

3D – NEWTON

[3D Spatial circuit exercise system]

INDICATIONS

- Stabilize spinal muscle
 - Stabilize deep part, contract muscle simultaneously
 - Spinal multifidus, musculus transversus abdominis
 - iliopsoas, Quadratus Lumborum
 - Increase tension of Transverse Abdominis Increase distraction force of spinal by increasing internal pressure of stomach
- Evaluate muscular power and posture maintenance
 - Evaluate posture and muscular power
 - Evaluate muscular fatigue
 - Analyze posture maintenance
- Vitalize sense-exercise system
 - Stimulate sensational organization
 - Vitalize reflective contraction of muscle
 - Improve balance and stabilization
- Application
 - Stabilize after acute low back pain or spinal surgery
 - Chronic backache and degenerative patient
 - Spondylolisthesis and spondylolysis
 - Scoliosis and unbalanced posture
 - Parallel posture maintenance for athletics
- Automated exercise and evaluation system
 - Real time monitoring on digital laser displacement sensor
 - Customized exercise protocol based on automated computer system





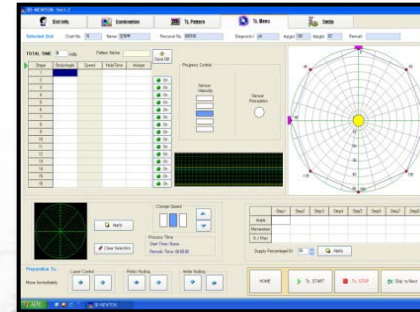
3D space rotation exercise system

Realize 3D solid exercise of 360 degree with slope of 0~60

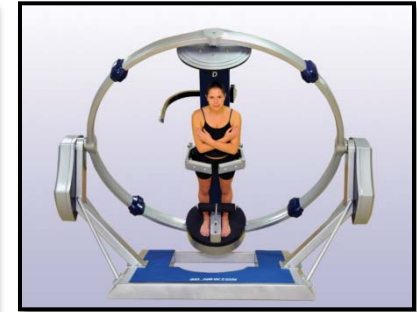
- Vitalize sensation. motive nerve
- Stimulate sensational organizations
- Stabilize balance of spinal
- Strengthen muscles on deep parts of spinal

Intelligent muscular power evaluation system

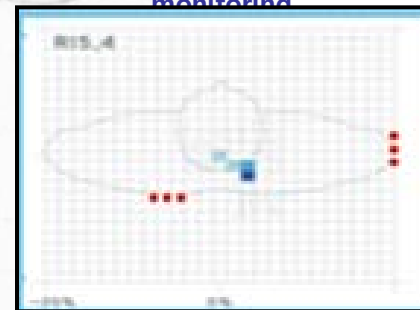
- Multiple direction muscular power Test
- Muscular power evaluation for individual customized exercise
- Compare results before / after exercise



User oriented interface, customized protocol and monitoring



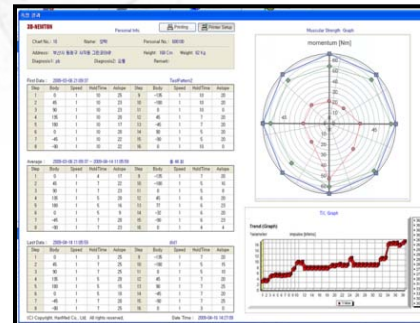
Various degree from 0 -360



Data collection using digital laser muscular measure

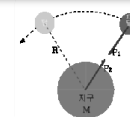


Various grade control from 0-60degree



System to monitor 3D spatial exercise system and muscle in real time

$$F = G \frac{m \cdot m'}{r^2}$$



$F_1 = mg = m \cdot a = m \cdot r \cdot \frac{v^2}{r^2}$ 이 된다.

여기서 $r^2 = a \cdot r^2$ 이라는 개념이 정답을 대입하면

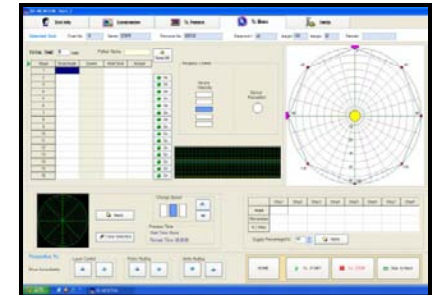
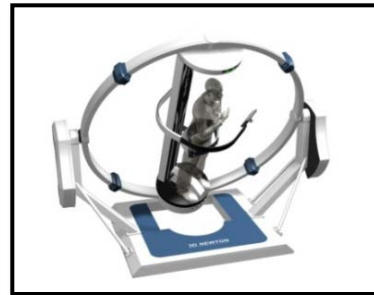
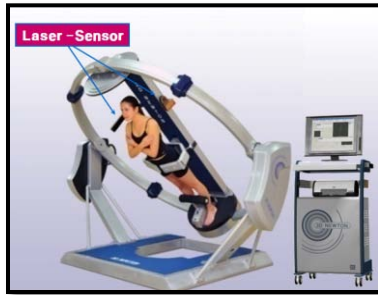
$F_1 = m \cdot \frac{v^2}{r} = \frac{m \cdot v^2}{r}$ 이 된다.

같은 방법으로 F_2 를 구하면

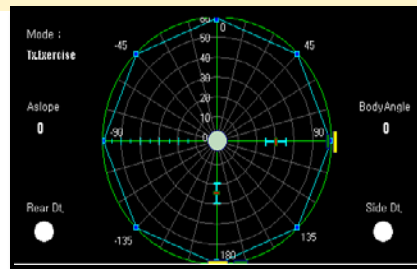
$F_2 = m \cdot \frac{v^2}{r} = \frac{m \cdot v^2}{r}$ 이 된다.

Characteristics of 3D-NEWTON

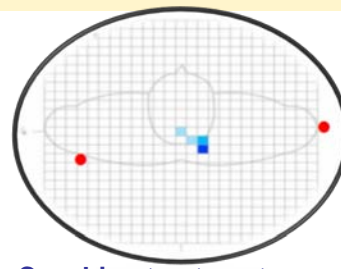
TRAINING SOLUTION
Surgical bio-skills laboratories



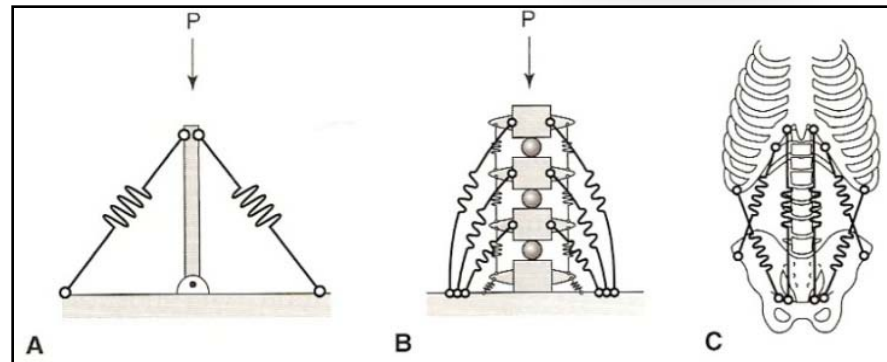
Visual both sided communication system based on real time monitoring (Obtained 2010 medical new technology – Ministry of health and welfare)



Communication window of coaching treatment



Coaching treatment sensor



- ✓ Visual bio feedback between machine and patient in real time, objective effect on patient, quantitative treatment efficiency
- ✓ Set customized protocol with user oriented interface
- ✓ Various applications with customized exercise program
- ✓ Real time coaching function through location check
- ✓ Collect objective data through digital laser monitoring system
- ✓ Output results of test in multi-direction graph
- ✓ Compare and anticipate results before/ after exercise with bio feedback function