



AOK Health, for over 12 years, has been involved in the design and innovation of new products and the improvement of existing rehabilitation, exercise and performance equipment.

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# SWISS Balls

## Innovative Design

Our Exercise Engineering Department provides a unique skill base to evaluate and/or design the tools and techniques of product development. This includes knowledge of the physiological response of the body when exercising or performing simple functional tasks and interacting with various kinds of equipment.

By fostering research within AOK and with Universities across Australia we continue to develop a wide range of creative, analytical, experimental and practical skills to deal with the many problems that must be overcome to improve function control, balance and skill acquisition for rehabilitation, fitness, well-being or sporting performance.

## Innovative Materials

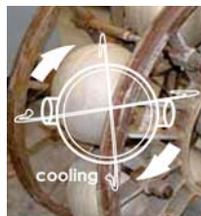
A 5-year evaluation program at the University of Newcastle helped in the development of Duralon<sup>TM</sup> a form of PVC. Duralon<sup>TM</sup> is ideal for rotational moulding. This is the process used for hollow objects such as mediBall<sup>®</sup>s, DuraBall<sup>TM</sup>, massage balls, Dura Disc<sup>TM</sup> and medicine balls. Rotational moulding is carried out in four steps.

## What is Rotational Moulding

First, the required weight of Duralon<sup>TM</sup> (each ball size is different) is placed into the mould which is then closed. While rotated around two rotational axes the mould is first heated to the melting and curing temperature of the plastic. Then it is cooled before opening and the finished mediBall<sup>®</sup> is removed, then inflated and tested. It is then inspected, vacuum deflated and packed for shipment.

## Unique Production Control

Each AOK packaged ball is identified with a Batch Number and Manufacture Date to enable us to monitor production quality of the balls. AOK is the only Swiss Ball provider in the world to provide this level of quality assurance.





**AOK commenced its Swiss ball development and testing program in 1996. The University of Newcastle was selected because of its international reputation in materials testing. Testing protocols have been developed which are considered the best in the world for inflatable PVC products.**

Since then mediBall<sup>®</sup>, MaxBall<sup>™</sup> and DuraBall<sup>™</sup> have been tested to ensure product consistency and evaluate new manufacturing protocols. These Swiss Balls have variously supported static loads well in excess of 4,000 kilograms with burst-resistance to a load of 1000 kg. This does not mean “puncture proof” but helps protect you from explosive deflation. Burst resistance means AOK Swiss balls are designed to slowly deflate if accidentally punctured. We also test for deflation under load and durability. We also cyclic test the balls by loading/unloading approximately 500kg of force in excess of 500 times over a 2 hour period.

No Swiss, Therapy or Exercise Ball is 100% safe as it is not possible to destructively test every single ball. By having an ongoing Quality control program in place AOK endeavours to reduce the risk of ball failure.

We pre-inflate and inspect every ball prior to packaging to achieve the highest quality product for our customers.

It is critical that the user care for the balls they use - much like maintaining a car tyre. The more hours of use and abuse it gets - the shorter its life. This is especially so in a commercial environment where there is little supervision. This is result of the balls being kicked around and striking sharp edges, which damages the inner surface of the skin - not always apparent from the outside. These leave resulting fracture lines which may totally reduce its burst resistant qualities. In professional environments such as gyms, the batch number and inflation date should be marked on every ball.

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“deflection resistance”.



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