# "Express-Guide" Tutorial

"Express-Guide" is a device (device is shown in Pic.1 below) for making surgical guides (SG) in real time without needing an optic scanner and a 3D printer. Making process of guides involves four subsequent stages:

## Stage 1: Making a Radiographic Guide (RG)

Stage 2: Virtual planning

Stage 3: Device setup

## Stage 4: Converting the RG to an SG (Surgical Guide)

Each stage is described step by step below. Every step is numbered (like 1.1,1.2,.1.3, etc.). The numbers match with parts in the video. It is best to read the steps and watch the video together. Video link: https://vimeo.com/889352168 (Password: express-guide)

Need assistance with the tutorial or have questions about our product? Please don't hesitate to contact us. Reach out via WhatsApp at +1 512-886-0011 or email us at ordersurgicalguide@gmail.com. We're here to help!

## Stage 1. Making a Radiographic Guide (RG)

\*Note: If a patient already has a removable denture or radiographic guide, you can convert it into an RG. In this case, skip steps 1.1 to 1.5 and start directly from step 1.6.

#### Steps of Stage 1: (identify each step in the video by its number)

1.1. Create an artificial tooth (AT) using light-cured plate (LCP) material

- 1.2. Mark the implant's location on both the occlusal and gingival surfaces of the AT.
- 1.3. Cut a gingiva-occlusal hole (GOH) through the gingival and occlusal marks.
- 1.4. Outline the edges of the RG.

Recommendations for the outline:

a) On teeth: ensure the line does not cross the height of contour (HOC) of the teeth. b) In an edentulous area: keep the outline more than 3mm from the top of the alveolar ridge.

1.5. Shape the RG from the LCP within the marked boundaries.

1.6. Cut a hole in the RG through the GOH

1.7. Tighten the part 3's thinnest cylinder (the thinnest cylinder is shown in Pic.3 below) in the GOH

1.8. Gently clamp the RG between part 3's middle cylinder (the middle cylinder is shown in Pic 3) and part 1's tube (the tube is shown in Pic 2). Ensure that the middle cylinder is at the occlusal side of the RG.

1.9. On the cross-section, imprint the buccal opposite screw (BOS), lingual opposite screw (LOS), and buccal auxiliary screw (BAS) on the RT flanges (the screws are shown in Pic.2)



#### **Stage 2: Virtual Planning**

Steps of Stage 2: (Refer to the video for each step)

- 2.1. Perform a CBCT scan of the jaw with the RG.
- 2.2. Download the free "ImplaStation" software from the internet (https://en.implastation.com/downloads/)
- 2.3. Open CT dicom files in "ImplaStation"
- 2.4. Switch to MPR mode
- 2.5. In the "axial" window, place the intersection point of the sagittal and transversal axes at the center of the GOH
- 2.6. In the "sagittal" window, align the vertical axis with the central axis of the GOH
- 2.7. In the "coronal" window, align the vertical axis with the central axis of the GOH
- 2.8. In the "axial" window, rotate the coronal plane to a position where the bottoms of the BOS and LOS imprints are visible in the "coronal" window
- 2.9. In the "coronal" window, position the transversal plane in the center of the bottoms of the BOS and LOS imprints
- 2.10. In the "coronal" window, place a virtual implant and give it optimal position and size

2.11. Measure the OL distance, ∠O angle, and AG distance (as shown in Picture 4).

2.12. Save the plan by capturing the screen.

### Stage 3. Device setup

Steps of Stage 3: (Watch the video for each step)

3.1. Fix part1 onto the holder (holder is shown in Pic.1 as part 4)

- 3.2. Insert the angulometer (angulometer shown in Pic.1 as part 8) into the upper processor (Pic.2) of part1
- 3.3. Calibrate the angulometer to 90 degrees and then remove it
- 3.4. Place and fix the arc (arc is shown in Pic.1 as part2) onto part1
- 3.5. Adjust the navigator element (navigator element is shown in Pic.5) to match the  $\angle O$  as displayed on the angulometer screen
- 3.6. Immobilize the navigator element onto the arc using two lateral screws
- 3.7. Set up the LOS according to OL-distance
- 3.8. Immobilize the LOS in place
- 3.9. First, detach part 1 from the holder and then remove the angulometer from part 1.

## Stage 4. Converting the RG to an SG

Steps of Stage 4: (Watch the video for each step)

- 4.1 Enlarge the hole in the RG
- 4.2. Place part1 on the RG

- 4.3. Insert part 3 into the navigator element until the middle cylinder reaches the edge of the tube
- 4.4. Slide the edge of part 3 by the distance (AG-L).
- 4.5. Immobilize part3 in place with the middle screw
- 4.6. Fill the hole with LCP (light-cured plate) material
- 4.7. After loosening the middle screw, rotate the installer
- 4.8. Recheck the position of part 3
- 4.9. Cure the LCP material around the middle cylinder. Ensure the boundary between the middle and thicker cylinders is imprinted in the LCP material
- 4.10. Unfasten the RG from the device screws.
- 4.11. Remove part1 and part3 from the RG.
- 4.12. Refine the RG. This step completes the conversion of the RG to the SG.





**Point O** (as shown in Pic 4, a) marks the intersection between the implant's central axis (6) and the transversal plane (4), which crosses the centers of both the buccal (3) and lingual (1) imprints.

**Point L** (Pic 4, a) is located at the center of the bottom of the lingual imprint (1). **Point G** (Pic 4, a) represents the intersection point where the implant's central axis (6) meets the gum outline.

Point A (Pic 4, a) denotes the implant apical located on the central axis (6) of the implant.

Distance OL (Pic 4, b) is the measurement between points O and L.

Distance AG (Pic 4, b) measures the span from point A to point G.

Angle  $\angle O$  (Pic 4, b) is the angle formed between the implant's central axis (6) and the transversal plane (4) in the apico-lingual quadrant.

