

Belay Device Recommendation for Single Pitch Climbing

The German Alpine Club (DAV) recommends assisted braking belay devices for belaying single pitch routes in climbing gyms and outdoors. Assisted braking devices offer a safety advantage as compared to manual belay devices.

There are different models of assisted braking belay devices on the market. They all have one characteristic in common: In case of a fall they pinch the rope. This is how they assist the belayer's hand strength.

Whether using an assisted braking device or a manual device (e.g. Tube/Munter Hitch): every belay device has specific handling characteristics. Only if you know and are familiar with these characteristics can you belay correctly and avoid errors of application. Qualified training and practice are essential.

Crucial issues when belaying with any device:

- Always keep a controlling hand on the rope
- Practice your device handling before you start belaying
- Practice holding falls
- Consider the weight difference between climber and belayer
- Consider the amount of hand strength required to hold a fall when choosing a device
- Choose the right spot for belaying, in particular when the climber is still near the ground
- Reduce the amount of slack rope to the utmost, in particular when belaying near the ground
- Constantly pay attention

What is the advantage of assisted braking belay devices?

Especially in gyms and at highly frequented crags, distraction is a serious problem. Inattentiveness may quickly lead to a severe accident. Assisted braking belay devices increase the chance of preventing a fall to the ground despite belaying errors.

In particular at artificial climbing walls the route of the rope is often straight so that rope friction is minimal, therefore a large part of the energy of the fall ends up on the belayer. Thin and smooth ropes will aggravate this problem. While dynamic belay devices require more hand strength and movement routine for holding falls, assisted braking devices offer the advantage that the hand strength required is reduced to a minimum.

Benefits of dynamic belay devices: in certain situations you may let rope pass through the device in a controlled and careful manner in case of a fall when using a dynamic device. This so-called *gear-dynamic belaying* may prevent the falling person from severely hitting the wall. Especially if the climber is very light as compared to his or her belayer this is an important aspect to consider. Up to a certain extent, however, this dampening effect may also be reached with assisted braking devices, through *body-dynamic belaying*: the belayer moves in the direction of the pull of the fall in a controlled manner.

The increase in safety of gear-dynamic belaying is in most situations not as high as the safety increase created by assisted braking. Therefore assisted braking belay devices do offer advantages in terms of safety. This is the case, in particular, with beginners, light-weight belayers, belayers having little experience in holding falls and in situations in which distraction and inattentiveness are likely.

Beyond climbing gyms and outdoor climbing crags

In multi-pitch climbing, both the Munter hitch and Tubes are still the standard belay devices. To reliably master their handling, these belay devices require intensive training and practice in climbing halls and gardens.

What remains valid: The weakest link in the safety chain is the belayer. Accident analysis shows: The number one cause of accidents is human error and not the belay device.