

Weight training with the Galileo2000 in youth top-volleyball

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(translated summary by Martin Huizing)

After a 1 year use of the Galileo "Whole Body Vibration" machine an obvious positive influence of the training situation in young top-volleyball players can be noticed. Goal of this thesis was not to search for objective and significant research material – as this was done by another research team within this study program – but only the search for new and effective training means. Therefore the jump height differences as noted below were not investigated further in this thesis. In general there was a rise in jump height from 4 to 11 cm within the period of 24 weeks. These data can be compared with a comparable group of players who trained in the 2 former years, without addition of Galileo training. Age of the female athletes was 19 to 20 years.

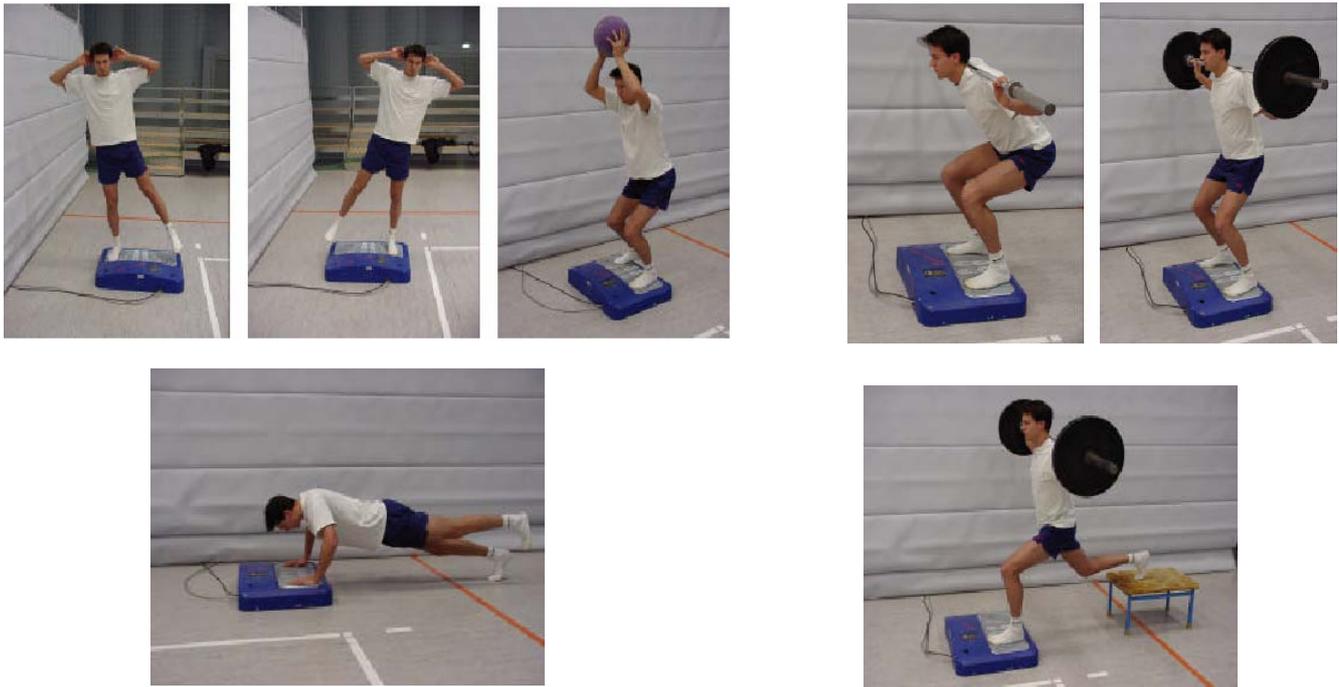
Year	height (cm)	weight (kg)	mean jump heights (cm)
78-79	184,6	72,6	303,4
80-81	182,57	69,43	299,29
82-83	183,63	71,46	307,13

Mean data for young female volleyball players of the Olympic Training Center in Berlin; jump height increased up to 11 cm 24 weeks after implementing WBV training.

If one considers WBV as being comparable to conventional physical training, then this training form can be considered as being a usefull method, because of the efficiency. A training program with the Galileo was accomplished within 5 to 10 minutes per session. Another advantage to be considered is the fact that the Galileo training group trained with much lower extra weights. A better taxability tolerance could be noted.

In general the new stimulation form did request for more effort. Another effect was the improvement in coordination. Especially those athletes who came into the program with coordinative weakness improved their coordination. One sensed that during the Galileo training the technical training brought a faster learning effect.

The general body tension, for example during jump-services, could be held for a longer period within the training, and foot and legspeed had improved and was more precise.



Other possible uses

In search for the possibilities of Galileo within weight training programs focus is put onto the improvement in flexibility. Detailed information can be found in publications of Künnemeyer et al.: "If one considers that flexibility training is more effective when the muscle is more passive, rhythmical neuromuscular stimulation should bring better training effects as compared to static stretching.

Aside from rises or elongations of maximal force and power the swift regeneration in for example long competitions is discussed. A – subjective – search for answers of this theme is sought by the German Pro-league volleyball team of "Friedrichshafen". There athletes stand on the Galileo for a very short period of time (10-15 seconds) in short pauses during a game.

Gollhofer showed that proprioceptive training can bring higher explosive power.

It is suggested that the demand for stability work – in order to keep balance - during 1 legged squatting is much higher as compared to 2 legged weight training. This will have a stronger influence on the level of explosive force.

Apart from relaxing effects at lower frequencies (10 Hz) and the acceleration of recovery or shortening of pauses within a training personal experiences showed the usefulness of the Galileo during rehabilitation of muscle and joint injuries. Especially the trainers who were on age were fascinated by the "miraculous healing" of low back pain of the Galileo.