



Technologies in Rehabilitation

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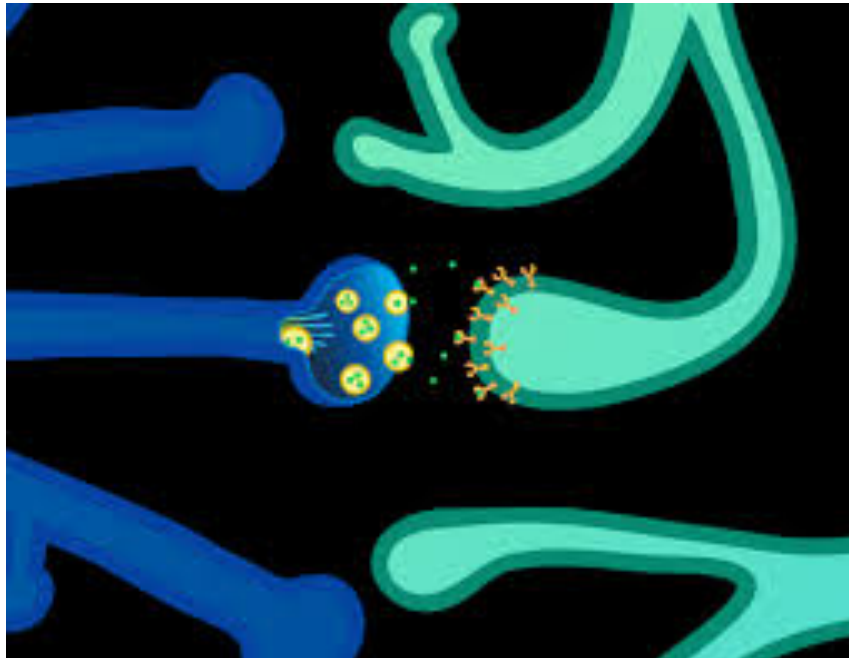
Medical Director ABI Rehabilitation NZ Ltd

- 1. Advances in our understanding of neurorehabilitation – opening the black box
- 2. Current research in rehabilitation technologies in summary
- 3. How do we integrate those into our rehabilitation programmes?

The Black Box of Rehab



Neuroplasticity



Principles of neurorehabilitation



- Early and intensive
- Motivation - Goal setting
- Break goals down into steps
- Practice function, minimize assessment
- Task specific
- Hours not minutes a day of therapy

Principles



- Multi-disciplinary/inter-disciplinary team
- Measure what you are doing
- Involvement of significant others
- Drugs can help to augment therapies
- Use evidence to guide use of technologies

Robotics

- <https://www.youtube.com/watch?v=LGnr44X5bzs>



Upper limb stroke robotics

- <https://www.youtube.com/watch?v=kPwA7WgIjM>



VR = Virtual Rehabilitation

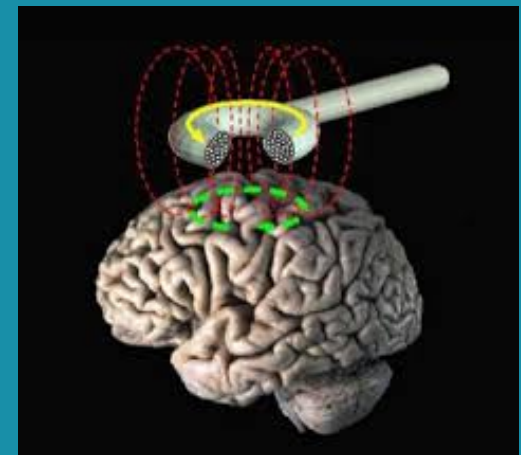


VR = Virtual Rehabilitation

- Cognitive
- Memory
- Talking head providing advice and support



New therapies with promise



Conclusions



- The Black Box is open! We know many principles of successful rehabilitation
- We have much technology available that can be adapted to serve our patients needs
- The challenge is to make these interventions evidence based, cost effective and universal





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Rehabilitation