ASPREX Fact Sheet

Walking stick

Hand-held device designed to support walking. It is usually composed of a T-shaped handgrip, a height-adjustable shaft, and a rubber-tip ferrule.

Product Classification

- o APL (WHO Assistive Product Priority List): 5 (Canes/sticks)
- o ISO 9999:2022: 120303 (Walking sticks and canes)

Possible configuration variants

- o Contoured handgrip (anatomically shaped).
- o Curved handgrip.
- o Ice ferrule (ferrule with metal spikes instead of rubber tip).
- o Pivoting ferrule (ferrule with a large swivel base enabling to maintain full contact with the ground when used on uneven surfaces).
- Three footholds (in which case the product is usually called Tripod and is classified by ISO under category 120316).
- Four or more footholds (in which case the product is usually called Tetrapod and is classified by ISO under category 120316).
- o Folding shaft.
- Swan-necked shaft.

Possible accessories or optional components

- O Wrist strap (to keep the stick fastened to the wrist).
- o U-shaped clip (to secure the walking stick to a wheelchair or other walking aid when not in use).
- o Prop (to be clipped around the walking stick to hang it when not in use).

Product goals

Activities or functions the product is mainly intended to support, according to WHO ICF Classification:

- o Walking [d450].
- o Moving around in different locations [d460].

Indicated impairments

Difficulties the product is mainly intended to address, according to the WHO ICF Classification:

- o Walking [d450] (mild difficulty in walking).
- Maintaining body position [d415] (mild difficulty in standing).

Contraindicated impairments

Difficulties for which the product may be inappropriate:

- Moderate difficulty in walking.
- o Severe difficulty in walking.
- Moderate difficulty in standing.
- o Severe difficulty in standing.
- o Severe arms weakness.
- o Severe difficulty in grasping/gripping. *Unless used with variants: Contoured handgrip*
- Severe difficulty in holding things.
- o Poor balance and strength.
- o Ability to use only one leg.
- Having had a fall in the past months or feeling at risk of falls.

Indicated environments

Specific environments in which the product should be used: None specified.

Contraindicated environments

Environments in which the product may be inappropriate:

- o Iced ground. Unless used with variants: Ice ferrule
- Wet or slippery ground (unless the walking path is equipped with handrails or grab bars to provide stable support).
- Low friction pavements.

Other indicated factors

Other factors or situations the product is intended to address: None specified.

Other contraindicated factors

Other factors or situations in which the product may be inappropriate:

O Having a wounded foot or being at risk of developing wounded feet (due for instance to diabetes; in which case one should never hop on the wounded foot).

Points to be considered in product selection

- Ensure that the chosen equipment is suitable for the person's weight (check in the product documentation or with the provider what is the maximum person's weight the stick can bear).
- o Ensure that the handgrip can be firmly held by the person.
- o In case the stick is going to be used also on low-friction surfaces, a larger pivoting ferrule may be considered instead of the standard rubber tip.
- o If the stick is going to be used also on ice, provide an ice ferrule to apply on the tip when needed.
- A wrist strap is advisable if the person has difficulties finding places to lay the stick when not needed or bending to collect it from the ground if it falls.
- o In case the person is particularly unstable and unable to collect the stick if it falls to the ground, a tripod may be considered instead (or even a tetrapod, to increase stability), although it is a little bit heavier and less versatile than a stick.

Points to be considered in product fitting

o Ensure that the stick is adjusted to the correct height: the handgrip should be at the wrist level (of the stronger side of the body, in case one side is painful or weaker than the other one), when the person is standing with shoulder relaxed, a slight bend in elbow (about 15 angle degrees) and wearing shoes.

• Points to be considered in product use

- o The walking stick should be used on the stronger side of the body, in case one side is painful or weaker than the other one.
- When walking, footwear should be well fitted, secure on the feet and supportive.
- When walking, place the walking stick in front and to the side and at the same time, step forward with the weaker leg; step forward with the stronger leg and then step again with the stick and weaker leg together.
- When going up stairs, step up with the stronger leg first; then step up with the stick and the weaker leg together.
- When going downstairs, step down with the weaker leg and the walking aid together; then step down with the stronger leg.
- When rising from a chair or bed, push up with the hands on the arms of the chair or on the bed and only take hold of the stick once standing: don't lean on the stick, as it is not stable enough to support; in case there is no place to lay the stick while rising, hold it with the weaker side, so as to use the stronger side to push up.
- When sitting down, stand in front of the chair or bed, with back of legs touching it, hold the walking stick in one hand (on the weaker side), reach back with the free hand to hold onto the chair/bed and slowly sit down.

Points to be considered in product maintenance / follow-up

- o Regularly inspect the ferrules and change them when worn.
- o Regularly inspect the handgrip and change it when worn.
- o Replace the stick with a new one if the shaft is broken or damaged.

- Carry out follow-up checks about every six months; in case the stick seems to be not used any more, consider the following possible reasons: the stick is broken and needs replacement; it hasn't been fit correctly; the user has not learned correct use; there are health problems affecting the user's mobility; the environment makes it difficult to use the device; the user needs support from others to use the stick but does not have the support.
- Examples of products available on the market
 - o Live product search in the EASTIN website https://www.eastin.eu/en/searches/products/list?iso=120303

Source

This Fact Sheet was compiled in 2021 by an international team of experts, to provide the initial knowledge base for a project ("An online system to assist the selection of assistive product") supported by the World Health Organization in 2020-2021 within the GATE Initiative (Global collaboration on Assistive Product). Fact Sheets were compiled for each of the 50 types of products included in the WHO APL (Assistive Product Priority List).

The team was composed of Renzo Andrich (Italy, group leader), Natasha Layton (Australia), Stefan von Prondzinski (Italy), Jerry Weisman (USA), Silvana Contepomi (Argentina) and Hasan Minto (Pakistan).

The project led to a prototype online tool called ASPREX (ASSistive PRoduct EXplorer). At the end of the project, it was transferred to a WHO collaborating center (the Global Disability Hub in the UK), in view of possible future developments.