



Elderly wearers of prostheses often report problems sitting down and standing up again in a controlled manner. This knee prosthesis provides support when sitting down, stores the energy gained and releases it when standing up again. The focus is on ease of use and absolute safety. The system works in a purely mechanical manner without using any electrical components or energy sources.

When standing, the knee prosthesis is locked in extension by a locking lever (1). When sitting down, the locking lever is opened. During knee flexion, the spring mechanism (2) is compressed and stores energy, which is later available for standing up again. Undesired re-extension is prevented by the knee head locking unilaterally from a defined angle. To ensure mobility of the leg even when the spring is compressed, the energy storage can be disconnected from the knee head via an internal coupling mechanism (3). To do this, the pushbutton (4) on the side is actuated. The transitions between the three states (standing, seated, decoupled) are clearly defined by mechanical interconnections to ensure safe use. The energy storage unit is automatically discharged when the leg is extended, even if it was previously uncoupled, in order to rule out the possibility of a subsequent unassisted sit-down.

