Arbrook Dispos-a-glove
Medical Examination Glove

What was the Arbrook Dispos-a-glove?

The Arbrook Dispos-a-glove was a sterile plastic glove produced in the 1970s, which came individually sealed in paper packaging and was intended to be used only once before being thrown away. Gloves were, and still are, an important part of medical practice, as they prevent contamination between doctor and patient during surgical operations and medical examinations.

Packaging for the Arbrook Dispos-a-glove

Each glove arrived in a sealed and sterile paper packet, which was only opened when it was needed for a medical procedure.

Rubber gloves had been popularised in the 1890s by an American surgeon, William Stewart Halsted. He originally introduced them into practice to avoid the irritation to one of his nurses’ hands caused by constant cleaning with anti-septic chemicals. Halsted enlisted the help of the Goodyear Rubber Company to produce his gloves, which were made by dipping hand-shaped moulds into a vat of rubber resin. It was soon discovered that they greatly reduced the risk of infection to patients. However, many doctors complained that rubber gloves were too thick to use during delicate procedures, so they continued to operate with bare hands. The gloves also had to be sterilised between every use, with boiling water. By the middle of the twentieth century, new alternatives to rubber gloves were being sought.
Who was Joseph Caldwell Gerard?

Gerard was an American inventor who in the 1950s devised the apparatus and method for producing thin, plastic gloves in a continuous, mechanised process. Two sheets of plastic moved together along a conveyor belt, where a hot metal mould cut and sealed the two sides of the glove. A small amount of talcum powder was then blown inside each glove, at a 'lubrication station', before it was sealed inside two pieces of paper, which formed a packet around the glove. The procedure was automatic, involving no human intervention, so the final product was entirely sterile until opened.

![Apparatus for producing thin plastic gloves](link)

This diagram of the process for producing disposable gloves was included in Gerard’s patent application for his method and apparatus. It shows the way gloves were made out of two separate sheets of plastic on a continuous roll.

Gloves produced by Gerard’s method were less than one quarter of a millimetre thick, so were thin enough for sensitive medical procedures. They were also smooth on the outside, so they would not cause damage to the body tissues being touched. Significantly, the introduction of a mechanical production line meant they could be made cheap enough to be disposable. Hospitals and clinics could throw them away after a single use, saving the time of sterilising thick rubber gloves. The first disposable medical gloves were made available to buy in 1964, by the Australian company Ansell. They soon became very popular, and few surgeons continued to work without them.

Why were patents important?

Gerard’s method of producing gloves was patented in 1962. His design was used by several companies, including the Scottish manufacturer Arbrook, who produced and trademarked the ‘Dispos-a-glove’ in 1977. Disposable gloves have become a big business, and various different types exist for special purposes, including different gloves for surgery or examination.
There are now hundreds of patents involved in the design and construction of medical gloves.

**Image of disposable latex glove**

Disposable gloves are still made from latex, though the increasing number of people allergic to this material means alternatives, such as neoprene, are becoming more popular.

New materials have been developed to make the gloves and to lubricate them, as many people have become allergic to the latex and talcum powder that was once used. However, alternative materials can often be damaged more easily, and are more expensive to produce, so latex gloves still remain popular. The designs of disposable gloves are constantly evolving, and with billions of pairs used around the world every year, they are an indispensible part of modern medicine.