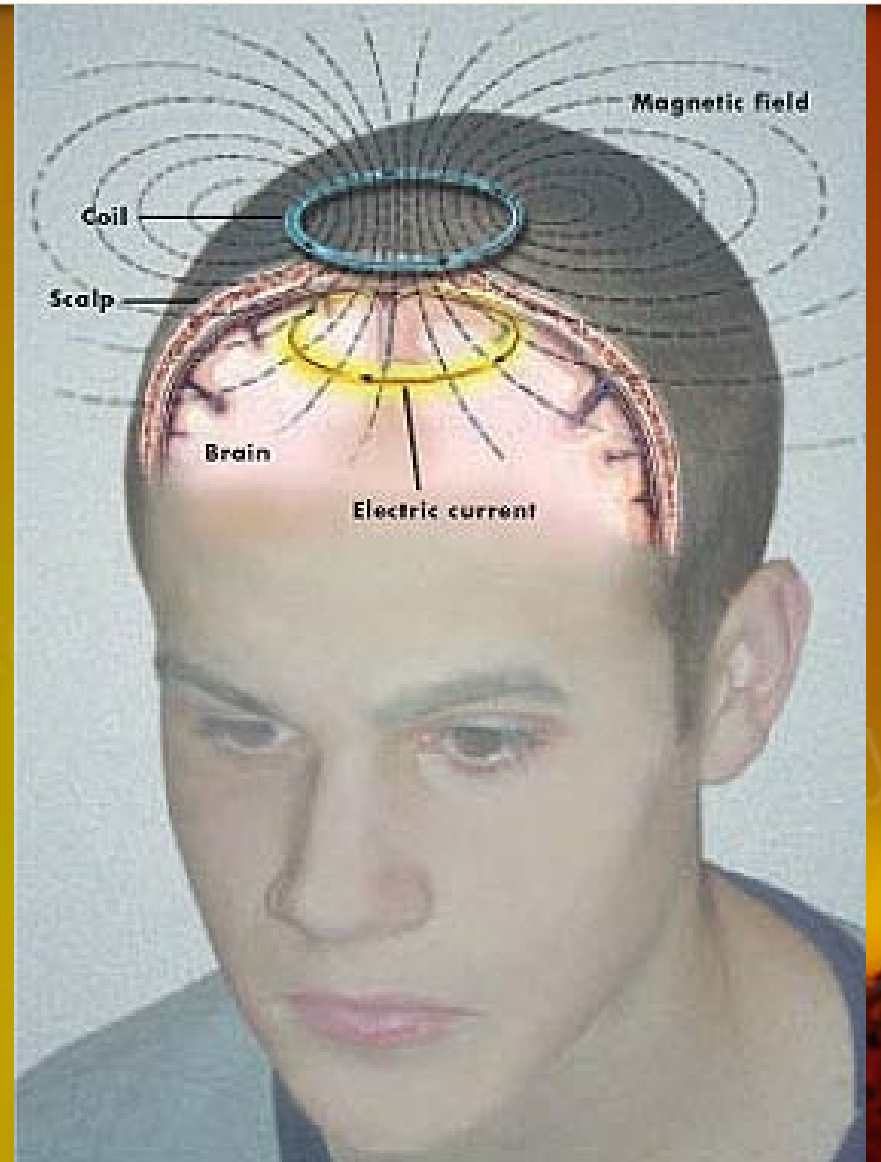
What is TMS?

- A relatively new treatment for depression
- Relies on direct stimulation of the brain using a magnetic pulse to generate brief electrical currents that stimulate nerve cells in the regions of the brain involved in depression.
- No anaesthetic required
- No cognitive side effects
- Treatment can be administered by Nursing staff/trained technicians

- rTMS is used to treat depression.
- Depression is very common – approx 55% patients admitted to RHC private psychiatric hospitals in Adelaide had depression.
- Not all patients respond to antidepressant medication and/or psychological therapies.
- Antidepressant medications have many side effects so are not always well tolerated.
- Sometimes trials of several different antidepressants are needed and are still unsuccessful.
- Patients who do not respond to antidepressants are often treated with electroconvulsive therapy (ECT).

How does TMS work?

- A magnetic field created by a coil placed close to the scalp induces a current in the cortex
- This current causes depolarization and stimulation of a local cortical region
- Provided the stimulus is of sufficiently low current and frequency, a generalized seizure is not produced





mpathy



empathy



- Psychiatrist proposal
- Committee established
- Strong Research and Evaluation component
- Consistent with RANZCP position statement
- Costings
- Approvals under Research protocols

Costs

A typical commercial TMS device and chair.
The total cost of equipment, software and training is over \$100,000.



- Professor Paul Fitzgerald (The Alfred Hospital in Melbourne) provided training for service directors and Nursing staff
- Funded by Ramsay Health Care
- Assessment and suitability criteria established
- Practical training in mapping the position of the DLPFC (Dorsolateral prefrontal cortex) and the motor threshold

- Practical session and operation of the rTMS device
- Treatment and research protocols and policies

skills, contentment, empathy, support, understanding, wellness, coping

- Two Clinical Directors (Psychiatrists)
- Registered Nurses
- Psychologist (Research Assistant)
- Clinical Governance by the rTMS
Committee which meets every 3 months.

- An area of the hospital identified
- Treatment room
- Waiting room
- Office
- Coil cooling room
- MagPro R30 rTMS machine and two MCF coils purchased
- Comfortable chair
- Disposable earplugs

- Psychiatrist “interest” evening with the machine

- CME

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- Credentialed Psychiatrists
- Outpatient status but must have private health cover
- Inclusion criteria include MDD, over 18yrs
no history of seizures, no metal in head (eg surgical clips) not psychotic, willing to attend 3-5 mornings/week for an hour (up to six weeks).
- Must be able to speak and understand English

Initial Assessment

- Locate motor cortex
 - Determine intensity of motor threshold
 - Measure 6cm forward to DLPFC
 - Make individual patient template
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- These parameters determine the location and intensity of treatment



- The stimulation produces a loud audible 'click.' Patients wear earplugs to prevent acoustic trauma.
- There is a very small risk of seizures – usually with higher stimulus intensities or patients with low seizure threshold (e.g. on tricyclics, or with a past history of epilepsy)
- Small rates of induction of mania or hypomania are noted – smaller rates than with antidepressant medication
- Some transient treatment related effects
 - Scalp pain or discomfort during stimulation (due to scalp nerve or muscle stimulation during treatment)
 - Headaches
- No cognitive side effects noted in studies

- All patients treated participate in Research protocol
- Approved by Ramsay Health Care SA Ethics Committee
- All patients give written informed consent

- 222 referrals received from 51 psychiatrists
- 160 patients accepted for treatment
- 92 completed first course, 18 completed 2nd course, 9 maintenance, 1 auditory hallucinations patient
- Only rTMS service in SA

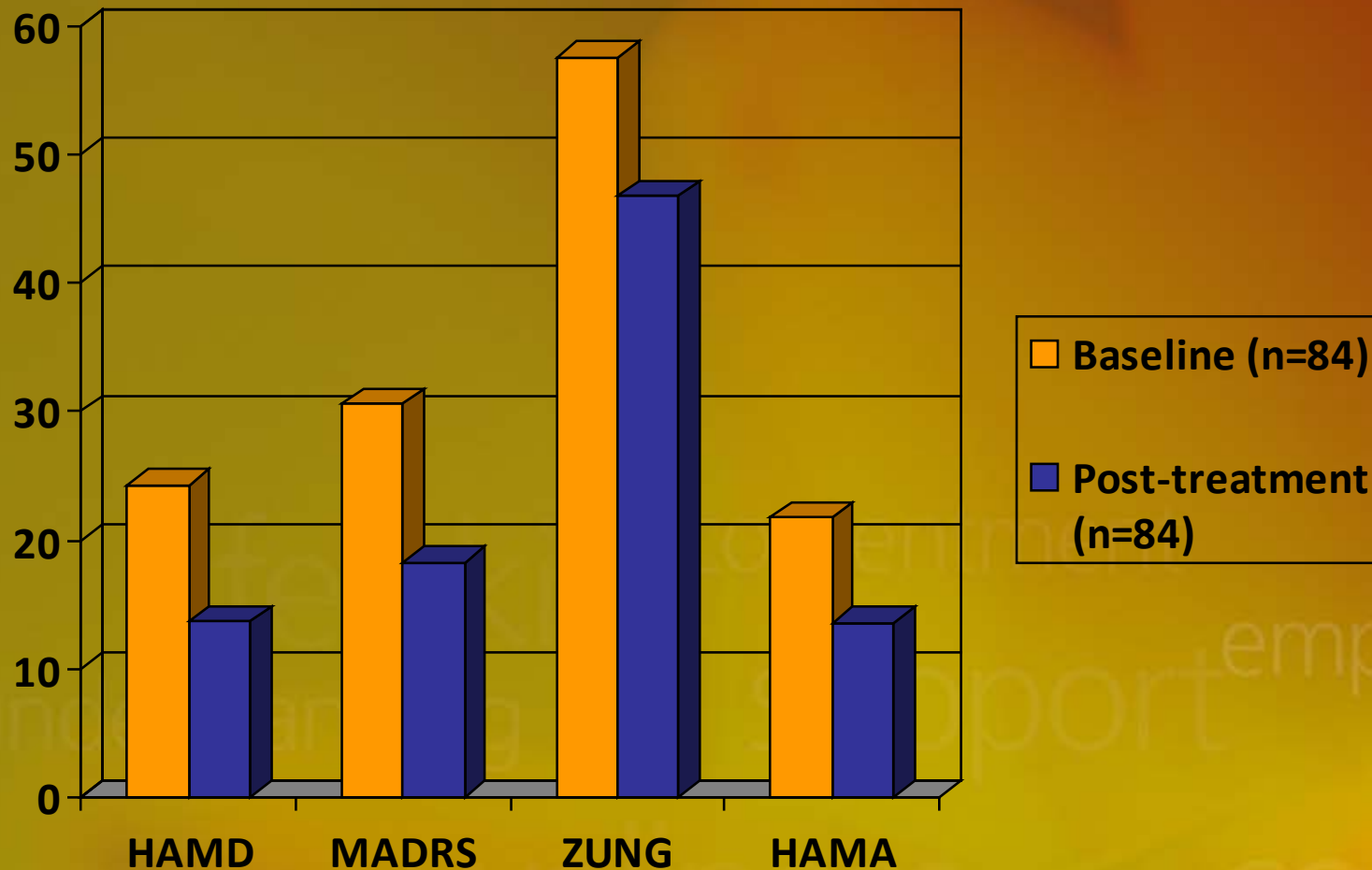
- Currently no Medicare item number
- Costs of treatment not reimbursed by Private Health funds
- 2005 application made to MSAC by RANZCP
- More evidence now supporting efficacy of rTMS with antidepressant medication as the preferable comparator
- Application made to Medicare (MSAC) for item number

- Challenging financial aspect
- Coils overheating
- Mechanical issues – support arm
- Software issues

Measures

- Primary outcome measure: 21 item **Hamilton Rating Scale for Depression** (HAM-D; Hedlung and Vieweg, 1979)
- Montgomery-Åsberg Depression Rating Scale (MADRS; Montgomery & Åsberg, 1979)
- Zung self-rating depression scale (Zung, 1965)
- 14 item Hamilton Anxiety Rating Scale (HAMA; Hamilton 1959)

Results – Overall Efficacy



Significant improvement on all outcome measures at the $p < .001$ level (paired t-test results)

- Effective
- Well tolerated
- Advantages over alternate treatment methodologies i.e. no sedation or agitation
no weight gain
no sexual dysfunction

rTMS provides another valuable treatment option

- Recently commenced stage 2
- rTMS plus Mindfulness group therapy, Internet CBT, Relaxation and Gym (Physical exercise)

understanding

support

empathy

wellness

confidence



Thank you
Any questions?

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