

Milwaukee brace

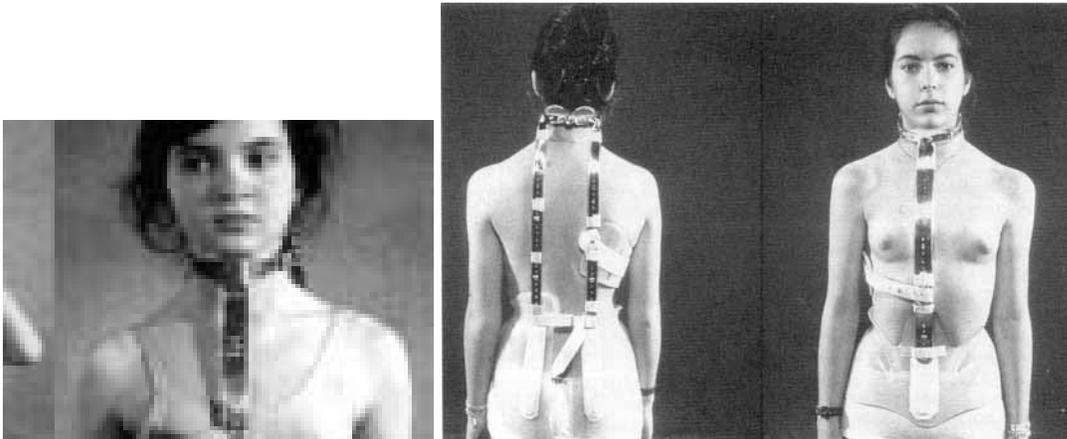
Types of braces:

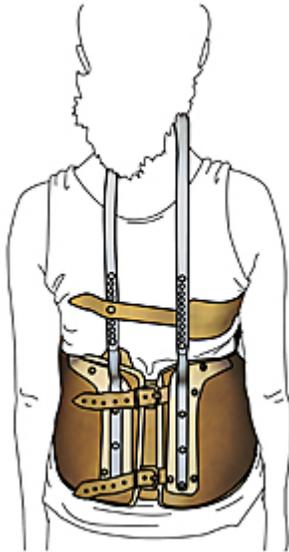
- curves with apices lower than T-8 or lower may be treated with underarm braces,
 - a. such as Wilmington brace (custom made) or Boston brace (prefabricated) these braces cannot be except to treat higher curves
 - b. High thoracic curves may require the Milwaukee Brace

The **Milwaukee brace**, also known as a cervico-thoraco-lumbo-sacral orthosis or CTLSO, is a back brace used in the treatment of [scoliosis](#) or [kyphosis](#) in children. It is a full-torso brace that extends from the pelvis to the base of the skull. It was originally designed by Blount and Schmidt in 1946 for postoperative care when surgery required long periods of immobilization.

Milwaukee braces are often custom-made over a mold of the patient's torso, but in some cases, it can be made from prefabricated parts.

- Three bars—two posterior and one anterior—are attached to a pelvic girdle made of leather or plastic, as well as a neck ring.
- The ring has an anterior throat mold and two posterior occipital pads, which fit behind the patient's head.
- Lateral pads are strapped to the bars; adjustment of these straps holds the spine in alignment.





The Milwaukee brace is often prescribed to be worn 23 hours a day for several years, or in some cases, permanently.

Guidelines for Brace Use:

Indications:

- infantile scoliosis;
- Bracing is the primary treatment for pts with infantile and [juvenile idiopathic scoliosis](#);
- Paralytic scoliosis

braces was worn 23 hours was more effective than 16 hours which was more effective than 8 hrs;

Less than 30 deg:

- Curves < 20 deg are treated by observation alone;
- Patients presenting with idiopathic spinal curves < 30 deg should be observed for progression (> 5 deg change in 6 mo) before instituting bracing i.e. curves between 20 and 29 deg that show progression need to be treated w/ orthosis;

Greater than 30 deg;

- Curves between 30 and 40 deg are treated with orthosis on first visit to office if they are less than Risser 3;
- Hence, skeletally immature patients with significant curves (greater than 30 deg) require bracing even if there is no evidence of progression;

Greater than 45 deg;

- Although some flexible curves between 40 and 45 deg can be treated successfully, bracing is not used for most curves > 45 deg;

Vital Capacity: (see [cardiopulmonary function in scoliosis](#))

- Application of brace results in a significant reduction in vital capacity (14%), functional residual capacity (22%), & total lung capacity (12%);

- bracing will reduce lung function by 10 to 15%;

A related brace is the [Boston brace](#) (underarm brace, also known as a thoraco-lumbo-sacral orthosis, or TLSO), which is more commonly used for scoliosis. That brace does not have a neck ring and is more easily concealed under clothing, thus more acceptable to patients. However, it is not suitable for high thoracic or cervical spinal curvatures.

It is a symmetrical brace. It corrects curvature by pushing with small pads placed against the ribs, which are also used for rotational correction (here it tends to be slightly less successful, however). These pads are usually placed in the back corners of the brace so that the body is thrust forward against the brace's front, which acts to hold the body upright. The brace opens to the back, and usually runs from just above a chair's seat (when a person is seated) to around shoulder-blade height. Because of this, it is not particularly useful in correcting very high curves. It also does not correct hip misalignment, as it uses the hips as a base point. This brace is typically worn 20–23 hours a day.