

# WHAT FITNESS INDUSTRY IS DOING FOR ELDERLY PEOPLE ? SOME EXAMPLES OF SOLUTIONS

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## INTRODUCTION

The type of longer surviving in civilized world, due to the progresses of medicine and the improvements of quality of life, determines a growing prevalence of many chronic diseases [1]. At the same time, there is a growing consciousness of the health benefits of physical activity for elderly people [2]. Nowadays, fitness activities are mainly oriented to youth needs rather than to old population. As a consequence, fitness equipments are not designed for elderly people problems, abilities, possible damages and needs of easy access. Fitness industry is currently adopting new solutions to face these issues.

## ISSUES AND NEW SOLUTIONS

**Resistance training** – Untrained and sedentary elderly people have a higher chance of experience muscular or tendon injuries due to the eccentric-concentric phase of muscular action to counteract the inertia during the use of free weights. Besides elastic bands, an innovative solution (Full Gravity™, Technogym, Italy) is now adopted in a new type of cable fitness equipment (Kinesis™, Technogym, Italy), where the resistance is minimal at the beginning of the movement, increases during the movement and decreases again during the eccentric phase, making the eccentric-concentric phase safer and less stressful for the muscular-tendon structures. Furthermore, differently from elastic bands, 360° pulleys and a closed loop cable system reduce the cables interference with the body, offer resistance in any planes of the space and make the setup very easy. All this technology is hidden behind a wooden wall, reducing the intimidating effect of weight stacks, cables, pulleys.

Another solution is the pneumatic technology that allows the user to increase resistance by just increasing the speed of movement. Moreover, there are only concentric phases and only one equipment trains both agonist and antagonist muscles. One example of this solution is a set of equipments for group class workout (Easy Line™, Technogym, Italy), also with a design customized for elderly people.

**Flexibility** – Elderly people have a very low level of flexibility that can impair the quality of their daily life. Traditional stretching exercises on the floor are obviously not adequate for old subjects and can be dangerous. New devices have been recently produced (Flexability™, Technogym, Italy) that allow the subject to comfortably maintain the position and produce a gentle force to stretch muscles, in a measurable and reproducible way, proportional to the actual user weight (Selflex system, Technogym, Italy).

**User-Equipment interaction** – Ageing people typically experience barriers in accessing new technologies, including fitness equipments. Nowadays, all main setup mechanisms have a yellow colour to quickly detect and simplify the setup of exercises (Visual Setup, Technogym, Italy).

To increase accessibility for visual impaired users, a zooming functionality (Active Wellness TV™, Technogym, Italy) allows selecting a dedicated view where the training data is displayed with high contrast colours and both output and input controls have a larger visible area.

A personal device (Wellness System™ Key, Technogym, Italy) stores all the user training program and data and automatically setup up the cardiovascular equipment to provide a “plug & play” solution.

## CONCLUSIONS

Due to the growing interest in health benefits of physical activity for ageing people, fitness industry has started to produce new equipments elderly-oriented that aim to be safer, less stressful for the muscular-skeletal system, friendlier, more accessible.

## REFERENCES

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