

# Virtual Implant Positioning™ (VIP™) System

CT Scan Upload Instructions



**Arthrex®** 

## Navigating the Web Portal

### Main Screen

Access the Virtual Implant Positioning™ (VIP™) preoperative planning system web portal by navigating the supported web browser to [www.arthrexvip.com](http://www.arthrexvip.com). After the program initializes, you will be presented with the main screen (Figure 1). From here, you can register as a new user or log in as a current user (upper right corner of main screen).

Additionally, the main screen includes a link to Arthrex's corporate website ([arthrex.com](http://arthrex.com)) at the bottom right of the screen. The "References" link at the bottom left of the screen links to a page that contains reference documents for the VIP system.

This "References" link includes:

- Arthrex Virtual Implant Positioning (VIP) Web Portal User Manual (LI1-00022-en-US).
- VIP Glenoid Targeter Surgical Technique (AR-5400 Series) (LT1-000040-en-US).
- Specifications for CT Scan Data Acquisition (LR1-000018-en-US).
- VIP System Directions for Use (DFU-0289-4).
- VIP System Glenoid Targeter Surgical Technique (series 06-xxxx) (DFU-0289-4).

### Register New User

At the top right of the main screen, click the "Register" link to access the Terms & Conditions, which must be agreed to and accepted prior to registration. Once the Terms & Conditions have been accepted, the registration form will appear. Users must enter a unique username and password. If a username is not available, the user will be alerted to choose another. Passwords must be at least 7 characters long with at least 1 alpha, 1 nonalpha, and 1 special character required. The password will need to be entered twice for confirmation.

Users must then enter their full name (first and last), phone number, and email address. A drop-down field allows users to define the capacity in which they will use the system. Selections include surgeon, assistant, and sales representative. If surgeon is selected, additional fields will populate for hospital affiliations, city, state/province, and sales rep email. If assistant is selected, no additional fields will populate. If sales representative is selected, additional drop-down fields will populate for agency and region.

Lastly, a reCAPTCHA is required for user verification. If reCAPTCHA is unsure that a click is performed by a human, additional verification questions will be displayed. Press "Register" to submit the form and complete registration. Press "Cancel" to return to the main screen.



Figure 1

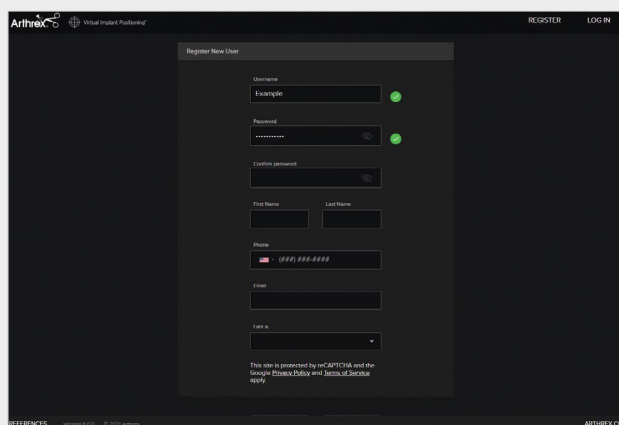


Figure 2

## Navigating the Web Portal

### User Permissions

Surgeon	Assistant	Technology Consultant
Register as user <sup>1</sup>	Register as user <sup>2</sup>	Register as user <sup>2</sup>
Change own profile info	Change own profile info	Change own profile info
Add assistants and technology consultants to profile	Change own password	Change own password
Change own password	View cases/plans of associated surgeons	View cases/plans of associated surgeons
View own cases and plans	Create cases for associated surgeons	Download PDFs for associated surgeons
Create cases	Upload CTs for cases of associated surgeons	Comment on associated cases and plans
Upload CT scans for cases	Edit associated cases	Edit associated cases
Edit own cases	Archive/unarchive cases of associated surgeons	Create cases for associated surgeons
Archive/unarchive cases	Edit plans of associated surgeons	Upload CT scans for associated surgeons
Edit plans	Download PDFs for associated surgeons	
Approve plans	Comment on associated cases and plans	
Download PDFs		
Comment on own plans and cases		

1. When a surgeon registers on the web portal, their identity must be verified by a system administrator before they can log into the web portal.
2. When a technology consultant registers on the web portal, they must be linked to a surgeon account in order to use manage cases and view plans. A surgeon or system administrator must link a technology consultant to a surgeon account before they can view or edit any cases.

## Cases Page

Upon successfully logging in, the user is brought to the Cases page (whether they are a surgeon, assistant, or technology consultant).

- This page, which provides surgeons with an organized view of their cases, provides quick navigation, sorting options, and searchable columns.
- Each search bar queries within its respective column (category) and can be used to filter results. Multiple search bars can be used simultaneously.
- Each case is characterized by 6 categories (columns):
  - **Order #** — A unique identification number assigned to each case that ensures no two cases can be characterized in exactly the same way.
  - **Surgeon** — The name of the surgeon corresponding to a particular case.
  - **Patient Name** — The name of the patient corresponding to a particular case.
  - **Surgery Date** — The date on which the procedure is scheduled to be performed. As a registered web portal user, the surgery date listed in the VIP™ system can be changed by a surgeon, surgeon assistant, or Arthrex technician.
  - **Procedure** — The elected shoulder arthroplasty procedure (total shoulder arthroplasty [TSA] or reverse shoulder arthroplasty [RSA]).

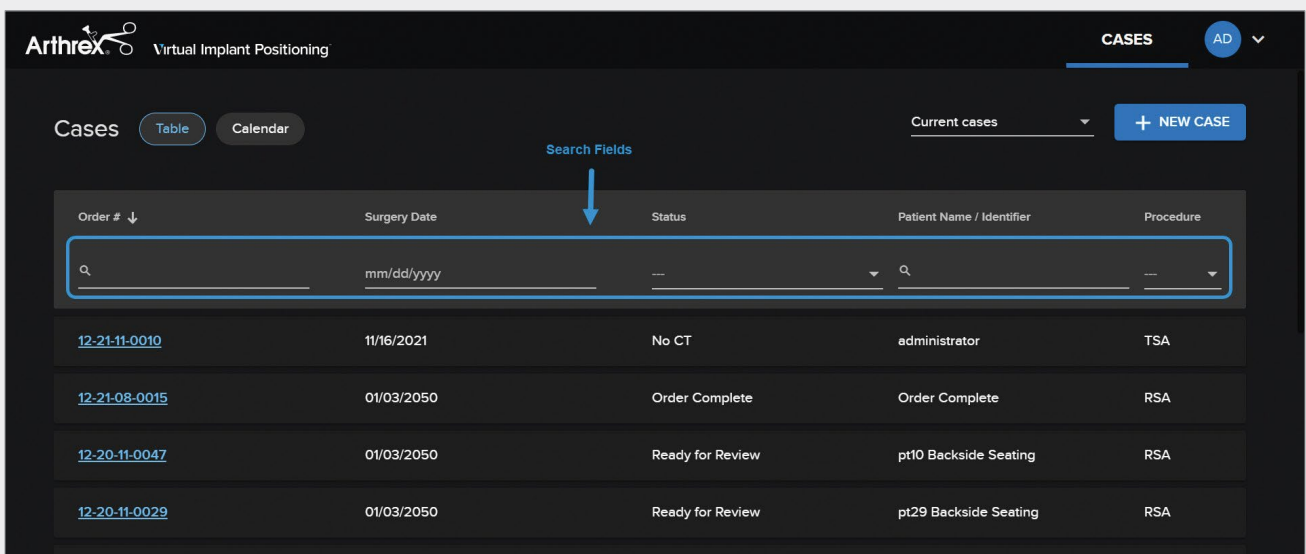


Figure 3

**Note:** This image is taken from the Arthrex Demo VIP website. The “Surgeon” field appears between “Order #” and “Surgery Date” on ArthrexVIP.com

- **Status** — This indicates a case's current status along the preoperative planning process. The case progresses through the following statuses during the preoperative planning workflow:
  - **No CT:** A new case has been created, but the CT has not been uploaded.
  - **CT Received:** A new case has been created and the user has successfully uploaded CT images.
  - **CT Unacceptable:** The uploaded CT images do not pass the acceptance criteria for CT scans and must be reuploaded to continue processing the case.
  - **CT Accepted/Planning:** The CT images for a new case have been uploaded and have passed the CT scan acceptance criteria. An Arthrex technician begins planning the case according to the protocol.
  - **Ready for Review:** A technician has uploaded a proposed preoperative plan for the case, and it is ready for surgeon review and approval.
  - **Approved:** A surgeon has accepted and endorsed a plan, including the implant type and size as well as its location and orientation. The approved preoperative plan includes order type, which varies from case to case and is based on surgeon needs for that particular case.  
**Note: The case cannot be processed without surgeon approval of the case plan.**
  - **Processing:** Technicians are processing the case's specific order requests.
  - **Order Complete:** Technicians have filled an order request (ie, 3D model has been shipped, an approved preoperative plan has been uploaded, or both).

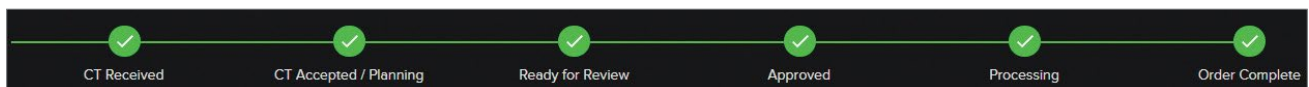


Figure 4: Case status flowchart

### New Case

From the Cases page, clicking the “New Case” button (Figure 5) will direct users to the New Case page (Figure 6). The surgeon username (in this case, “arthrexdemocase”) will be autopopulated depending on which user is logged in. Using this form, users can enter and save descriptive information about the case.

**When creating a new case, the following information is REQUIRED unless otherwise noted:**

- **Side:** The shoulder that the surgeon will operate on (left or right)
  - **Planning Comments:** Any further information related to the case
  - **Patient Name:** Patient’s name exactly as it appears in the associated DICOM file
  - **Date of Surgery:** Must be a date in the future
  - **Type of Procedure:** Total shoulder arthroplasty or reverse shoulder arthroplasty
  - **Status:** No action needed (prefilled and uneditable)
- **Order Type:** Defines the surgeon’s desired deliverable (eg, plan only, 3D model, 5D calibrator, or 3D model and 5D calibrator).
    - *Plan only* — The preoperative plan that is accessible and approved via ArthrexVIP.com.
    - *3D model (3D)* — The physical, tangible 3D-printed bone model that is created with a pin trajectory derived from the surgeon’s approved plan. The 3D model is used to establish the targeter’s leg settings, which are required to intraoperatively achieve the approved plan’s trajectory of the guide pin.
    - *5D calibrator* — Includes two options that are an alternative to the 3D model and a set of instructions detailing the appropriate settings.
      - *5D calibrator instruments (06-xxxx Series)*
      - *Glenoid targeter heights (AR-5400-xx Series)*
    - *3D and 5D* — Order type includes everything from the 3D and 5D calibrator.
  - **Planning Comments:** Any further information regarding the case that Arthrex should be aware of (optional).

Clicking “Save” will create the new case, moving it to the Cases page.

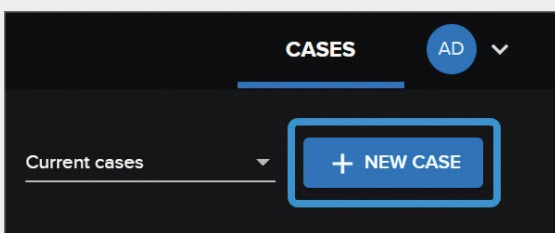


Figure 5. New Case button (upper right corner of the Cases page)

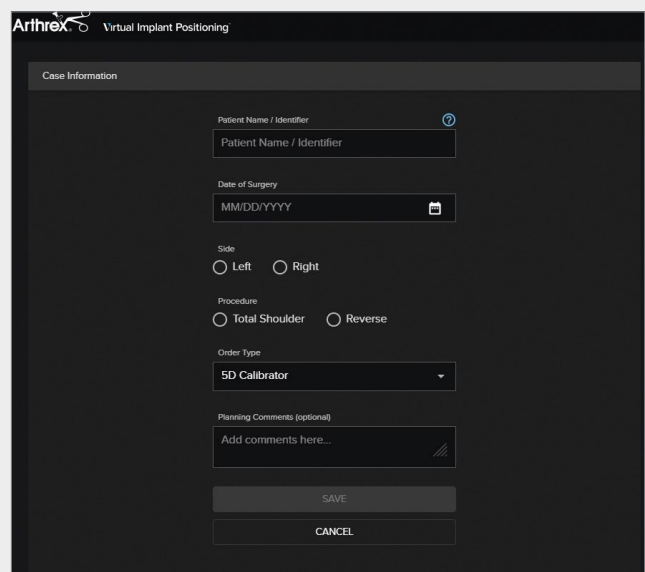
A screenshot of the 'New Case' form titled 'Case Information' under the 'Arthrex Virtual Implant Positioning' header. The form contains several input fields and radio buttons: 'Patient Name / Identifier' (text field), 'Date of Surgery' (calendar icon), 'Side' (radio buttons for 'Left' and 'Right'), 'Procedure' (radio buttons for 'Total Shoulder' and 'Reverse'), 'Order Type' (dropdown menu showing '5D Calibrator'), and 'Planning Comments (optional)' (text area with a 'Add comments here...' placeholder). At the bottom, there are 'SAVE' and 'CANCEL' buttons.

Figure 6. New Case page

## Cases Page

### MyVIP™ Automated Preoperative Texting Experience

If the patient wishes to be enrolled in the MyVIP experience, enter the patient's phone number in the appropriate field at the bottom of the page.

### Uploading CT Images

Once a new case is created, click the "Upload CT" button to upload the CT images for this case.

The screenshot displays the Arthrex Virtual Implant Positioning web portal. At the top, the Arthrex logo and "Virtual Implant Positioning" text are visible. The page title is "Cases / Order #12-21-11-0010". A progress bar shows six steps: 1. CT Received, 2. CT Accepted / Planning, 3. Ready for Review, 4. Approved, 5. Processing, and 6. Order Complete. A blue arrow points to a blue "UPLOAD CT" button in the top right corner. The main content area is divided into two columns. The left column, titled "Case Information", contains the following fields: "Patient Name / Identifier" (text input with "administrator"), "Date of Surgery" (calendar icon with "11/16/2021"), "Side" (radio buttons for "Left" and "Right", with "Right" selected), "Procedure" (radio buttons for "Total Shoulder" and "Reverse", with "Total Shoulder" selected), "Order Type" (dropdown menu with "5D Callibrator"), "Shipping Address" (dropdown menu with "-select an address-"), "Planning Comments (optional)" (text area with "Add comments here..."), "Patient Email USA Only (optional)" (text input), and "Patient Phone Number USA Only (optional)" (text input with a US flag icon and "(###) ###-####" format). At the bottom of this column are "CANCEL" and "ARCHIVE CASE" buttons. The right column, titled "PDF Documents", shows a count of 5 documents and lists: "VIP Glenoid Targeter Surgical Technique (AR-5400-Series)", "VIP System Directions for Use", "Arthrex Virtual Implant Positioning (VIP) Web Portal User Manual", "Specifications for CT Scan Data Acquisition", and "VIP System Glenoid Targeter Surgical Technique (series 06-xxxx)".

Figure 7. Case and CT upload forms

### Uploading CT Images

Within the upload form, the username and order number are autopopulated (Figure 8).

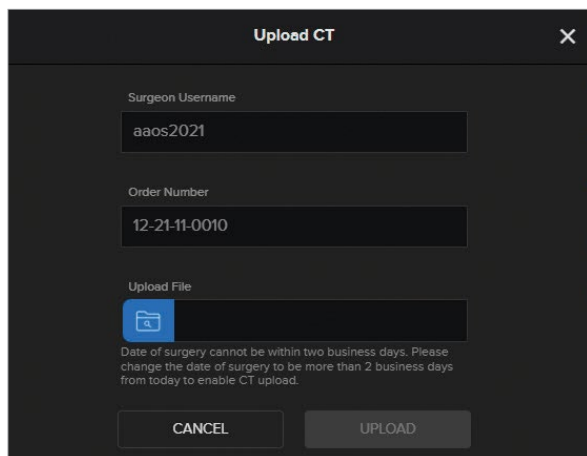


Figure 8. Upload CT page

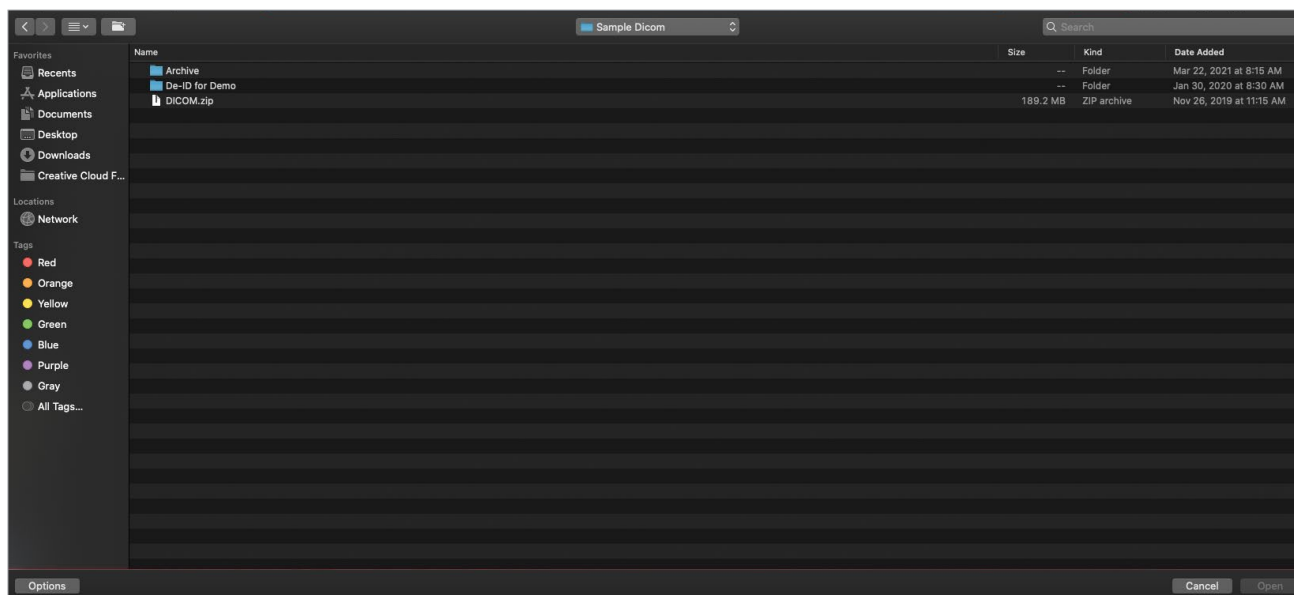


Figure 9. Locating compressed folder

From the upload form, click the “Choose File...” button to open a standard file browsing window (Figure 9). The user must navigate to a compressed folder (.zip file) containing the DICOM CT images. Select the compressed folder (.zip file).



### Uploading CT Images

Once a file has been selected, click “Upload” to begin uploading the CT images (Figure 10). A spinning wheel indicates that the images are being uploaded and that the web portal has not frozen or crashed during the upload process. Upload progress can be viewed in the bottom left of the browser window.

### Compressed .ZIP File Creation (Windows PC)

To create a compressed .zip file out of a folder of DICOM images, navigate to the folder containing the CT images. Right click the folder and in the pop up menu that appears, select and choose “Compressed (zipped) folder” to create a single .zip file that can be selected using the “Choose File...” button. Select “Upload” to add the file to the newly created case within the web portal.

### Compressed .ZIP File Creation (Mac)

To create a compressed .zip file out of a folder of DICOM images, navigate to the folder containing the CT images. Hold CTRL and click that folder. On the menu that appears, select “Compress Items” to create a single .zip file that can be selected with the “Choose File...” button. Select “Upload” to add the file to the newly created case within the web portal.

Once CT images are uploaded, the case status will automatically change from “No CT” to “CT Received.” At this point in the process, a technician will evaluate the CT scan to determine whether the resolution, quality, and field of view are in accordance with the CT scan parameters. If the CT scan is acceptable, a technician will accept the scan and mark the case status as “CT Accepted/Planning” (Figure 11).

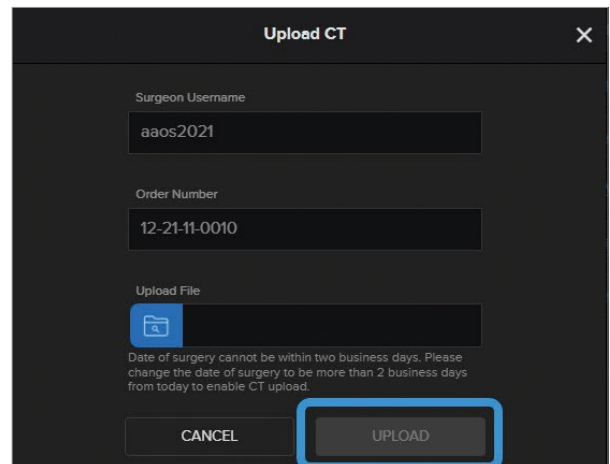


Figure 10. “Upload” button that initiates CT upload



Figure 11. Case status flowchart after CT has been accepted for planning

### Uploading CT Images

If the CT scan is unacceptable, the technician will mark the case status as “CT Unacceptable.” They will note why the scan was unacceptable, so that it may be corrected. A case will remain in the “CT Accepted/ Planning” status until a technician uploads a proposed preoperative plan (web session) for that case. At this point, the case status immediately becomes “Ready for Review” (Figure 12).

When a case is ready for review, an email notification is sent to the surgeon and the surgeon’s assistants/ technology consultants that a case is ready for review on the web portal. This email reminder will be sent once per week until 1 week prior to the surgery date entered by the surgeon. At this point, if the plan is still not approved, daily reminders are sent until 3 days prior to surgery. Once the plan is approved, a confirmation email is sent and the case status is changed to “Approved.”



Figure 12. Case status flowchart once plan is ready for review

### Case Status Flowchart

There is a status flowchart at the top of the Case Details page (Figure 13). This status flowchart will update itself throughout the planning process and is a convenient tool for case tracking. Note that no user can change a case status to approved/unapproved except the surgeon who placed the order for the case.

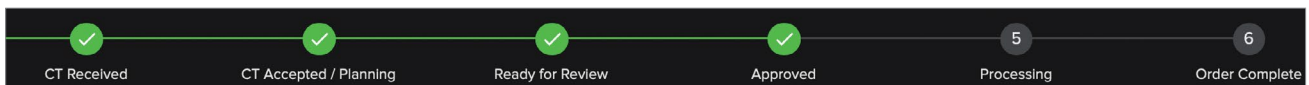


Figure 13. Case Status Flow Chart

### Archiving a Case

At the bottom of the Case Details page, there is an orange button labeled “Archive Case.” Clicking the “Archive Case” button stores the case away and removes it from the Cases page.

Archiving a case does not delete it. Archived cases can be retrieved at any time by an administrator/technician, or by the surgeon who originally placed the order for the case.

The user can view all archived cases while on the Cases page. In the top right corner of the page, click on the down arrow next to “Current Cases.” Click on “Archived Cases.” When the archived case is opened, an orange “Unarchive Case” button is available at the bottom of the Case Details page. Clicking “Unarchive Case” moves the case back to the Current Cases page.



This description of technique is provided as an educational tool and clinical aid to assist properly licensed medical professionals in the usage of specific Arthrex products. As part of this professional usage, the medical professional must use their professional judgment in making any final determinations in product usage and technique. In doing so, the medical professional should rely on their own training and experience, and should conduct a thorough review of pertinent medical literature and the product's directions for use. Postoperative management is patient-specific and dependent on the treating professional's assessment. Individual results will vary and not all patients will experience the same postoperative activity level and/or outcomes.

View U.S. patent information at [www.arthrex.com/corporate/virtual-patent-marking](http://www.arthrex.com/corporate/virtual-patent-marking)

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