ExactechGPS® computer-assisted surgical technology provides surgeons with real-time visual guidance and alignment data in shoulder arthroplasty. Customized for surgeon preferences, ExactechGPS is a powerful addition to the surgical team’s goals of achieving efficacy, efficiency and economics for shoulder arthroplasty.

The ExactechGPS Shoulder Application was developed in conjunction with:

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emilie V. Cheung, MD</td>
<td>Stanford University</td>
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<td>Joseph Zuckerman, MD</td>
<td>NYU Hospital for Joint Diseases</td>
<td>New York, NY</td>
</tr>
</tbody>
</table>
### Screen Layout

#### Icon Description

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
</table>
| 🌐          | Change Language
| 🜁          | Change the default language of the software.                                |
| 📸          | Insert Starter Key
| 📸          | Insert a starter key from the disposable kit to start the shoulder application. |
| 🕳️          | Screenshot
| 🕳️          | Take a screen shot of the current screen. The picture is recorded in the operative report. |
| ✗           | Exit
| ✗           | Exit the shoulder application.                                             |
| 🎁           | Go Forward
| 🎁           | Go to the next step.                                                       |
| 🎁           | Go Backward
| 🎁           | Go to the previous step.                                                   |
| 🏡           | Home
| 🏡           | Access the home screen.                                                    |
| 🚦           | Switch OFF
| 🚦           | Switch OFF the station.                                                    |
| 🔧           | Tools
| 🔧           | Access maintenance options.                                                |
| 🜁           | Total Shoulder
| 🜁           | Access detailed options related to total shoulder application.             |
EXACTECHGPS SHOULDER APPLICATION WORKFLOW OVERVIEW

1. **Obtain CT Scans**

2. **Upload CT Scans into Equinoxe® Planning App and Create a Case**

3. **View Completed Reconstruction**
EXACTECHGPS SHOULDER APPLICATION WORKFLOW OVERVIEW

Create Preoperative Plan

Follow the Operative Plan in the Operating Room with ExactechGPS

Export Planned Case to USB*

Exactech Representative to Upload Case to GPS Web via GetStationLog

*Export from the same computer used to plan the case. Do NOT use an encrypted USB/iron key.
Both the sales representative and surgeon must have GPS Web accounts to access the Equinoxe® Planning App and the ExactechGPS Shoulder Application.

Upon launching the preoperative planning software, a Login Screen will appear and prompt for login credentials (Figure 1).

**Note:** Login credentials are the same as the GPS Web account.

The Welcome Screen will appear and display options to Create a New Case or List Existing Cases (Figure 2).
When creating a new case, you will be asked to find the imaging study for the case. This may be located on a CD, DVD, or USB drive. When selected, the preview will show up in the list of cases (Figure 3).

If the scan is older than 6 months, the system will provide a warning (Figure 4). It is important that the bony anatomy is as accurate as possible for the placement of the implants. Bony erosion after the scan can lead to registration inaccuracies intraoperatively.

**Note:** Users MUST follow the CT protocol in the user manual. CT scans must be sent to Exactech 7-10 business days prior to surgery.
Select the imaging study and choose Validate. This will show a preview of the images in the study to confirm this is the correct set to be used for the reconstruction. At this step, you must identify the shoulder as a LEFT or a RIGHT shoulder (Figure 5).

You will then be asked to enter information regarding the patient (Figure 6). The Patient ID entered here will be used to de-identify the information transferred for 3D reconstruction. Create an identifying name you will recognize once the 3D reconstruction displays on your list of cases.
Once the information is entered you will be given the option to upload the case to GPS Web now or later. Press Now if you currently have a network connection (Figure 7) then press Validate.

The case will be uploaded to GPS Web and reconstructed. Once reconstruction is complete, the case will show up in your list of existing cases and you may download the 3D reconstruction file to plan your case (Figure 8). Click the Edit Planning function to bring up the preoperative planning tool.
The preoperative planning tool will open your selected case, with the patient’s scapula shown in the viewing window (Figure 9).

**Note:** The system defaults to 36mm, which is a special order item. 38mm is the standard glenosphere.

When planning the case, there are numerous options. First you should choose if this will be an anatomic reconstruction or a reverse shoulder reconstruction by selecting either Anatomical or Reverse on the left side of the screen (Figure 10).
After selecting the type of procedure, you can also activate different implants from the menu on the left side of the screen (Figure 11).

The implant may be manipulated on the bone using the menu on the right side of the screen (Figure 12).

*Note: Each click is 1mm or 1 degree of movement.*
There are different ways to visualize the bone. These may be toggled using the menu across the top.

**Solid 3D Body** – Helps identify perforation of the component outside the cortices (*Figure 13*).

**Transparent 3D Body** – Helps visualize the placement of the central fixation or peripheral pegs inside the bone as well as backside coverage of the implant (*Figure 14*).
There is also a view that incorporates the CT slices to estimate where the cortices will be relative to the bone (Figure 15). The slide bar can be used to look through all the CT slices in a particular view.

*Note: Implant must be selected to show the CT scan.*

When looking at the CT views, the bone may be sliced at the section of the CT view by selecting the Cut Bone feature (Figure 16).
At any point, the implants may be toggled on or off using the buttons in the upper left of the screen (Figure 17).

*Note:* When planning for the first cases, be mindful of the estimated reaming depth. Most surgeons will plan for 100% backside implant seating, but in surgery would not normally ream this aggressively. You can stop short of the planned reaming depth in surgery.

Once complete, you can save the plan by selecting the disk in the lower left (Figure 18).

*Note:* Plans can only be saved locally; users must export from the computer on which the case was planned.
At this point, the plan may be exported to a USB drive for uploading into the station (Figure 19). Under Action(s), select Transfer to USB Drive to export the preoperative plan.

**Note:** Once your surgical plan has been transferred to your USB drive, it can still be adjusted in the future using the same computer and re-transferred. If you need to adjust at a later date or before surgery and do not have the same computer, the surgical plan can be adjusted on the ExactechGPS station after the cases have been loaded. Encrypted USB drives, such as iron key, cannot be used with the GPS system.
DETAILED OPERATIVE TECHNIQUE

SURGICAL TECHNIQUE

Patient Positioning
The patient should be placed on an operating table in a supine position. The head of the operating table should be elevated approximately 30° in a modified beach chair position. A small bolster should be placed laterally behind the involved shoulder. The patient should be moved to the side of the table so that the upper extremity can be placed into maximum extension without obstruction by the operating table. Alternatively, a Captain’s chair or similar positioning device can be used for proper patient positioning. The patient should be secured to the operating table to minimize any changes in position intraoperatively.

Once the patient is secure, the extremity is examined to assess the range of motion, with particular attention to external rotation with the arm at the side. If external rotation is restricted (i.e. internal rotation contracture) the need for more extensive subscapularis mobilization or lengthening procedures may be necessary. The entire upper extremity should be prepped to allow complete access to the operative area and full mobility during the procedure.

Station Positioning
With the patient in place, the ExactechGPS station may be set up. The station should be placed near the patient’s opposite hip where visibility is optimal. Attach the GPS clamp to the bed rail under the patient’s hips on the contralateral side, assuming there is one rail under the back, one rail under the hips, and one rail under the lower legs. Bring the clamp all the way up to the edge of the bed rail under the hips, toward the patient’s head.

If patient positioning is too flat or supine, tracker visibility with the station could be impeded. If the surgeon prefers not to adjust the patient position to a beach chair angle, the station should be adjusted on the table closer and superior to the hip. The arm holder/pad for the non-operative arm should be positioned toward the head (elbow pulled back) so the station can sit higher on the rail for better line of sight to the tracker.

Drape the patient once the station is in the optimal position (GPS station and arm are attached to bed rail).

Note: When draping, it is helpful to adjust the head holder all the way back, and turn the patient’s head to the contralateral side if possible. This helps to keep the drapes and intubation away from obstructing the view of the trackers. It can also be helpful to tape down the drapes around the patient’s head.

Ensure the camera and station have line-of-sight to the incision to guarantee visibility throughout the technique (Figures 20-22).

Note: In a cold room or climate, start the station 30-45 min. in advance to ensure proper tracker/camera visibility. When plugging in the station, first screw the power cable into the back of the station, then plug the other end of the power cable into the wall, and finally turn on the unit.
START EXACTECHGPS SHOULDER APPLICATION

Insert the Starter Key from the ExactechGPS Disposable Kit when prompted to initiate the ExactechGPS Shoulder Application (Figure 23). Press the Shoulder Application icon. The Shoulder Application screen will appear (Figure 24). Select the arrow at the lower right corner of the display to advance to the Patient screen.

Import the case from the USB drive used in the preoperative planning tool by selecting Import Cases and selecting the proper case. Select the drop down menu to choose this case, making sure to verify proper shoulder side and correct orientation of the upper mounting arm. (Figure 25) and patient ID number. Choose Anatomical Procedure or Reverse Procedure based on the type of procedure, and select the option for either pilot tip or cannulated instrumentation (Figure 26).

Patient identification information can be entered into the fields displayed (Figure 27). All fields are optional and this information is only stored on the Starter Key.
BATTERY INSERTION

The Seeking Tracker screen is displayed. Insert batteries, the positive side first, into the three trackers **Probe Tracker (P)**, **Glenoid Tracker (G)**, and **Tool Tracker (T)** (Figure 28).

Caution: Inserting negative side first or in reverse polarity may cause permanent damage to the tracker (Figure 29).

When the battery is properly inserted, an LED on each tracker will illuminate solid red/orange then begin to blink green. Position the trackers such that the LEDs face the ExactechGPS Unit. An audible tone will indicate when each tracker connects to the ExactechGPS system. At the same time, the respective tracker is highlighted on the Unit, and the LED illuminates solid orange. After the camera and three trackers connect, the system will automatically advance to the next screen.
Follow the onscreen prompts for calibrating the probe and tracker. This step confirms that the probe tip is straight.

The One-Step Calibration screen is displayed (Figure 30). Place the tip of the Probe Tracker (P) into the dimple node at the top of the T Tracker. Hold both together no more than 16 inches from the display unit ensuring the white diodes are facing the camera.

When positioned correctly, the T and P status indicators on the display will appear green. Press the Forward button on the probe to initiate calibration. The progress bar will fill and an audible tone will indicate successful calibration. The system will automatically advance to the next screen.

**Note:** Attach the T Tracker to your modular driver at this point. At any point in the procedure where you attach a tracker to an instrument, test the physical connection every time by firmly tugging on the tracker once it is attached. The tracker will remain in place if it is properly attached.
An anterior deltopectoral incision is made beginning inferior to the clavicle and passing over the coracoid process and extending distally toward the deltoid insertion (Figure 31). Medial and lateral subcutaneous flaps are created, and the deltopectoral interval is identified.

The position of the tracker on the coracoid requires exposure of the coracoid bone. The incision should start 10mm proximal to the tip of the coracoid to guarantee exposure and minimize tissue tension throughout the case. The extended incision is required to minimize soft tissue force on the tracker fixation throughout the case.
A thin fat stripe is usually located over the cephalic vein; the interval can be developed laterally depending on the surgeon’s preference (Figure 32). Branches of the cephalic vein on the approach side are cauterized, and the interval is developed inferior to superior to expose the clavipectoral fascia.

The advantage of retracting the cephalic vein with the deltoid is the majority of the branches come from the deltoid. The disadvantage is the vein is more exposed to injury from the retractor as it crosses the superior aspect of the interval.
Resect the upper 1/3 of pectoralis tendon *(Figure 33).*  
Tenodese the biceps tendon *(Figure 34).*
The subdeltoid space is mobilized with a blunt elevator. The clavipectoral fascia is incised longitudinally up to the coracoacromial ligament (which is spared), and the conjoined tendon is mobilized. A self-retaining retractor is placed with care to avoid excessive traction on the conjoined tendon (Figure 35). The coracoacromial ligament is identified and the subacromial space is mobilized with a blunt elevator.

The subscapularis tendon insertion on the lesser tuberosity is identified along with the rotator interval. The anterior humeral circumflex vessels along the inferior border of the subscapularis muscle, the “three sisters,” are cauterized extensively, and the biceps tendon is palpated in its groove (Figure 36). The subscapularis tendon and the capsule are tenotomized 1cm medial to the lesser tuberosity and tagged with #1 sutures.

An alternative approach is to elevate the subscapularis directly off of bone or elevate its insertion with a thin wafer of bone (1-2mm thick) using an osteotome. The choice is based on surgeon preference.
The rotator interval is divided in a lateral to medial direction up to the superior glenoid rim (Figure 37). With the humerus extended, adducted and externally rotated, the capsule is carefully dissected off the inferior humeral neck, protecting the axillary nerve inferiorly with a small blunt retractor placed just inferior to the capsule. The capsular releases should be performed to allow 90° of external rotation. The self-retaining retractor is then repositioned to retract the subscapularis. At this point, the humeral head can be dislocated. Make the appropriate humeral head resection (Figure 38).
All areas in yellow must be exposed for acquisitions. All soft tissues and cartilage must be removed (Figure 39). Removal of the CA ligament is not required for acquisitions.

**Note:** Do not remove osteophytes or other bony landmarks before taking acquisitions, as these are necessary for proper use of the GPS system.
Place a retractor along the posterior border of the glenoid face (Figure 40) and retract the humeral head to expose the anterior glenoid edge. Dissect the anterior labrum (Figure 41).

Remove anterior labrum and capsule and clear soft tissue from glenoid face (Figure 42).

Carefully remove the hyaline cartilage from the glenoid surface using a Cobb elevator, ring curette, or comparable removal tool.

**Note:** It is critical to perform all the prep work on the humeral side (e.g. head resection) and extra glenoid exposure needed for your acquisition points before pinning the Coracoid Block. This is to minimize joint movement and risk of block fixation movement once the Coracoid Block has been pinned.

Continue exposing the glenoid by placing a blunt elevator under the subscapularis and releasing soft tissues attached to the anterior glenoid face. This will allow for better registration of the anterior glenoid border.

Some key steps to adequate glenoid exposure are as follows:

1. Fully mobilize subdeltoid space.
2. Release inferior capsule completely off the humerus while externally rotating the humerus.
3. Release anterior capsule and subscapularis from glenoid.
4. Excise labrum and release anterior and inferior capsule (protect axillary nerve).
5. Resect adequate amount of humerus.

6. Stretch posterior capsule with humeral head retractor pushing humerus posterior to the glenoid.

7. If exposure is not adequate after steps 1-7, release posterior inferior capsule and triceps origin (must isolate and retract axillary nerve for this procedure).

8. If still poor exposure (very rare), then a posterior capsule release should be performed.

Clear fascia on superior coracoid using an electrocautery or blade (Figure 43). Using a marking pen or cautery, identify the axis of the coracoid.

It is important to note the short head of the biceps inserts near the tip of the coracoid and the pectoralis minor can wrap over the bone from the anterior side. Portions of these tissues may need to be removed to gain access to the bone.

Identify any soft tissue on the inferior portion of the coracoid and around the coracoid base. Remove this soft tissue.
Once the coracoid is exposed, the tracker block should be affixed to the bone ensuring the tracker post is oriented toward the camera (Figure 44). Note the camera can maintain visibility up to 160°, but more direct focus leads to better signal strength.

**Note:** For the first cases, extend the incision above the coracoid until it is determined how much exposure is needed for block placement.

**Note:** Before pinning the coracoid block, attach the G Tracker and hold the block up to where you will pin it to the coracoid. This ensures tracker visibility to the station before pinning, as you will not be able to move it afterwards.

Coracoid anatomy can vary so you want to make sure that the threaded coracoid pins have solid bone purchase with the first try. This can be achieved by palpating or aiming with a small k-wire through the posterior angled pin hole.

**Step 1:** Position the block on top of the coracoid so it is in line with the axis of the coracoid and the trajectory of the screws will have good bone purchase, taking special care to ensure the posterior 30 degree angled pin will shoot down the base of the coracoid (Figure 45).

**Step 2:** Insert the short pin into the lateral slot in the block until hand tight. Aim for the middle of the slot so the block can self-adjust when the long pin is inserted (Figure 46).

**Step 3:** Insert the long pin into the medial hole of the block down the neck of the coracoid until hand tight. Carefully retighten pins, if necessary (Figure 47).
The block is now fixated and ready for tracker attachment (Figures 48-50).

**Note:** If the bone quality is dense, it can help to pierce the top cortex on the coracoid through the block holes with a small 1.6mm K-wire (no larger) before inserting the threaded pins.

**Note:** Screws should be tightened by hand (to confirm the G Tracker fixation).

**Note:** It is imperative to keep the coracoid block free of soft tissue tension throughout the case, and to keep a retractor behind it at all times. If there are assistants holding retractors, it is important to not let the tissue encroach on the base of the block. It is a good idea to gently feel the fixation of the block throughout each navigated step, to ensure it is still robust.

Use a gelpi, or similar self-retaining retractor, vertically to keep the coracoid block free of soft tissue tension. The retractor can be clamped to the patient’s head drapes to enable hands-free retraction.

**Note:** If robust fixation is not achieved the first time pinning the coracoid block to the bone, it is not advised to attempt repinning the block, creating additional holes in the bone.
PROBE TRACKER TECHNIQUE
Trackers may be paired before or after selecting the patient information. Before you begin registration, ensure that the G Tracker is completely seated on the coracoid block. Hold the Probe Tracker (P) with the index finger on the forward button making sure not to obstruct the IR LED between the button and the probe tip (Figure 51a).

Always make sure the probe tip is on the anatomic landmark press and release the forward button (Figure 51b).

For patch registration, place the probe tip on the anatomic landmark press and release the forward button; then paint the anatomic reference using an S-like pattern. To return to previous step or re-do an acquisition, rapidly double click the back button on the probe. The probe must be visible in order for the buttons to be selected.
Using a two handed approach, probe the acquisition points listed on each screen as guided by the system (Figure 51c-f). When the probe tip is in contact with the bony area to be acquired, press the forward button on the probe handle. The system will begin to acquire points as soon as the button is pressed. The button does not need to be held down to continue acquiring points, it only needs to be pressed once per step. Move the probe tip across the bony surface until the system has acquired enough points and moves to the next step. Take care to keep the probe in contact with bone the entirety of the acquisition process.

If the probe tip is lifted off or if incorrect points are acquired, you can redo the acquisitions by clicking the backwards button on the probe handle twice in succession.

On all points on the side walls of the glenoid face (inferior scapular neck, anterior lines), probe as medial on the bone as possible to aid in registration.
**Note:** Take care to sufficiently expose each acquisition area of all soft tissue and cartilage before probing points, so only bone is exposed and probed. Do not trim any osteophytes before taking acquisitions, even if they are a part of a specific acquisition area. The CT scan and 3D scapula model see only bone, so you must probe only bone for an accurate registration.

**Figure 52a:** Inferior glenoid neck

**Figure 52b:** Superior/Inferior line on scapular wall anterior of glenoid face

**Figure 52c:** Medial/Lateral line on scapular wall anterior of glenoid face

**Figure 52d:** Line on posterior face of glenoid

**Figure 52e:** Base of coracoid
The system will digitize the acquisitions and generate a color map of the points for verification (Figure 53).

- Green points indicate that the probed areas are accurate to the scapular mesh.
- Less accurate areas will be shown in yellow and red.

Surgeons should strive for all green points in the digitization. It is important to identify which acquisition areas may be inaccurate based on the color and locations of the points. For example, if there is a trail of yellow and red dots at the end of an acquisition area that extends off the surface of the bone, one can assume that the probe tip was lifted off of the bone surface before all points were acquired, and points were acquired in empty space.

Once all acquisitions obtained are green, the surgeon needs to verify accuracy as described below.

On this screen, the scapula can be spun around by touching the screen and rotating your finger, or using the mouse and clicking and rotating. Use the probe tip to touch different surfaces on the scapula to see the probe tip show up on the screen; this will verify the probe is registering where the user is physically touching the bone.
If any acquisition regions look inaccurate or include any red points, they should be repeated by selecting Redo Acquisitions at the bottom of the screen, and select only the acquisition regions the surgeon would like to re-do (Figure 54).

**Note:** If there is any doubt about the accuracy of the acquisitions, or if acquisitions are repeated multiple times without green results, it is recommended to re-do all acquisitions from the beginning.
Once registration is completed, attach the center drill to prep the central peg for the glenoid hole (Figures 57).

For positioning of the drill, the tip of the drill is indicated by a yellow dot (Figure 55 and 56).

The planned position is indicated by a blue dot (Figure 55).

Note: Avoid applying a bending force to the modular driver or using the modular driver to retract the humeral head as this may cause fracture of the 2mm K-wire or pilot tip reamer.
The orientation is guided by the circular cross-hair indicator. When your target is perfectly aligned, the screen will display the cross-hair superimposed on the yellow dot (Figure 58).

**Note:** The numbers shown for version and inclination are displayed according to your preoperative plan.

Your plan may not necessarily read 0° version and 0° inclination. You may deviate from this plan if you see fit.

This screen includes an image of the orientation that is synchronized with the CT scan slices to visualize the cortices. Follow the on screen guidance to drill the center hole.
Select a **Primary Nubbed Reamer** per Equinoxe® surgical technique 718-01-30 and attach to the **Reamer Handle** (Figure 59).

Follow the on-screen guidance to ream the proper orientation according to the plan (Figure 60). The reaming screen is guided in a similar fashion with realtime feedback on the position of the reamer head relative to the planned depth. Press Next arrow to proceed.

**Note:** If your reaming target is 2mm or greater, re-drill the center hole with the Center Drill after reaming to ensure proper depth is achieved.

Once the computer-assisted portion of the surgery is complete, remove the G Tracker and coracoid block before **Anatomic Glenoid Implant** insertion.

Complete remaining surgical steps per Equinoxe surgical technique 718-01-30. At the end of the case, your Exactech Representative will run GetStationLog on the GPS system to upload the case to the passkey. Make sure to upload all your cases to GPS Web.

**Note:** When preparing for augmented glenoid components, be aware that the drilling axis is different from the reaming axis. The system accounts for this; the surgeon does not need to adjust for this mismatch.
Once registration is completed, attach the 2.0mm Drill to create the pilot hole for reaming (Figure 61).

Follow on-screen guidance to position the Drill and create pilot hole.
For positioning of the Drill, the tip of the Drill is indicated by a yellow dot (Figure 62 and 63).

**Note:** Avoid applying a bending force to the modular driver or using the modular driver to retract the humeral head as this may cause fracture of the 2mm K-wire or pilot tip reamer.

The planned position is indicated by a blue dot (Figure 62).
Select a Reverse Pilot Tip Reamer per Equinoxe surgical technique 718-01-30 and attach to the Reamer Handle (Figure 64).

Follow the on-screen guidance to ream the proper orientation according to the plan (Figures 65 and 66).
Attach the **Center Cage Drill Bit** to the **Driver** *(Figure 67).*

Drill the center cage hole for the **Reverse Glenoid Plate** *(Figure 68 and 69).*
Place the Glenoid Plate Implant following instructions in the Equinoxe reverse operative technique (#718-01-30) (Figure 70).

Attach the 3.2mm GPS Drill to the Driver (Figure 71).

**Note:** Since the reamer handle uses a snap fit connection, the surgeon must drill in reverse upon removal of the drill bit from the bone.
Place the **Drill Guide** into the preferred hole of the Glenoid.

Plate and insert the Drill through the Guide (Figure 72).
Once the GPS technique is complete, remove the G Tracker and Coracoid Block before Glenosphere insertion.

Complete remaining surgical steps per Equinoxe surgical technique 718-01-30. At the end of the case, your Exactech representative will run GetStationLog on the GPS system to upload the case to the passkey. Make sure to upload all your cases to GPS Web.

The navigation screen will display the trajectory of the 3.2mm Drill Bit (Figure 73).

The screen will display the trajectory of the Drill to allow for aiming for bicortical fixation for example.
<table>
<thead>
<tr>
<th>CATALOG NUMBER</th>
<th>PART DESCRIPTION</th>
</tr>
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<tbody>
<tr>
<td>KIT-501</td>
<td>ExactechGPS Station</td>
</tr>
<tr>
<td></td>
<td>• Includes GPS station, clamp, lower mounting arm, upper mounting arm, power cord, power adapter, air mouse</td>
</tr>
</tbody>
</table>

| KIT-501T       | ExactechGPS Trackers                      |
|                | • Includes F*, G, T, P trackers           |
|                | *F tracker currently used for knee cases only |

<table>
<thead>
<tr>
<th>KIT-531</th>
<th>ExactechGPS Shoulder Mechanical Instruments</th>
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<tbody>
<tr>
<td>531-01-03</td>
<td>Coracoid Block Left</td>
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<tr>
<td>531-01-04</td>
<td>Coracoid Block Right</td>
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<tr>
<td>531-25-00</td>
<td>Modular Driver</td>
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<tr>
<td>531-27-60</td>
<td>Center Drill Bit</td>
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<td>531-27-63</td>
<td>Cannulated Center Drill Bit</td>
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<td>1RL3-C01</td>
<td>Zimmer-Hudson Ratchet Handle</td>
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<tr>
<td>521-78-11</td>
<td>Pin Driver, Short Low Profile</td>
</tr>
</tbody>
</table>
### CATALOG NUMBER | PART DESCRIPTION
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**KIT-531PINS** | ExactechGPS Coracoid Pins
531-78-20 | Disposable Hex Pins Kit

**OPT: 531DB** | ExactechGPS Reverse Drill Bit Kit
531-20-00 | Disposable Reverse Drill Kit (2.0, 3.2mm drill bits)

**A10012** | ExactechGPS Disposable Kit
A10012 | Includes sterile drape, batteries and starter key

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**Planning software minimum requirements:**

- TSA planning software is qualified for Windows 7, Windows 8.1 and Windows 10 environments.
- It is recommended to have 8GB or more of RAM, and a screen resolution of at least 1280x800 pixels.
- It is mandatory to have the Administrator rights during software installation.
- If network security measures are implemented (Web filtering, firewall, proxy...), it may be necessary to ask your IT department to ensure communication is possible.
- Graphical hardware must support at least OpenGL v2.1. Graphics cards and chipsets made after 2010, with up-to-date drivers, should satisfy this condition.

**INDICATIONS FOR USE**

The ExactechGPS is intended for use during preoperative planning and during stereotaxic surgery to aid the surgeon in locating anatomical structures and aligning the endoprosthesis with the anatomical structures provided that the required anatomical landmarks can be identified on the patient’s preoperative CT scan.

The ExactechGPS Total Shoulder Application is specifically indicated for Total Shoulder Arthroplasty using the Equinoxe system to aid the surgeon in locating anatomical structures and aligning the glenoid component with the anatomical structures.

**CONTRAINdications**

The ExactechGPS Total Shoulder Application is designed to function only with the Equinoxe Shoulder System implants. All indications and contraindications for those implants should be followed when using the ExactechGPS Total Shoulder Application.

The use of the ExactechGPS Total Shoulder Application is also contraindicated in patients who have inadequate coracoid bone for tracker fixation.

The surgeon has to determine whether the patient’s conditions are appropriate for this kind of procedure or not. A pathological condition against the use of this system could be in some cases:

- Advanced osteoporosis,
- Crack or break of coracoid process.

The system requires a computed tomography (CT) scan of the patient’s scapula for planning and registration purposes, and is contraindicated if the imported scan does not contain the required bony anatomy.

The ExactechGPS Total Shoulder Application as well as the Equinoxe Shoulder System are available for prescription use only.
ExactechGPS® is manufactured by Blue Ortho and distributed by Exactech, Inc.

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For additional device information, refer to the manufacturer's Instructions for Use for a device description, indications, contraindications, precautions and warnings. For further product information, please contact Customer Service, Exactech, Inc., 2320 NW 68th Court, Gainesville, Florida 32653-1630, USA. (352) 377-1140, (800) 392-2832 or FAX (352) 378-2617.

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