Another edition of Elder Care discusses the use of walkers as an ambulation aid. This edition will discuss canes, which are used by one in ten older adults.

Canes are primarily used to improve balance and stability. Although standard canes can support up to 25% of patients' weight, individuals whose ambulation requires major weight-bearing support generally need to use a walker or hemi-walker.

There is general recognition by caregivers and patients alike of the need for individuals to keep moving safely as they age. As a result, use of mobility devices has increased, and many older adults use more than one type of device. Canes are the top choice. Women are more likely than men to use a mobility device, and device use is also generally higher among African-Americans and Hispanics.

Canes are also used by individuals with low vision. Probing canes (Figure 1), also known as “white canes” or “long canes” are typically ultralight made of fiberglass, with a red tip and provide sensory feedback. They are helpful to locate obstacles in the path of travel, not to provide support.

Using a mobility device does not necessarily mean fewer falls, but among people who fall at home, most do not have an assistive device with them when they fall. Non-users who fall sustain more severe injuries.

The three main types of canes are standard canes, offset canes, and multiple-legged canes. Each has variations, plus advantages and disadvantages.

**Standard Canes**

Standard canes, also called single-point or single-axis canes (Figure 2), are usually made of wood or aluminum and are the most widely used type of cane. Their main purpose is to improve balance by widening a person's base of support. Standard canes are not appropriate for individuals needing assistance with bearing (i.e., who need to lean heavily on the cane because they can't bear weight on their legs).

Aluminum canes typically have an adjustable length, so perfect fitting before purchase is not always critical. Aluminum canes are also available as a “folding” cane that can be collapsed for compact storage when traveling (Figure 3).

In contrast to aluminum canes, wooden canes have a fixed length, and thus require proper fitting prior to use.

**Offset Canes**

Offset canes (Figure 4) are similar to standard canes except the shape positions the patient's weight over the axis of the cane. This allows the cane to be used for occasional weight bearing. Offset canes are often recommended for patients who have arthritis in the hip or knee and occasionally need to decrease the weight borne on a painful lower extremity.

**Multiple-Legged Canes**

Multiple-legged canes typically have three or four short legs attached to a base at the lower end of the cane’s shaft. Depending on the number of legs, they are referred to as quadrupod or “quad” canes, or tripod or “tri” canes (Figure 5).

Because they have multiple legs, these canes provide more support than standard or offset canes and are capable of bearing more of a patient's weight. Additionally, quad canes have a narrow-base or a wide-base, providing increased support. They can be used to unload weight by patients who have an antalgic gait due to osteoarthritis, or to improve balance by patients with hemiplegia or other neurological conditions.

**TIPS FOR RECOMMENDING CANES**

- Recommend standard canes when there is need for assistance with balance, but not weight bearing.
- Recommend an offset cane for patients who require occasional limited weight bearing support.
- Recommend a multiple-legged cane for patients who require more substantial weight bearing support.
- Proper fit: when arm dangling at side cane should reach wrist crease; when holding cane handle, elbow flexed ~20°.
- If used for weight bearing purposes, cane should be used on the opposite side of the injured lower extremity; if used for balancing purposes, patients usually will use the cane on their dominant side.
- Be sure the patient receives proper instructions on how to use the cane.
In addition to weight bearing, another advantage of a quad cane is that it stands upright by itself when not in use. This frees patients’ hands to do other things until they need to resume walking, and the cane can be retrieved without needing to bend down. There is also a modified quad cane known as a “sit-to-stand cane” which combines the stability of a multi-legged base with a bent handle that can be gripped at two levels (Figure 6). This allows patients to put weight on the cane handle when rising from a sitting position.

Despite these advantages, quad and tri canes are sometimes challenging to use. The principal challenge arises from the fact that, for proper use, all the legs should strike the ground simultaneously, particularly if the device is to be used for weight bearing, making the gait slow.

The solution to this challenge in some cases is to change from a wide based quad cane to a narrow based quad cane or even a tri cane. The faster an individual walks, the fewer legs are needed and the closer together the legs can be, though the trade-off is some loss of stability during weight bearing phase.

Fitting and Using a Cane

Two key considerations in fitting a cane are elbow flexion and cane length. The elbow should be flexed at about 20 degrees when cane’s tip is positioned on the floor, about 6 inches from the lateral edge of the toes. A proper cane length is the distance from the floor to the crease of the wrist when the patient’s arm is dangling loosely at the patient’s side. This rule applies to any type of cane. Additionally, quad canes need to be adjusted for right-hand or left-hand use, by turning the axis 180 degrees.

References and Resources

Silva J. How to use a cane. (Video from CaregiversTraining.com). http://www.youtube.com/watch?v=fRn8ZZJMzno

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