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Stroke: Is there one type of physiotherapy that helps people regain more independence?



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A stroke, also called a "brain attack", harms the brain by interrupting its blood flow. This may happen if a blood clot from somewhere else in the body travels to the brain and blocks a blood vessel there. Changes in the wall of an artery can cause a blood vessel to become blocked too. Less commonly, strokes are caused by bleeding in the brain (cerebral haemorrhage). This can happen, for example, if a blood vessel tears.

A stroke can lead to paralysis of some parts of the body or difficulties with various physical functions, such as speaking. About one person out of every 1,000 will have a stroke, usually when they are older. Out of people over the age of 85, 2% (two in 100) will have a stroke.

After a stroke, physiotherapy is an important part of rehabilitation and the long-term management of stroke-related problems. The treatments used by physiotherapists aim to improve mobility and independence. There are individual treatments for specific problems. These include supported treadmill therapy that aims to help people learn to walk again, or specific exercises or machines that aim to help improve people's balance. Another example of a specific physiotherapy treatment is called "constraint-induced movement therapy". That involves making the person use their weaker side by restricting the side of their body that was not affected by the stroke.

As well as having specific treatments that aim to help people restore their physical abilities, there are also other types of physiotherapy approaches or styles for stroke rehabilitation. These styles include the "neurophysiological approach", where the physiotherapist moves the person's limbs in a certain way. A second major approach is called the "motor learning approach". Here a person practices tasks that they find difficult to do. The third major physiotherapy approach is the "orthopaedic approach", where the physiotherapist gets the person to use the unaffected side of their body to compensate for the paralysed side. This means that the kind of treatment or advice people get can vary greatly, depending on the individual therapist who is helping them.

Physiotherapy programmes can use a mix of these

approaches or a single approach. Some use a wide variety of different treatments. As well as individual physiotherapists preferring to use certain treatments, there are also differences from country to country. For example, one study shows that stroke rehabilitation programmes in Britain and Belgium might include more exercises than programmes in Germany and Switzerland.

To see if any particular overall approach is more effective than others, researchers from the Cochrane Collaboration looked at 21 clinical trials that used single or mixed physiotherapy treatments for people with strokes. Because the individual trials were small, there is not a lot of evidence about every one of the possible styles of physiotherapy. In considering the trials, the researchers focused on how effectively the treatments restored a person's balance, strength and walking ability, as well as their level of independence.

The trials did not provide information on what the patients or carers thought of the programmes, so we do not know what kind of physiotherapy people preferred. There is also no specific information about whether certain groups of people benefit more from a treatment than others. For example, something may work better in younger or older people with strokes.

The therapies and patients were too different to make it clear what might work best, or whether any of the therapies can cause harm. However, some trials did suggest that physiotherapy that is based on a mixture of various treatments could be more effective at improving people's independence.

Another form of treatment used in stroke rehabilitation is occupational therapy. This aims to help people regain the ability to do everyday tasks. You can read more about this here (URL: <http://www.informedhealthonline.org/index.316.en.html>) .

Glossary

Cochrane Collaboration

The Cochrane Collaboration is an international network of thousands of researchers and others. They work together in teams called Cochrane Review Groups to answer questions about health care by doing systematic reviews of evidence. To achieve this, the members of the Collaboration have developed systems and methods for systematically finding and analysing the results of trials of health care interventions. The goal of the Cochrane Collaboration is to help patients, health care practitioners and others make more informed decisions about health care. You can read more about the Cochrane Collaboration at their website.

evidence

Evidence is what we call scientific proof from well-conducted, good-quality scientific trials that have been carefully designed to answer specific questions. Depending on the types of questions, different scientific research methods (types of study) are most appropriate to find reliable answers to these questions. Randomized controlled trials (RCTs), for example, are the best way to get reliable evidence on the effectiveness of medical treatments (interventions). This type of study, however, is not the best form of evidence for all possible questions, and does not provide the best answers to all kinds of questions, either. Epidemiological studies, for example, are very suitable for establishing well-founded proof for the spreading of a disease in the population.

physiotherapist

Physiotherapy is a recognized health-care profession, which in Germany does not require an education on university level such as medical studies. Physiotherapists have completed a three-year training including basic medical knowledge. They are not allowed to make a diagnosis, however, but apply different kinds of therapy on the basis of a doctor's diagnosis or instructions. Physiotherapists mainly use so-called physical techniques such as therapeutic exercises, massage therapy, ultrasound or light therapy.

stroke

A stroke (also sometimes called brain attack, or apoplexy, which is Greek for "struck down") is an acute condition where the brain does not get enough oxygen. It is most

commonly caused by a blood clot that has travelled through the bloodstream and is blocking blood vessels in the brain. In rarer cases bleeding in the brain may also result in a stroke. Depending on which part of the brain is affected, there may be paralysis of either all or certain parts of one half of the body, facial nerve impairment, vision problems, trouble balancing and severe problems speaking. A stroke is a medical emergency: the parts of the brain that are affected need to be supplied with oxygen as quickly as possible, to avoid the death of more brain tissue. The risk of having a stroke is greater for older people and people who have hypertension or chronic arteriosclerosis.

Sources

De Wit L, Putman K, Lincoln N, Baert I et al. Stroke rehabilitation in Europe: what do physiotherapists and occupational therapists actually do? *Stroke* 2006; 37: 1483-1489. [Full text (URL: <http://stroke.ahajournals.org/cgi/content/full/37/6/1483>)]

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The German Institute for Quality and Efficiency in Health Care (IQWiG)

The German Institute for Quality and Efficiency in Health Care (IQWiG) was established by legislation to provide evaluations of the effectiveness, quality and efficiency of healthcare services. This includes the assessment of medicines as well as the publication of health information for consumers and patients.

Evidence basis of our health information

Our information is based primarily on systematic reviews of the effects of health care. Systematic reviews are necessary to gain an objective picture of health care. In order to do this, a clear question is formulated. Researchers then find all the relevant studies that could answer this question. They then evaluate those studies.

You can find a list of the evidence and other scientific literature on which this information is based at [**www.informedhealthonline.org**](http://www.informedhealthonline.org)

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