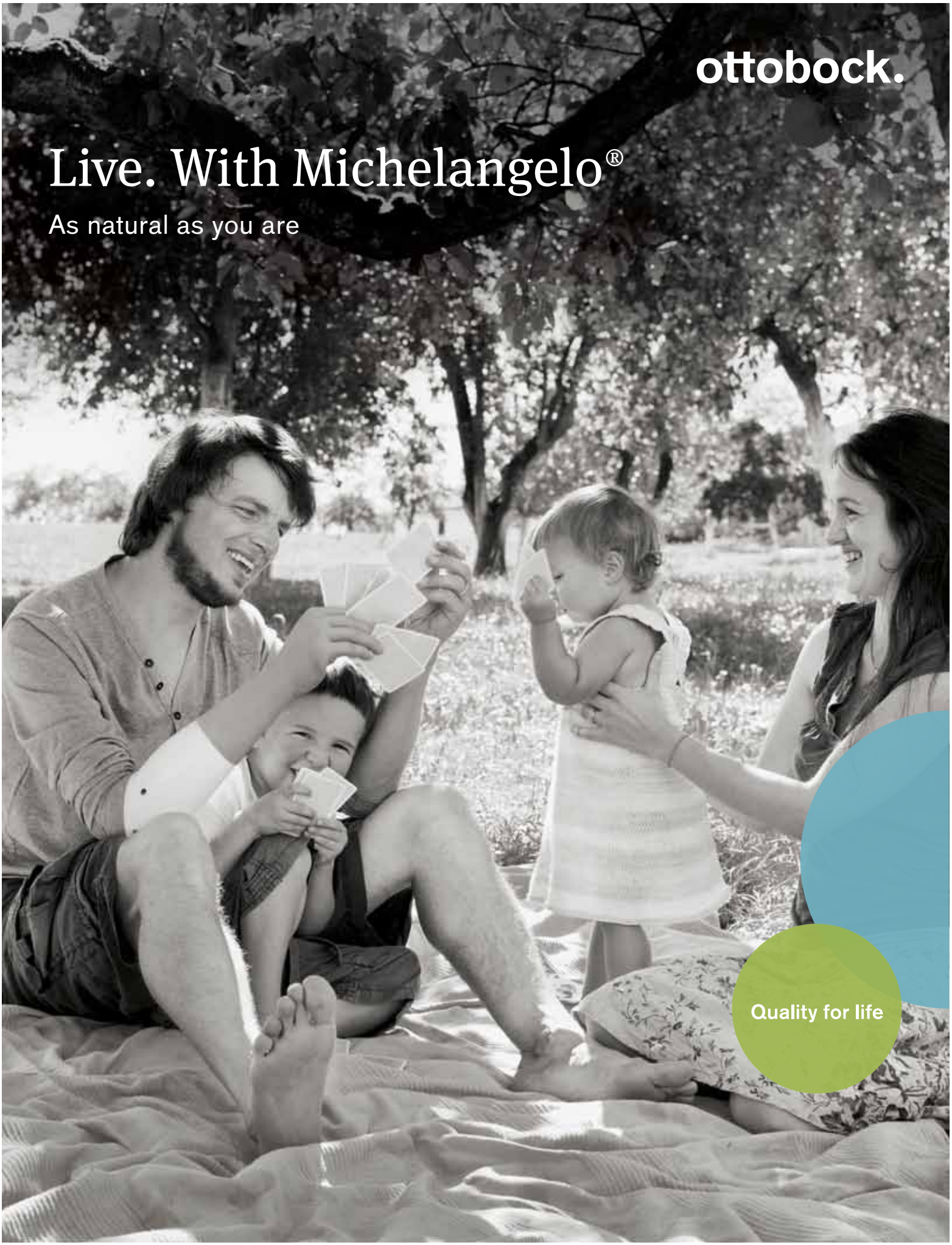
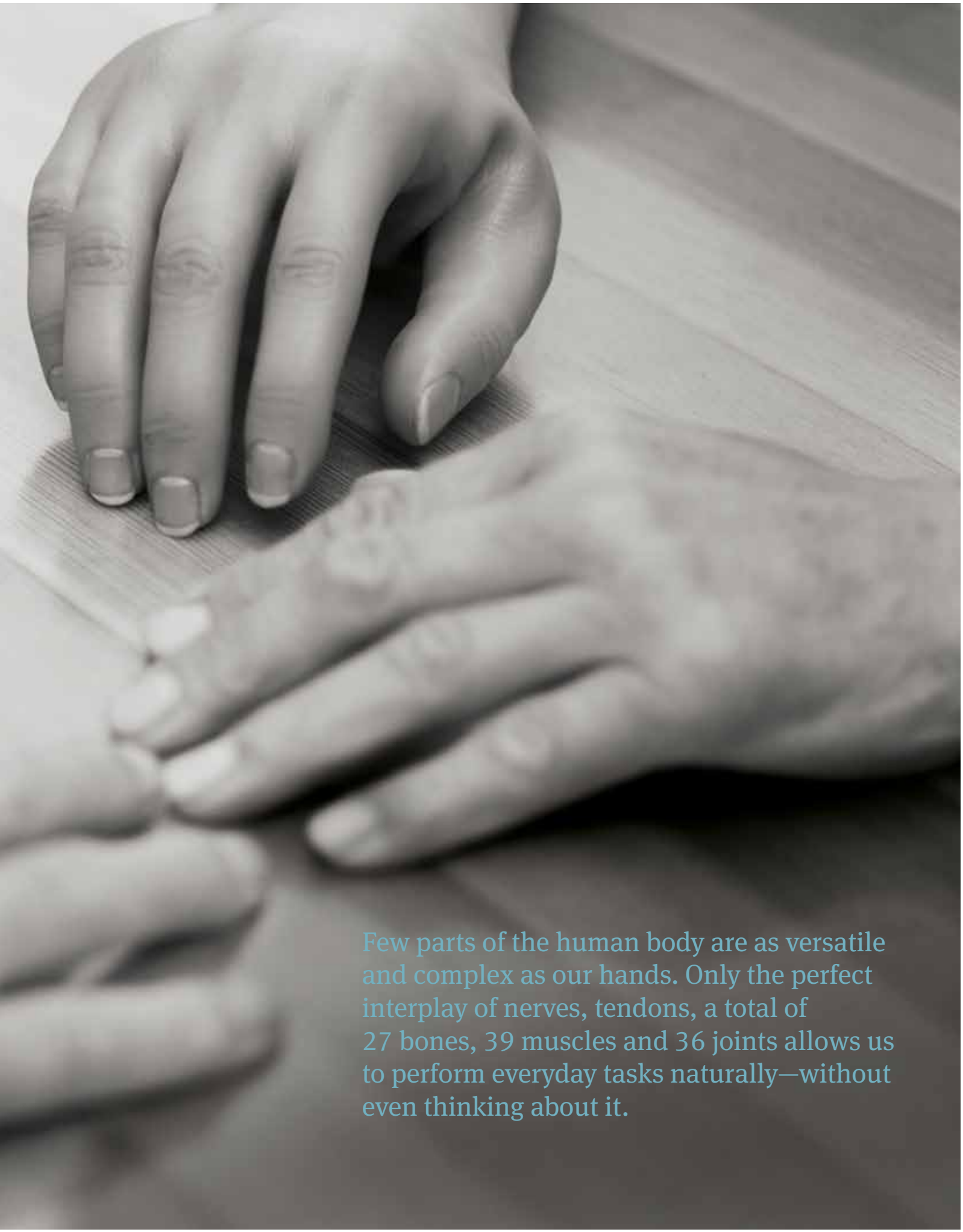

ottobock.
Live. With Michelangelo®
As natural as you are
Quality for life



Few parts of the human body are as versatile and complex as our hands. Only the perfect interplay of nerves, tendons, a total of 27 bones, 39 muscles and 36 joints allows us to perform everyday tasks naturally—without even thinking about it.

Communicate.
With Michelangelo®

The human hand is incredible. Skills can be refined, speed increased. It can be used for detailed work with a light touch—or for heavy-handed power.

But hands are more than just tools. They also say something about a person's character and, with their gestures, are part of the way we communicate. Recreating the natural form and as many of these functions as possible in a prosthesis is one of the greatest challenges for medical technology.

The Michelangelo® Prosthetic Hand offers incredible function and can restore many hand functions for you.

In combination with the new Axon-Bus® system, it constitutes a milestone in prosthetic fittings for the upper limb. Thanks to its special design, it integrates beautifully into a natural body image.

The big plus
All new product features are identified with a red "plus" in the following sections.

Focus on the essentials.
With Michelangelo®

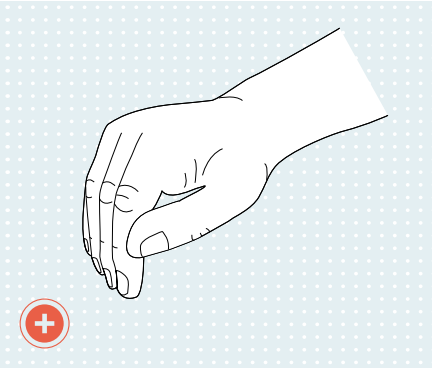
Life's greatest challenges are often the little things. Amputees are particularly aware of how valuable it is to master everyday tasks themselves—without the help of others.

The Michelangelo® hand offers four movable fingers and a thumb that can be separately positioned using muscle signals. This results in the ability to perform various gripping movements with an ease and confidence never before seen in prosthetics.

In order to achieve a natural movement pattern, the hand is equipped with two drive units. The main drive is responsible for gripping movements and gripping force while the thumb drive allows the thumb to be moved in an additional axis of movement. The thumb, index finger and middle finger are actively driven, while the ring finger and little finger passively follow the other fingers.

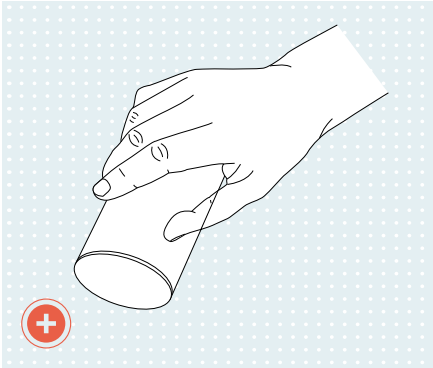
Thanks to its unique design, you have seven different hand positions available to you—more than any other hand on the market. Whether you're cooking, driving, turning pages in a book or typing on a keyboard, the Michelangelo® Hand helps you integrate such movements into your everyday life.

Lateral Mode



Lateral Pinch

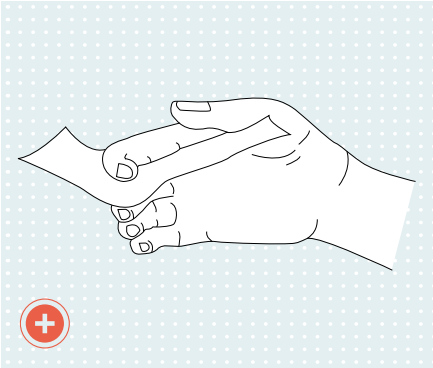
You move the thumb sideways towards the index finger so that you can grasp flat items.



Lateral Power Grip

Here you move the thumb sideways to the index finger, so that you can grasp objects of medium size from the side.

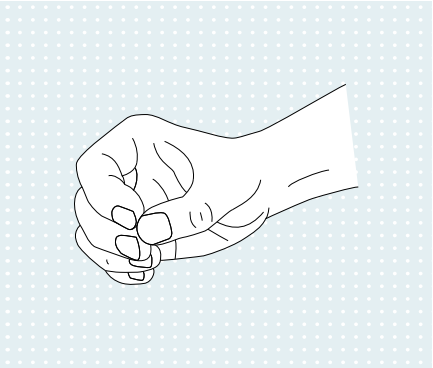
Lateral Mode + Opposition Mode



Finger Abduction/Adduction

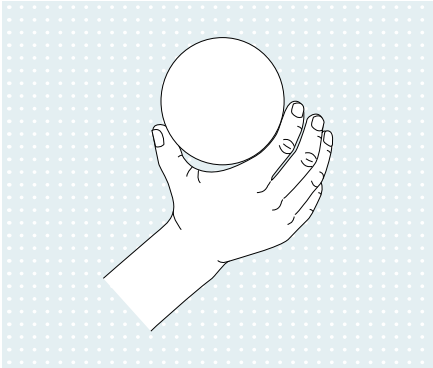
Opening and closing the fingers allows you to hold several flat, thin objects between the fingers.

Opposition Mode



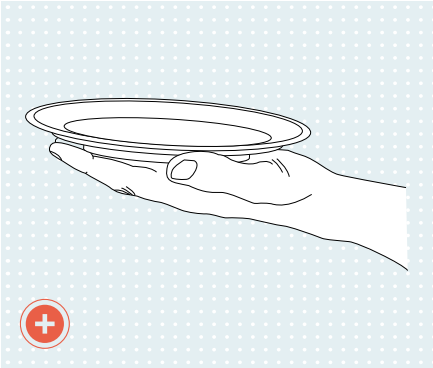
Tripod Pinch

Together with the index finger and the middle finger, the thumb forms a three-point support so you can hold small objects securely.



Opposition Power Grip

The opening width allows you to hold objects with a large diameter.



Open Palm

In the open palm position, the thumb is far to the outside so you have a flat hand.

Neutral Mode

Neutral Position

Rest position with a natural appearance.

Natural.
With Michelangelo®

The design of the Michelangelo Hand is something to behold. Its technical features can be shown off with a translucent glove—or made to look so natural that the hand is barely noticed.

For the product designers and developers, making the appearance and feel of the Michelangelo® Hand resemble a natural hand as closely as possible posed a special challenge.

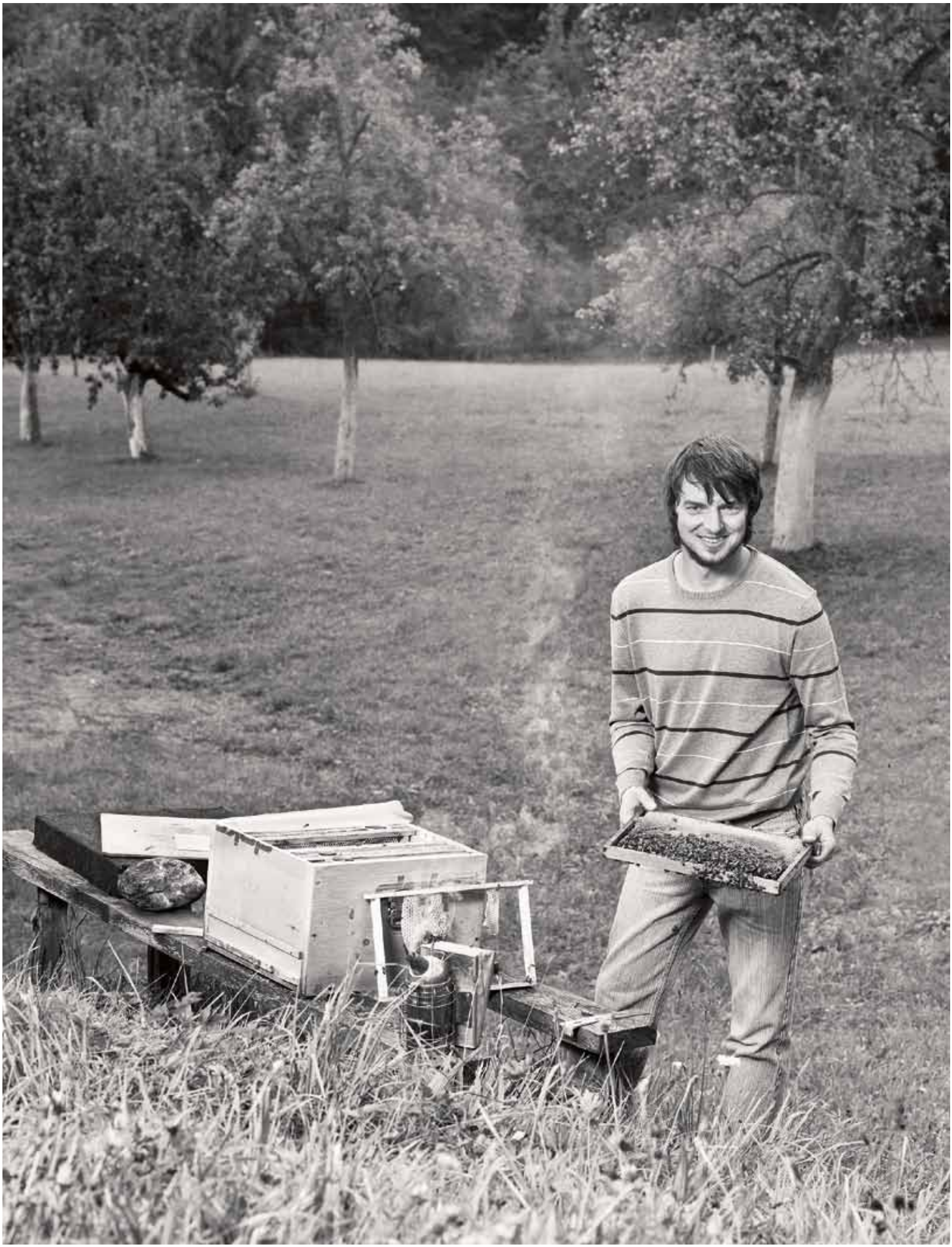
The fingers are made from a combination of both soft and hard materials, and are based on the natural hand down to the finest details, while the flat, oval hand adapter—even more than previously available round wrist joints—increases its natural appearance. In flexible mode, the wrist joint (AxonWrist) also permits a relaxed body posture and minimizes compensating movements.

Flex points have been integrated into the hand shells, helping to make the movements of the wrist joint and thumb, which can be separately positioned, appear very natural.

Prosthetic gloves are available to match the Michelangelo® hand. You can choose from six different colors.

The PVC gloves have a multilayer structure, with colored fibers that model the blood vessels in the human hand. They offer a discreet, natural appearance while remaining tough and just right for everyday use.

For those who want to draw attention to their high-tech prosthesis, a translucent prosthetic glove will also be available in order to show off the Michelangelo® Hand's futuristic design.



Expand your range of motion.
With Michelangelo®

The enhanced performance of the Michelangelo Hand makes everyday tasks easier, and provides maximum independence and flexibility.

The mechanical AxonWrist takes things to the next level: its physiological shape can be flexed, extended and rotated, but it really stands out in its flexible mode, where it takes on the movement pattern of a relaxed wrist joint. It helps to prevent unnatural compensating movements while keeping your posture relaxed and healthy.

Safety.
With Michelangelo®

In your everyday life, you need a prosthesis that always works perfectly all the time, offering you safety and reliability. You have to be able to rely on your Michelangelo® Hand in critical moments.

The technology of the Michelangelo® Hand is based on the Axon-Bus® system. It was derived from proven, safety-related systems in the aviation and automobile industry and adapted for use in prosthetics.

The advantage is that the Axon-Bus® system constitutes an integrated data transmission system. The individual components are optimized to communicate perfectly and work with each other. For you, the benefit is that there is no loss in the speed and functionality of your hand; plus you enjoy a clear advantage in safety and reliability.

Michelangelo® Hand
The Michelangelo® Hand features complex gripping kinematics—offering more patterns than any other prosthetic hand—and combines incredibly natural appearance with low weight.

Main drive
The main drive is responsible for the gripping movements and grip force. The thumb, index finger and middle finger are actively driven while the ring finger and little finger passively follow the other fingers.

Release buttons on both sides
By simultaneously pressing the release buttons, you can detach the prosthetic hand from the socket.

Flat oval wrist joint
The oval hand adapter has a very natural appearance. Flexion and extension are based on the position of a relaxed wrist (Flexible Mode). Passive inward and outward rotation is also supported.

Soft fingertips
Based on nature down to the details; the fingers are made of a combination of soft and hard materials.

Separately movable thumb
The thumb drive allows for a variety of positions. Rotating the thumb outward creates a flat, open hand for additional movements.

Flexible wrist joint
The lock button on the wrist joint lets you choose between flexible and rigid wrist modes.

Everyday life.
With Michelangelo®

Your Michelangelo® Hand features a wide range of functions. However, the most important thing is that you feel safe while using it and are able to use the hand positions and movement patterns to your advantage.

The Michelangelo® Hand was designed to be easy to use for everyday activities. Your prosthetist will initially adjust the prosthesis and show you how you can use its numerous functions, but ideally a therapist will work with you to expand your knowledge base as well as your own abilities. With a therapist, you'll practice, for example, how to use the device while also maintaining good posture.

Right from the start, you should also practice at home on your own. Just make sure you communicate with your therapist and that you match your exercises to your abilities and comfort level. To help with this, we created practical and easy-to-understand exercises on DVD that you will receive together with your Michelangelo® Hand. With this training, you'll become more confident and adapt with your Michelangelo® Hand—so you can take on all that life has to offer.

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DVD Training:

Using the Michelangelo® Hand in practice. Live. With Michelangelo®

The result for you:
Turning technology to your advantage

The innovation
As a system provider, Ottobock is offering a completely new prosthesis system that ensures fast and secure data transmission thanks to digital data transfer technology.

- Optimized, harmonized system
- Very high grip force and speed

The technology
The integrated wrist joint permits flexion, extension and rotation. This flexibility helps you maintain a natural, healthy posture when using the hand. Another new feature is the postitionable thumb which can be separately positioned using myoelectric signals. Its adjustability lets you take advantage of entirely new hand positions.

- Active thumb positioning with two movement axes
- Wrist joint with flexion, extension and rotation
- Significantly more degrees of freedom

The design
The Michelangelo® Hand features a particularly natural design with various hard and soft structures for the physiological modelling of bones, joints, muscles and tendons. The oval wrist adapter also appears much more natural compared to a conventional prosthesis.

For users, a fitting with the Michelangelo® Hand offers new movement possibilities: You can live your life more actively and naturally, participating wherever and whenever you want—at work, at home, and at play.

Design Deutschland 2011 SELECTED

reddot design award winner 2011

Would you like to find out more?

For more information on the Michelangelo® Hand and certified fitting facilities, please visit the Michelangelo® website:

www.living-with-michelangelo.com

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