

First Congress
*International Society of
Diamagnetic Therapy*

**“Improvement of Motor
Function after
Diamagnetic Therapy in
an adult patient with
spastic cerebral palsy”**

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SINGAPORE



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ISDT
International Society of
Diamagnetic Therapy



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DIAMAGNETIC THERAPY IN CEREBRAL PALSY

- Cerebral palsy (CP) is one of the commonest cause of chronic disability affecting children.
- In Singapore, the prevalence of CP, which is a high-prevalence, low-severity disorder, has been reported to be around 1–3 cases per 1,000 live births.
- In Singapore, the **Cerebral Palsy Alliance Singapore** is the coordinating organization for CP, and they recently reported that worldwide that is about **17 million CP sufferers**.

DIAMAGNETIC THERAPY IN CEREBRAL PALSY

- Besides active physical physiotherapy and occupational therapy in childhood, educational and vocational rehabilitation in the teenage and young adults age, no further active therapy is recommended.
- Transcranial magnetic stimulation (TMS) therapy has been recently reported to be useful in the treatment and rehabilitation of CP in children and school-aged teens.
- There has been no reports of TMS therapy in adult CP.

DIAMAGNETIC THERAPY IN CEREBRAL PALSY: CASE REPORT

- **We would like to present the first report of an adult CP patient whose motor function improved after TMS using CTU-Mega 20 diamagnetic therapy, demonstrating the neuroplasticity of the adult CP brain and its potential to respond to TMS via diamagnetic therapy.**

DIAMAGNETIC THERAPY IN CEREBRAL PALSY: CASE REPORT

- TCY, a 48 years old Chinese man developed spastic cerebral palsy(CP) after traumatic forcep delivery at birth.
- He was treated in the clinic for right shoulder tendinitis and cervical spondylosis in August 2023, and he recovered fully from his condition in October 2023.
- In a follow-up review in December 2023, he mentioned that he had poor left upper limb motor control and coordination, which was attributed to the long standing CP.



DIAMAGNETIC THERAPY IN CEREBRAL PALSY: CASE REPORT

- I recommended CTU-Mega 20 diamagnetic therapy on his right brain parietal area to improve his left upper limb motor control and reduce his upper limb stiffness.

CTU protocol used for the 8 sessions (once a week) were as followed with the first treatment period lasting from **6/1/2024 to 2/3/2024**:

DIAMAGNETIC THERAPY IN CEREBRAL PALSY: CASE REPORT

Pain Control	90J / 4Hz	5 minutes
Endogenous Stimulation	Fast Fibre Nerves Cell / Power 5	10 minutes
Liquid Movement	Intracellular 100% / Extracellular 100%	5 minutes

DIAMAGNETIC THERAPY IN CEREBRAL PALSY

- After the first 8 sessions of CTU, he gave a good feedback that he had improvement on his left upper limb motor control and he could walk better with less effort.
- Because of the positive response, I recommended him to continue another 8 sessions of CTU diamagnetic therapy from 9/3/2024 to 27/4/2024.
- After completed all the 16 sessions, he felt that he had better strength and control of his left upper limb. He could lift up his left arm to comb his hair. Even his leg strength and endurance improved and was able to climb stairs, and able to walk for very long distances up to 5 to 10 kilometres.



DIAMAGNETIC THERAPY IN CEREBRAL PALSY: CASE REPORT

- Completed 24 sessions on 20.7.24.
- **5 DOMAINS of Improvement seen:**
 - Stable right hand: Able to hold cup without shaking
 - Can hold the Food Tray steadily
 - Relatives noted that his walking was more stable
 - Speech smoother, not so 'tight' to articulate words
 - Can climb 4 flight of stairs to his apartment with out difficulty, whereas before he would be sweating with much effort.

Interview of Patient on 20th July 2024 after completed the 24th session of CTU therapy (obtained patient's consent to video)



DIAMAGNETIC THERAPY IN CEREBRAL PALSY: DISCUSSION

- Transcranial magnetic stimulation (TMS) has recently received much interest in neurorehabilitation.
- The recent review article by Mammadova¹ explained in detail how TMS is a useful neuroplasticity modulation tool for rehabilitation.
- Repetitive TMS has been shown to improve motor function in children with hemiplegic CP.²
- Clinical trials are being conducted to assess the effectiveness of repetitive TMS for spastic diplegia CP in children and teens.³



DIAMAGNETIC THERAPY IN CEREBRAL PALSY: CONCLUSION

- We are the first to report the motor and functional benefit of TMS using diamagnetic therapy with the Periso SA CTU-Mega 20 machine in an adult CP patient, after 3 courses of 8 treatment sessions. And incremental improvement was demonstrated in this case.
- Further studies can be carried out as to this form on non-invasive TMS neurorehabilitation which is without side effects and efficacious.

DIAMAGNETIC THERAPY IN CEREBRAL PALSY: CONCLUSION

- Potentially many more CP patients from childhood to adulthood can benefit from this form of diamagnetic therapy
- Awareness of this arm of neurorehabilitation can be brought to CP interest groups and more CP patients can be helped with improvement of function and quality of life.

Every new day begins with possibilities. It's up to us to fill it with the things that move us toward progress and peace.

Ronald Reagan

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