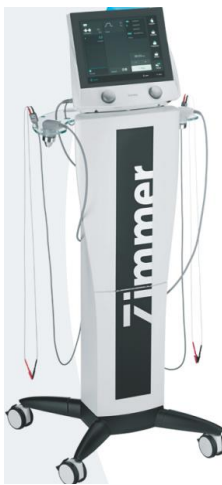


Sports Rehabilitation

1. Interferential, TENS, Electro-stimulator, Combination Therapy

PhySys= Ultimate Combination Therapy with **12" colour touch screen** from Zimmer Germany



All low & medium frequency currents & multi frequency U/s

2 Independent Channels- Parallel – Separate- Alternate with Channel Inversion

Screen also shows the effect of the particular current form for e.g. Analgesia, Hypermia, Relaxation, Strengthening etc.

Current for Sports Rehab- General Muscle Strengthening, Improvement of muscle endurance, Strengthening of fast-twitch fibre muscles, endurance training, fast-twitch fibre muscle training, Explosive strength training, Sequence training- warm up- train-relaxation etc.

Special Treatment- Vein Strengthening, Psoriasis, Electro-Sleep, Lymph Oedema and Hyperhidrosis etc

Currents for Urology/ Gynaecology- Pelvic floor stimulation, Incontinence Treatment

Paralysis diagnosis & Paralysis treatment

Lange Test, Neofaradic test, Fischgold test

Rheobase, Chronaxie, accommodation quotient and I/T curve plotting

Ultrasound:

- Sono Swing - Choice of penetration depth (**Zimmer Patent**)
- Choice of Mechanical & Thermal effect

SD-card for - Free memory entries: therapy/ diagnostic/ Error log / Firmware-Update

Combined Treatment Ultrasound + Electro-stimulation for-

Hyperaemia, metabolism stimulation, pain control, muscle relaxation, trigger point treatment

SOLEO LINE- COMBO, Electrotherapy &Ultrasound **8" colour touch screen** from Zimmer




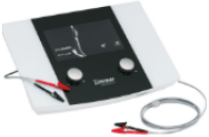

Soleo SonoStim-Combination Therapy = Soleo Galva + Soleo Sono

Dual Channel for All medium & Low frequency currents & multi frequency Ultrasound
All low & medium frequency currents & multi frequency Ultrasound Therapy

2 Channels- Parallel – Separate- Alternate with Channel Inversion

Screen also shows the effect of the particular current form for e.g. Analgesia, Hypermia, Relaxation, Strengthening etc.

Current for Sports Rehab- General Muscle Strengthening, Improvement of muscle endurance, Strengthening of fast-twitch fibre muscles, endurance training, fast-twitch fibre muscle training, Explosive strength training, Sequence training- warm up- train-

	<p>relaxation etc.</p> <p>Currents for Urology/ Gynaecology- Pelvic floor stimulation, Incontinence</p> <p>Paralysis diagnosis & Paralysis treatment</p> <p>SD-card for - Free memory entries: therapy/ diagnostic/ favourites/Error log /Update</p> <p>Combined Treatment Ultrasound + Electro-stimulation for- Hyperaemia, metabolism stimulation, pain control, muscle relaxation, trigger point treatment</p>
	<p>Soleo Galva Complete Electrotherapy - Dual Channel for 21 medium & Low frequency currents</p>
	<p>Soleo Vaco S Vacuum Therapy unit for Soleo Galva & Sonostim</p> <p>Pulsed and continuous Vacuum therapy for ease of electrode placing and rhythmic massage effects.</p>

2. Ultrasound Therapy

SOLEO SONO Ultrasound **8" colour touch screen** from **Zimmer**



Soleo Sono Ultrasound Therapy unit - Multi Frequency U/s Head offering choice of penetration

Ultrasound: **Zimmer Patent** 5 Choice of penetration depth



Ultrasound Frequency of 0.8 MHz for deep and 2.4 MHz for superficial effects and possibility of combining two frequencies in single treatment for multiple choice of penetration depth.



Ultrasound head has audio & Visual contact feedback with coupling % displayed on screen as well

Ultrasound head offers under water treatment option on screen

SD Card for memory, software upgrade and service facility



Sono One Ultrasonic therapy unit from Zimmer Medizin Germany Features

- Multi frequency, 1 MHz: deep effect / 3 MHz: superficial effect
- Transducer head with visual contact indicator.
- Colour touch screen monitor for better control.
- Continuous & Pulsed : Pulse frequencies 10, 20 , 50, & 100 Hz

3. Multiwavelength High Power Laser Therapy Unit



OPTON PRO 25W, 15W & 10W, therapeutic Laser for deep penetration & instant effect from Zimmer Germany

12" Colour touch screen

Operating mode - Continuous , Serial pulse, Burst , Single pulse

Integrated Visual analogue scale- VAS provides information about the patient's pain perception.

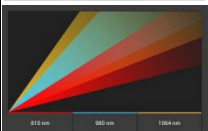
Thermal threshold test assists with calculation of the required dosage in combination with the skin type and the required penetration depth & prevents overdosing



3 Wave Lengths 810nm, 980nm, 1064nm

Therapy with 3 wavelengths enables stimulation of different target sites: Pain receptors at the surface as well as deeper tissue structures are stimulated at the same time.

Wavelength of 1064 nm having lowest scatter in the tissue promotes penetration of the radiation into the deep layers of tissue.



OPTON PRO 10W

2 Wave Lengths 810nm & 980nm



Therapy Assistant Mode-

It's Easy - Select body region > Select skin type > Determine therapy area

By determining the therapy area, the course of the disease and the skin type, the following information is automatically saved:

- ✓ Program parameters
- ✓ Amount of energy to be applied
- ✓ Therapy time



Laser applicator with manual switch - the laser light is now emitted continuously, without any further action needed

Integrated Skin temperature measurement sensor enables the skin temperature to be monitored during the therapy.

4. Cryoflow Cryotherapy Unit



Cryo6 from Zimmer Germany, **"World largest Manufacturer of Cryo"**

-35 °C Cold Air Cryotherapy for Pain and Inflammatory Treatment

Indications:

Painful acute and chronic conditions of the musculoskeletal system

Pain relief in rheumatic disorders

Neurological disorders, reduction in spasticity

Prevention of edema and hematomas

Targeted treatment of muscle trigger points in combination with stretching.

Vascular training,

As pre-treatment of CPD (complex physical decongestion) in chronic lymph edema

Glass touch pad. No Consumables

5. Focused Shockwave Therapy Unit



enShock –Piezoelectrically **Focused shock wave** Therapy

(ESWT) with focus on healing from Zimmer Germany

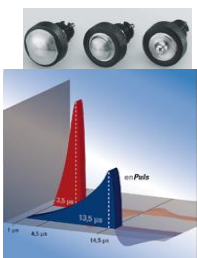
- Long-term pain relief
- Positive effect on inflammatory reactions in musculoskeletal discomfort/conditions,
- Excellent effects on bone healing, especially in non-healing fractures and pseudo-arthritis
- Elimination of calcification in tendons

With 8 different gel pads for various depths of Penetration up to 45 mm

11" Colour touch screen



6. Radial Shockwave Therapy Unit



12" Colour touch screen EnPuls Pro from Zimmer Germany

Radial Shock Wave Therapy unit with **electro-magnetic** shock generation & Colour touch screen for ease of operation

Special Features

- ✓ Ballistic radial shockwave Electromagnetic generator
- ✓ Efficient down to 35 mm depth
- ✓ Radial tissue dispersion
- ✓ High mass projectile
- **Ports for two hand pieces**
- Energy levels from 60 to 185 mJ (equivalent 1- 5 bar)
- Pulse frequencies up to 22 Hz & Burst mode for Trigger Points

Less pain, same energy – enPuls soft shot technology

Medical effects

- ✓ Immediate, sustaining pain relief
- ✓ Increased range of mobility
- ✓ Controlled normalized muscle tone
- ✓ Change of membrane permeability



8" Colour touch screen enPuls 2 from M/S Zimmer Germany

Portable Radial Shock Wave Therapy unit with **electro-magnetic** shock generation & Colour touch screen for ease of operation

Less pain, same energy – enPuls soft shot technology

- Energy levels from 60 to 185 mJ (equivalent 1-5 bar)
- Pulse frequencies from 1 to 22 Hz
- Indication menu with preset treatment protocols

7. High Energy Inductive Therapy- Magneto-therapy @ 3 Tesla Power

Power of MRI for Physiotherapists **EmField Therapy Unit @ 3 Tesla** from Zimmer Germany



Exposure to natural energy fields is a requirement of human life. These energy fields interact with our cells, and are necessary for homeostasis & maintaining our bodies at an optimal level.

Zimmer Medizin Systeme GmbH Germany introduces High Energy Inductive Therapy unit "**emFieldPro**" for healing in a natural way by Earth's magnetic field (**EmField Therapy**)

The **emFieldPro** generates a magnetic field of **3 Tesla**, which is about 600 times stronger than a normal magnet bar.

This strong magnetic field stimulates nerve cells, muscles, and blood vessels consequently as this application of energy results in a physiological change and/or stimulation which is used to achieve therapeutic effects.



EmField Therapy ADVANTAGES:

- Non invasive,
- Totally safe procedure applied from distance without contact
- Easy and fast application even over clothing
- Short treatment duration
- Low operation cost without any consumables



EmField Therapy offers a safer and more comfortable alternative for urinary incontinence to prior treatments.

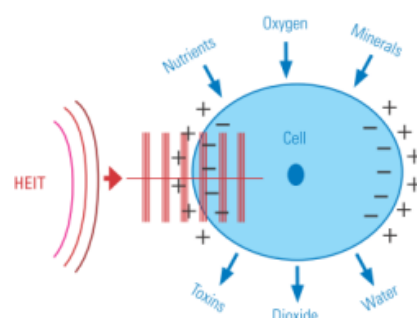
EmField Therapy improves sports performance, and simply helps to maintain good health.



EmField Therapy stimulates muscles, connective tissues, intestines, tendons and cartilage, the brain and peripheral nerve sites.

INDICATIONS:

Spinal Injuries/Disorders,
 Chronic/Acute Lumbago
 Chronic/Acute Ischialgia, Spondylitis,
 Nerve Disorders, Damaged Peripheral
 Nerves, Degenerative Arthritis,
 Rheumatoid Arthritis
 Cervical Syndrome, Frozen Shoulder,
 Prostate Pain



8. Hands Free TECAR Therapy



ThermoTK, operating at frequencies of **460 kHz and 540 kHz**, lies in the lower region of the high-frequency treatment.

ThermoTK is a long-wave therapy device.

Indications: • Pain Management • Acute -and Chronic Pain • Inflammations • Improves blood circulation • Muscle relaxation • Hypertonic muscle relaxation • Post-training regeneration • Trigger points

Treatment Modes:

Active: (optional with 2 applicators)

- Continuous mode with 460 or 540 kHz
- Pulsed mode with 460 or 540 kHz
- Alternation between 460 and 540 kHz in continuous mode

Passive, hands free (always resistive mode)

9. Inductive Shortwave Diathermy



Thermo Pro - Modern Shortwave Therapy Unit - From Zimmer Germany

Solid State Shortwave Diathermy for trouble free operation.

On screen coupling display ensures optimum energy transfer


Pre programmed indication menu as per body area and facility of storing own programs in memory.

Inductive Coil based Circuplode for radiations free Treatment.

Medical effectiveness

- Hyperaemia, Muscle relaxation, Metabolism boosting, Re-absorption promotion

10.EMG Biofeedback System/ Pelvic Floor REHAB



The image shows the MyoPlus device, a computer monitor displaying a graph, and a handheld device. Below the monitor is a software interface with a 'Welcome!' screen and icons for TENS, NMES, FES, EMG, ETS, and Settings. Two graphs are shown: 'Work / Rest EMG' and 'EMG Triggered Stimulation (ETS)'. At the bottom is a handheld device with a cable.

MyoPlus, from Verity Medical U.K
2 Channel EMG and 4 Channel NMES + ETS

Successfully used to treat conditions including Incontinence, Patello-fermoral Pain, Myofascitis, Myofacial Pain, Phantom Limb Pain, Neck & Shoulder Girdle Pain and Repetitive Strain Injury.

Pre-set programs for Neuromuscular Rehab, Sports Rehab, Urology/ Gynaecology

EMG Triggered Stimulation mode (ETS) - is especially useful for stroke rehabilitation and Pelvic Muscle improvement. ETS is a combination of voluntary contractions with stimulation.

The graph shows the muscular eort and the stimulation is triggered automatically to support the effort.

Produces and prints comprehensive patient progress reports

- EMG Range: Up to 2000 μV RMS (continuous)
- Sensitivity: 0.1 μV RMS
- Selectable Band pass filter – Wide & Narrow
- Work / Rest periods: Up to 99 seconds
- Number of Trials: Up to 99

STIM (Neuromuscular Stimulation)
Urinary Incontinence

11. Balance Evaluation & Training System

Humac Balance - computerized Balance Measurement and Training System M/s CSMI Solutions, USA



The HUMAC Balance System includes the following Measurement & Training Routines: Random Motion, Limits of Stability, M-CTSIB, Centre of Pressure, Weight Shift, Curves, Roadway, Weight Bearing

- **Limits of Stability-** the ROM protocol exercise measures the maximum sway and (a) symmetry of the movement.
- **Centre of Pressure-** to establish and document if a subject is at increased risk of falling.
- **Weight Shift** - Patients must control their centre of gravity and shift their weight back and forth between two targets
- **Weight Bearing-** for bilateral comparison



MODIFIED CLINICAL TEST OF SENSORY ORGANIZATION AND BALANCE (MCTSIB)- measure a person's ability to maintain equilibrium on a firm surface and a soft surface with eyes open and eyes closed.



The HUMAC provides numerical results for torque, position, and time data & reports parameters: •Directional Control, •Stability Index, •Sway Index, •Peak Force, •Time to Peak Torque, •Time Peak Torque Held, •Time to Half Peak Torque, •Percent on Target • Coefficient of Variation, •Maximum Deviation, •Coefficient of Variance

CLINIMETRIC BALANCE SYSTEM

Sensbalance MiniBoard - with Measure, Exercise and Game Software

Collect data regarding your balance & core stability training and visualize progression in time.



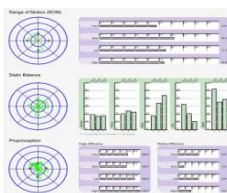
Range of Motion- Measures max sway and asymmetry of movement.

Static Balance- To document if a subject is at increased risk of falling

Proprioception- Subjects with pathologies affecting somatosensory feedback (like stroke, peripheral neuropathies and others)

Reaction- To quantify the subject's ability to quickly and accurately shift his/her body weight to the desired position

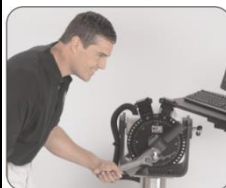
Coordination- Data are recorded during a controlled and smooth movement along the FRONT-BACK axis or the LEFT-RIGHT axis.



Miniboard with BMS, 10deg tilting acc, balance level med and farm game

12. Functional Evaluation & Training System- Isokinetic System

ISOKINETIC SYSTEM



Without a system that provides Isokinetics, you simply can't rehabilitate or strengthen joints and their surrounding musculature in the fastest, safest and most efficient manner possible

Humac Norm (Cybex) = HUMAC NORM is your solution for measuring and improving human performance. Only with testing can you determine baselines, set goals, and track change.

Most physical rehabilitation involving rang-of-motion and force output requires four basic modes of evaluation and exercise/training:

PASSIVE - Subject co-operate with the equipment in extension/flexion through a certain range-of-motion. In Passive Mode, gentle range of motion exercise can facilitate the healing process and restore normal range of motion necessary for function.

ISOMETRIC- Concentrates on strengthening of muscles at certain specific angles where weakness is measured.

ISOTONIC - Subject exercises at constant inertia but varying the speed.

ISOKINETIC - Here the force applied by the subject which is the angular velocity, remains constant throughout the range of motion.

The HUMAC NORM includes attachments to perform 22 isolated patterns covering the shoulder, elbow, wrist, hip, knee, ankle and back.

Single attachment for bilateral evaluation of upper & lower extremities (all joints), Avoiding need to change or reset attachments when changing sides.

Work Simulation: Handles and knobs of different sizes and shapes simulate a variety of real-time hand/wrist movements: From turning a doorknob or opening a jar, to operating a valve or wheel.

13. Hydrotherapy - Underwater Treadmill

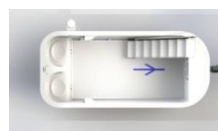
HYDROTHERAPY WITH UNDER WATER TREADMILL



Hydrotherapy system with facility of underwater treadmill for partial weight bearing sports training benefits include improved respiratory status, improved peripheral circulation, improved cardiovascular and metabolic status, increased aerobic endurance, improved function, and psychological benefits.



- ✓ **One-piece design with 50" water depth**
- ✓ **Quiet energy efficient electric motor**
- ✓ **Optimized propeller generated water flow**
- ✓ **Fully adjustable water current with 99 speeds**
- ✓ **Above ground, in-ground, and partially in-ground**



Exclusive **Paddlewheel technology** creates the widest, smoothest, and most powerful river-like water current.

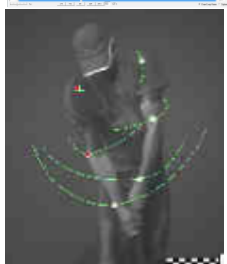
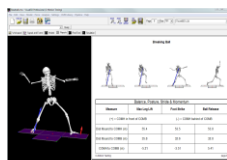
The Triton is an ideal option for any physical therapy or rehab centre:

- 50" (1.27 m) water depth (easy to install)
- Can be installed above or below ground – indoors or outdoors
- Floor load: 355 lbs (161 kg) /sq. ft
- Water depth: 4' 2" (1.27 m)



14.3D Motion Analysis System

3D- MOTION / GAIT ANALYSIS SYSTEM



EMG



Force Platform



Max PRO - Infra Red Cameras based - Flexibility is the key to MaxPRO.

You have the ability to interface with a wide range of cameras.

Everything from standard camcorders to high speed, high resolution cameras.

FEATURES AND BENEFITS:

- Use up to 32 cameras
- Dynamic Wand calibration
- Creates C3D and ASCII files
- Track up to 255 markers/points
- Marker templates with name, size and color + stick figure defining

Max TRAQ - Video Camera based - All you need are AVI or MPEG files.

MaxTRAQ 3D is Video Based 3D Motion Tracking system Can Synchronise up to 4 cameras.

MaxTRAQ 3D includes tools such as angles, distances, notes, stick figures, traces and scales. Analysis includes distances, angles, centre of mass, etc.

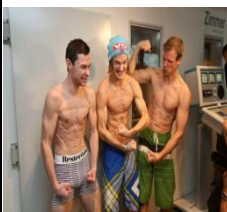
EMG: Trigno™ IM Smallest commercially-available EMG + IMU Sensor

Each Trigno™ IM sensor collects 10 channels: 1 EMG, 3D acceleration, 3D angular velocity, and 3D magnetic field data.

Force Plates: Bertec force plates are well suited for gait, balance, sports, ergonomic, static, and dynamic analysis.

15. Whole Body Cryotherapy

ICE LAB – WHOLE BODY CRYOTHERAPY @ -110 °C



Whole body Cryotherapy @ -110 degree C.

You can remain at -110°C from one to three minutes.

There is more: at -110°C the air volume shrinks by 45% compared with room temperature. This means that you inhale almost twice the amount of oxygen per breath.

Medical Indications:

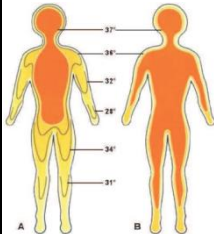
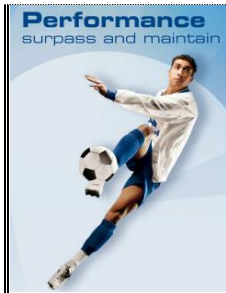
- Disturbed regulation of muscular tone (spastic) with infantile cerebral palsy, multiple sclerosis, muscular strains and hardening
- Blunt traumas of the joint and the musculature
- Psoriasis without and with joint participation
- Atopic dermatitis (neurodermatitis), bronchial asthma
- Signs of muscular fatigue
- Disruptions of equilibrium, disruptions in movement coordination
- Disruptions in central activity levels (central sign of fatigue, burn-out syndrome, sympathicotonic, parasympathicotonic and depressive reaction states, non-organic and pain-conditioned chronic sleep disorders)
- Central psycho-physical deterioration in performance and ability
- Immune reaction disorders, caused by extreme muscular demands, age or stress-dependent functional constraints of the immune system
- Primary hypotonic circulation disorders
- Inflamed and degenerative rheumatic joint diseases (rheumatoid arthritis, Bekhterev's disease)
- Degenerative-rheumatic diseases (osteoarthritis of large and small joints, also before and after endoprosthetic treatment, postoperative edemas)
- Cervical and lumbar vertebral syndrome (discopathies, lumbago, ischia syndrome), also pre- and postoperatively
- Chronic pain states, primary headaches, pain and stress processing defects (fibromyalgia)

Active Components:

- Relieves pain
- Inflammation inhibition, immune-modulation
- Effect on skeletal musculature
- Functional improvements of joints
- Regulation of the central activity level, psycho-physical performance enhancement, improvement of well being
- Economization in the cardiovascular system and energy Budget

ICELAB IN SPORTS

Pain elimination, prevention of development of pain memory and accelerated reduction of inflammation, resulting in:



- Timely elimination of reflexive muscular inactivation
- Prevention of longer pain- and inflammation – induced restriction in mobility of the afflicted joints
- Improvement in local muscular perfusion and with that muscular metabolism
- Improved recruitment of motor units
- Decrease in defects in proprioception
- Prevention of atrophies in the muscle and in the collagenous connective tissue
- Reduction in the risk of subsequent injuries
- Reduction of periods away from training
- Psychological equilibrium and regulation of sleep behaviour

Whole body cold air application at minus 110 ° C was compared with other cooling methods:

- Highest increase in performance
- Sustainable economizing effect on core body temperature
- Reducing skin temperature
- Reduction in heart rate
- Decreasing blood lactate (mmol / l)

INSEP / National Sport Training and Education Centre Paris / France

icelab since 19 years

Zimmer
MedizinSysteme

There is not one icelab out of service due to technical reasons.

Ice Lab- Whole Body Cryotherapy @ -110° C = ₹ 6.5 Crore onwards