

Uno Vita rTMS device – manual English

Preface

For User:

Thank you for choosing the Uno Vita rTMS device. To ensure safe use and long-lasting performance of the equipment, it is important that you read this manual carefully before using the device. This manual provides an in-depth review of the unit's features, operation, and maintenance, as well as detailed treatment protocols.

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1. Introduction

The Uno Vita rTMS device is designed to offer a non-invasive method for treating various neurological conditions. The device combines repetitive transcranial magnetic stimulation (rTMS) with neuromuscular electrical stimulation (NMES) to promote the restoration of brain functions. It can be used as a supportive therapy for a variety of neurological and psychiatric disorders.

2. Safety Information and Precautions

Operator Requirements:

- The device should be operated by qualified personnel or under the guidance of a qualified operator. The operator should have basic knowledge of anatomy and medicine.

Electromagnetic compatibility:

- Avoid using the device near equipment that emits high-frequency electromagnetic radiation, such as microwave ovens, shortwave equipment, and radio equipment, to prevent interference and unstable performance.

General precautions:

- Do not use the device in the presence of flammable gases or vapors.
- Patients with implantable electronic devices such as pacemakers should not use this device without the consent of a physician.
- If the device is used concomitantly with high-frequency surgical equipment, electrode burns may occur or the device may be damaged.
- Avoid using the electrodes near the chest area, as this can increase the risk of heart flutter.
- Make sure the electrodes are firmly attached to the skin to avoid discomfort or injury during treatment.

Environment and Storage Specifications:

- Avoid excessive vibration and store the device in a clean, dry environment with a moderate temperature.
- Avoid direct sunlight, toxic gases, steam, dust, and splashes of water or oil.

3. Principle and applications**Magnetic Therapy - Repetitive Transcranial Magnetic Stimulation (rTMS):**

The device creates a magnetic field with specific frequencies and intensities that penetrates the skull to stimulate brain cells and blood vessels. This helps regulate brain function and can be used in the treatment of cerebrovascular diseases, neurasthenia, and brain injuries.

Fastigial Nucleus Stimulating (FNS):

The device simulates bioelectrical signals acting on the cerebellum's fastigial nucleus, which is involved in regulating blood flow to the brain. This can improve cerebral blood flow and reduce brain damage caused by ischemia.

Neuromuscular Electrical Stimulation (NMES):

The device uses various bionic currents to stimulate the body's neuromuscular tissues, which help patients perform functional exercise, prevent muscle atrophy, and promote nerve reconstruction.

4. Instructions for use

Hook-up and provisioning:

Preparation:

- Remove the device from its packaging and check that all parts are intact.
- Place the device on a stable surface and connect the power cable.

Layout:

- Connect the therapy cap to the MRI port on the device.
- Connect the electrotherapy cables to their respective ports on the device.

Treatment process:

Magnetic therapy:

1. Select the processing time using the "+" and "-" buttons. The standard processing time is 20 minutes.
2. Start the treatment by pressing the "Start/Stop" button.
3. Adjust the intensity and frequency as needed. For milder conditions, start with low intensity (3mT-15mT). For more severe conditions, use higher intensity (15mT-30mT).
4. Treatment time: 20-30 minutes, 1-2 times per day. A treatment cycle typically lasts 10-20 days, with a break of 3-5 days between each cycle.

Electrotherapy:

1. Place the electrodes on the recommended points on the body, such as the mastoid points (behind the ears), temple, motor nerve points, or ashi points (tender points on muscles).
2. Adjust the intensity gradually until the patient feels a pleasant stimulation.
3. Treatment time: 20-30 minutes, 1-2 times per day. A treatment cycle typically lasts 10-20 days, with a break of 3-5 days between each cycle.

After Treatment:

- When treatment is finished, turn off the device, remove the electrodes, and store the device properly.
- Clean the electrodes with medical alcohol before reuse.

5. Protocols for treatment

Magnetic Therapy Protocols

- **Ischemic cerebrovascular diseases:** Use strong intensity (15mT-30mT) for 20-30 minutes, 1-2 times daily. The treatment cycle is 10-20 days, with a break of 3-5 days after a completed cycle.
- **Neurasthenia and brain damage:** Use mild to medium intensity (3mT-15mT) for 20-30 minutes, 1-2 times daily. The treatment cycle is 10-20 days, with a break of 3-5 days after a completed cycle.
- **Stroke (stroke):** Start with a weak intensity and gradually increase to a strong intensity. Treatment time: 20-30 minutes, 1-2 times a day for 10-20 days.
- **Hemiplegia:** Use mild to medium intensity. Treatment time: 20-30 minutes, 1-2 times a day for 10-20 days.

Electrotherapy Protocols

- **Protocol 01:** Pulse current is generated every second. Suitable for mild muscle atrophy. Use for flaccid paralysis.
- **Protocol 02-05:** Different degrees of denervation and muscle atrophy, adjust the intensity based on severity.
- **Protocol 06:** For severe denervation and high muscle tension. Start with low intensity and increase gradually.
- **Protocol 07-10:** Combine with the respective protocols 03-06 for increased stimulation in later stages of treatment.

6. Treatment plan and specifications

Indications and treatment plans:

1. **Ischemic cerebrovascular diseases:**
 - **Indications:** Cerebral thrombosis, cerebral thrombotic infarction, lacunar infarction, inadequate blood supply to the brain, cerebral atrophy, cerebral arteriosclerosis, insufficient blood supply to the base of the vertebra.
 - **Treatment plan:** Use strong magnetic therapy (15mT-30mT) for 20-30 minutes, 1-2 times daily for 10-20 days. Repeat after the 3-5 day break if necessary.

2. Brain and spinal cord injuries:

- **Indications:** Cranio-cerebral injuries, toxic brain injury, spinal cord injuries, motor function recovery after cerebral hemorrhage, children with cerebral palsy, epilepsy, functional recovery after traumatic cranio-cerebral injury, and intracranial tumor surgery.
- **Treatment plan:** Use weak to strong magnetic therapy, 20-30 minutes, 1-2 times daily for 10-20 days.

3. Brain Function Disorders:

- **Indications:** Parkinson's disease, depression, Alzheimer's disease, mental disorders, neurasthenia, insomnia, dizziness, nervous headache, brain fatigue syndrome, neurological diseases, depressive neurosis, anxiety disorder, phobia.
- **Treatment plan:** Depending on the condition, use weak to strong magnetic therapy, 20-30 minutes, 1-2 times daily for 10-20 days.

Electrotherapy Specifications:

- **Protocol 01-05:** Pulse flow for mild to severe denervation and muscle atrophy. Adjust the intensity based on the patient's condition.
- **Protocol 06-10:** Strong electrical stimulation for moderate to severe denervation, muscle tension, or as an adjunct to other protocols in later stages of treatment.

Treatment Plan and Duration:

- **Treatment time:** 20-30 minutes per session.
- **Frequency:** 1-2 times per day.
- **Treatment cycle:** 10-20 days with a break of 3-5 days between each cycle.

For chronic diseases, it is recommended to stop treatment for 3-5 days after the end of the treatment cycle and then start the next cycle. For patients who require long-term treatment, treatment should be restarted after a one-week break after 5 treatment cycles.

7. Maintenance and troubleshooting

Daily Maintenance

- After each treatment, the electrodes should be disinfected with medical alcohol.
- Store the device in a clean, dry environment. Avoid direct sunlight and extreme temperatures.

Monthly Maintenance

- Clean the surface of the device thoroughly with a soft cloth dipped in alcohol.
- Check that all cables and connectors are intact and secure.

Troubleshooting

- **No power:** Check the fuse and replace if necessary. Check that the power cable is securely connected.
- **No power to the electrodes:** Check the cables for breakage or poor contact.
- **Uneven current:** Check that the electrodes are correctly positioned and attached. Replace electrodes that do not work as well as possible.

8. Warranty

Uno Vita AS provides a warranty of 2 years from the date of purchase. The warranty covers defects in materials and workmanship that occur under normal use. Damage caused by improper use or unauthorized repairs is not covered.

9. Transport and storage

- Transport the device in its original packaging to protect against damage.
- The storage environment should be dry and free of corrosive gases, with a temperature between -20°C and +55°C.

10. Distributor Information

Distributor: Uno Vita AS

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