The NeoGrip surgical instrument was designed to work with the surgeon’s hand for improved grip, balance and efficient maneuvering within the surgical site. This instructional guide illustrates the different grips that can be used when working with the NeoGrip surgical instrument as well as how to lock and unlock. The NeoGrip handle works ergonomically with the surgeon’s hand and wrist to reduce muscle fatigue and cramps.

**Palm Grip**

A standard palm grip can be used by placing the NeoGrip handle into the palm of the hand. This grip allows for maneuvering of the surgical instrument at flat angles to the wrist. As the image to the left demonstrates, the handle of the surgical instrument is placed into the palm of the surgeon’s hand. The 4th and 5th digits are wrapped around the handle to provide stability. The other handle is placed against the base of the thumb for opening and closing the instrument.

Base of the thumb is used to open and close the surgical instrument.

When opening the instrument, the base of the thumb is used to maneuver the instrument open and closed as illustrated in the image on the right. The tip of the thumb can be used as well to open and close the surgical instrument if that is preferred. The index finger can be extended along the shanks for maneuvering if preferred.
**Locking and Unlocking with a Palm Grip**

To lock the NeoGrip instrument, the base of the thumb presses firmly against the handle which pushes the two shanks together until the instrument is locked. The 4th and 5th digits are used to stabilize the other handle as the instrument locks in place. The instrument is locked in the image on the left.

- **The base of the thumb is used to press firmly against the handle.**
- **4th and 5th digits hold the instrument stable.**

When unlocking the instrument using a palm grip, the base of the thumb presses firmly against the end of the handle until the locking mechanism releases. The 4th and 5th digits hold the other handle firmly to keep the instrument from rotating. The tip of the thumb can be used as well to push down on the shank which will also release the locking mechanism.

- **Base of the thumb pushes down firmly to unlock.**
- **4th and 5th digit hold the handle firmly to keep the instrument from rotating.**

The thumb can then be used to open and close the instrument for continued use.
One of the advantages of the NeoGrip instrument is the ability to change grips quickly and efficiently. With this modified palm grip the 3rd and 4th digits are holding the handle in place while the base of the thumb (or tip if preferred) is used to open and close the instrument.

Another modified palm grip is to use the 2nd and 3rd digits to hold the handle in place while the base of the thumb (or tip if preferred) is used to open and close the instrument. With these modified palm grips it is up to the surgeon to decide what grip feels and works best for them.
**Pencil Grip**

A pencil grip is the most precise grip the human hand can use. Because of our years of training to use writing implements, the human hand can maneuver using the pencil grip with great efficiency and agility. The design of the *NeoGrip* surgical instrument is based on the pencil grip to give the surgeon the ability to use instruments that require precise movements while at the same time maintaining an ergonomic angle of the wrist and hand to the surgical site.

A closer look at how to use the pencil grip is demonstrated in the image on the right. The handle to the right is placed between the base of the thumb and 2nd digit. The 3rd digit is placed in the groove at the base of the right handle to hold the handle against the base of the thumb and 2nd digit. The tip of the thumb and 2nd digit are on opposite sides of the handle for maneuvering.

As seen in the image to the left, when using a pencil grip, the wrist and hand are at ergonomic angles to the surgical site. This reduces muscle fatigue and cramping during the surgical procedure. Because the rings have been removed the instrument now fits precisely in the surgeon’s hand for easy maneuverability.

- The wrist is flat and relaxed.
- Instrument is facing the surgical site.
- The handle is placed at the base of the thumb and 2nd digit.
- The 4th digit helps brace and stabilize the right shank.
- The tip of the thumb and 2nd digit are on opposite sides of the handle for maneuvering.
- The 3rd digit is placed in the groove at the base of the handle to hold the handle in place.
When locking the instrument, the tip of the thumb and 2nd digit force the two handles together until the instrument locks. The third digit stabilizes the right handle by holding it firmly against the base of the thumb and 2nd finger. The 4th digit can be used to brace and stabilize the right shank for efficient maneuvering.

To open and close the instrument, the handle on the left is extended or retracted using the tip of the thumb and 2nd digit. The 3rd digit stabilizes the right handle by holding it firmly against the base of the thumb and 2nd finger. The 4th digit can be used to brace and stabilize the right shank for efficient maneuvering.

**Locking and Unlocking with a Pencil Grip**

When locking the instrument, the tip of the thumb and 2nd digit force the two handles together until the instrument locks. The third digit is used to stabilize the instrument at the base of the thumb and 2nd digit. The 4th digit can be used to brace the instrument as well. In the image on the left the instrument has been locked.

The 3rd and 4th digits are used to stabilize the instrument.
To unlock the instrument, the thumb is slid over to the handle on the right and used to hold the handle between the 3rd digit and thumb. Holding the handle between the 3rd digit and thumb stabilizes the instrument and prevents it from rotating. The 4th digit is also used to brace the right shank and stabilize the instrument. The 2nd digit applies an oblique force to the opposite handle toward the thumb once the instrument is stabilized. The locking mechanism will then release.

2nd digit applies an oblique force toward the thumb.

Once the instrument is unlocked, the thumb can be slid back to the left handle for opening and closing as previously discussed.

The thumb and 3rd digit hold the right handle for stability.

The 3rd digit holds the handle firmly against the base of the thumb and 2nd digit for stability.
Modified Pencil Grip

With a modified pencil grip, the tip of the thumb and 2nd digit manipulate the handle on the left as with the standard pencil grip, but the handle on the right is firmly under the base of the 2nd digit. The 3rd and 4th digits hold the shank on the right in place as the instrument is maneuvered around the surgical site.

The handle is placed firmly against the base of the 2nd digit.

The 3rd and 4th digit hold the right shank between them for stability.

In viewing the modified pencil grip from below, the image on the right shows the handle firmly under the base of the 2nd digit with the 3rd and 4th digits holding the right shank for stability. The tips of the thumb and 2nd digit manipulate the left handle for opening and closing the instrument.

The tip of the thumb and 2nd digit manipulate the left handle.

The 3rd and 4th digits hold the right shank between them for stability.
The tip of the thumb and 2nd digit are used to open and close the instrument as well as maneuver within the surgical site as was demonstrated with the standard pencil grip.

Locking and unlocking using the modified pencil grip is the same as with the standard pencil grip. The thumb is slid to the right handle for stability and the 2nd digit uses an oblique force on the opposite handle toward the thumb to unlock the instrument.

The right handle is held firmly against the base of the 2nd digit for stability.

The 3rd and 4th digits stabilize the right shank.

The tip of the thumb and 2nd digit manipulate the instrument open and closed.

When using the NeoGrip surgical instrument in the left hand, all of the grips discussed in this guide can still be used. The only difference is the locking and unlocking of the instrument. To unlock the instrument, the 4th and 5th digits are used to press firmly against the handle. The locking mechanism will release and all other maneuvering is the same. The thumb and 2nd digit are used to stabilize the instrument as discussed previously.
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