Historical Perspective:

Physical Therapy for Scoliosis in Germany

by Axel Hennes PT
The history of physical therapy for scoliosis is closely connected to the history of medical gymnastics and the global history of physical therapy in general.

The curative effect of general movements, exercises, calisthenics, dancing and manual techniques also combined with breathing elements is widely accepted.

Even the scientific evidence is low
The first important steps for the development of scoliosis therapy in Germany were performed in the 17th and 18th centuries. Friedrich Hoffmann (1660-1742) MD, and Lorenz Heister (1683-1758) MD, founder of the scientific surgery recommended gymnastics and massages as important parts of kinesiotherapy for the treatment of spinal deformities.

In 1845, Johann Adolf Ludwig Werner opened an orthopedic sanatorium focusing on in-patient rehabilitation. The residential therapy for scoliosis patients was characterized by an emphasis on muscle strengthening and the use of redression devices.

![Image of historical figure and medical scene](image-url)
Albert Constantin Neumann (1803-1870) (MD) developed a general gymnastic system strongly influenced from the Swedish gymnastics created by Per Henrik Ling (1776-1839). Additionally, he involved the so-called “Naturalphilosophy” ideas from Schelling (1775-1854).

Within these elements he stated that he has created a gymnastic system based on science especially anatomy and physiology.

One of his books: "Die Athmungskunst des Menschen... Anatomie, Physiologie, Diagnostik, Pathologie, Diätetik. "Art of breathing based on anatomy, physiology, diagnostic, pathology, dietetics.“

Nature as the universal creator. The individual ego might become conscious and able to participate in the principles of nature.
Early Physical Therapy Elements

Based on the Swedish Gymnastics - remarks for scoliosis and kyphosis treatment were made: “Truncal and spinal deformities could be removed by strengthening of specific muscles”.

- Concentric and eccentric muscle activation was founded

- Stretching techniques and therapeutic resistance were used.

(later: PNF, hold and relax, post-isometric relaxation or muscle energy techniques).
1853 Neumann founded his institute for medical and educational gymnastics a training center with the obligation to educate gymnastic teachers and physical therapists.

The well-known exercises with special devices like wall bars, beams, poles, etc. were refined.
After 1880 more institutes for gymnastic were founded. Gustav Zander 1835-1920 (swedish MD) founder of the mechanotherapy established an institute in Stockholm with various devices. In 1911 there are 86 Zander institutes in Germany.
Herman Gocht (MD) ~ 1900, Berlin, Radiologist, Surgeon
Rudolf Klapp (1873-1949) a German surgeon was interested in spinal deviations. He developed the crawling exercises, a specific floor-exercise program.

Mrs. Geßner today: Edeltraud Diefenbach (combining PNF techniques)

„Die krankengymnastische Behandlung bei Skoliose, Fischer 1993)

In 1926 he opened a clinic for pupils with postural weakness. During their stay in the clinic the children were only allowed to crawl on all fours. School lessons and meal are performed in lying position. It has created some fuss when the children were all crawling on their way to the public swimming pool.
Katharina Schroth (1894-1985) affected from scoliosis developed the Schroth therapy after she had studied the different systems of gymnastics.

In 1920 Katharina established her own institute and named her method breathing orthopedic system.
Katharina’s daughter Christa Lehnert Schroth until 1997 and her grandson Hans Rudolf Weiss until 2008 refined the method and established in Germany the most accepted physical therapy approach for scoliosis.
From 1990 and after 2008 Udo Roevenich and Axel Hennes was in charge of the further development.
SIR – Schroth Rehabilitation

HR Weiss, medical director of the Katharina Schroth clinic Schroth (Katharina Schroth) in Germany, has published a lot of studies regarding the scoliosis in-patient rehabilitation and the progression of the scoliosis. He has begun to establish the scientific basis for the Schroth therapy.

Studies:
- Radiological improvements in 1995
- Reduction and deceleration of the progression in 2003
- Improvement of the cardiorespiratory function in 1991, 1996
- Improvement of the muscular balance in 1993
- Reduction of the incidence for surgery in 2003
- Reduction of pain intensity and frequency in 1993, 1998

Schroth therapy in Germany:
- Scoliosis intensive in-patient rehabilitation (3-6 weeks) mainly covered by German statutory insurance scheme
- Out-patient Schroth therapy prescribed by physicians
- Executed by certified Schroth therapists
Schroth training within a certified educational program is available since 1986 in German language and since 2008 also in English language.

Closely connected to the Schroth training and based on the Schroth principles is the educational program from Manuel Rigo (BSPTS)

In Germany at the moment about 3000 certified Schroth therapists offer the scoliosis specific treatment program.

ISST – International Schroth 3D Scoliosis Therapy: US, Korea, Latvia, Estonia, Hungary, Thailand, Japan
Schroth Elements

Positioning

Correct breathing

Specific mobilization

3D exercises

Home exercise program
Thank you for your attention