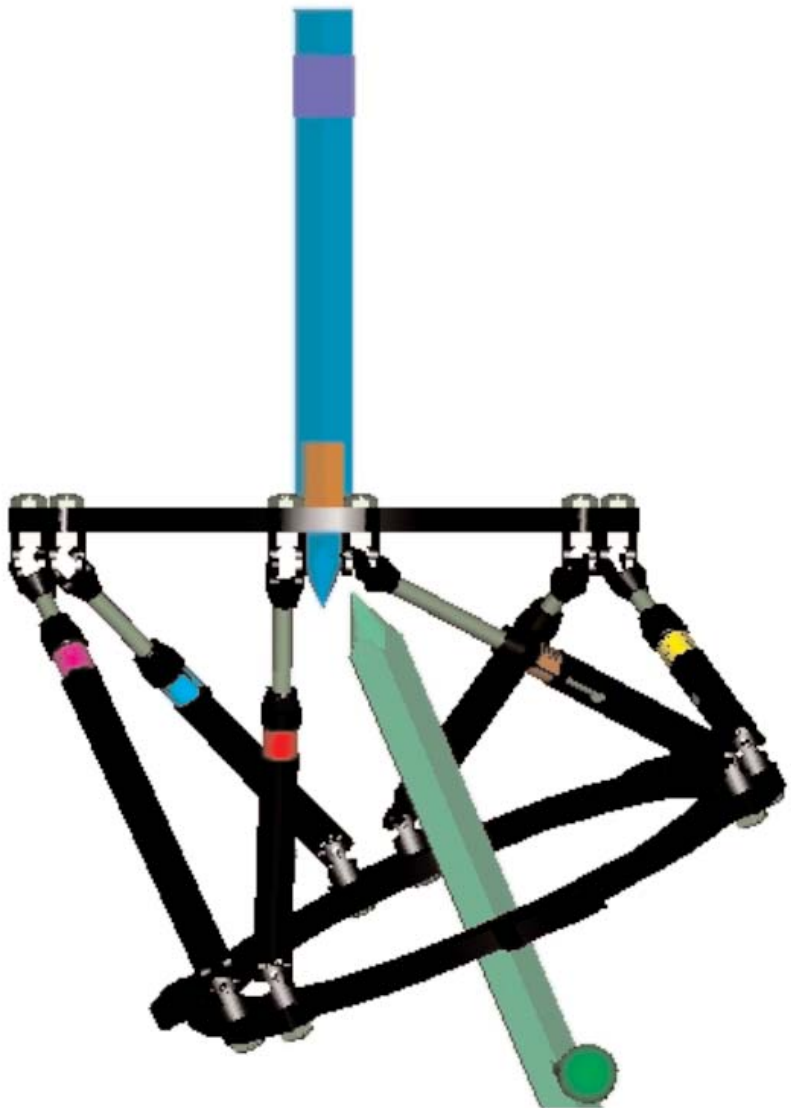


Fracture Reduction and Deformity
Correction Software

www.spatialframe.com



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My User Name: _____

My Password: _____

My Email Address: _____

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Introduction

The Web Based TAYLOR SPATIAL FRAME External Fixator Software is intended to aid the surgeon in his/her use of the TAYLOR SPATIAL FRAME External Fixator product. The TAYLOR SPATIAL FRAME system is used to correct post traumatic or congenital skeletal deformity. There are three possible modes of application: Chronic, Residual, and Total Residual.

In the **Chronic mode**, radiographic measurements are used in conjunction with the computer software to provide 6 strut settings that cause the TAYLOR SPATIAL FRAME to mimic the deformity. The frame is then surgically attached to the patient. The patient then adjusts the struts back to their neutral position based on a prescription for strut adjustment. The software calculates this prescription.

In the **Residual mode**, radiographic measurements are used in conjunction with the computer software to provide 6 strut settings that cause the TAYLOR SPATIAL FRAME to mirror the deformity. This requires that a neutral frame be surgically attached to the patient prior to the strut length calculation. The patient then adjusts the struts from the neutral position to the calculated strut lengths based on a prescription for strut adjustment. The software calculates this prescription.

The **Total Residual mode** is similar to the Residual mode except that an initial neutral frame application is not necessary. This case is termed the “crooked frame on crooked bone.” Radiographic measurements and initial strut lengths are used in conjunction with the computer software to calculate final strut lengths. The patient then adjusts the struts from the initial position to the calculated final strut lengths based on a prescription for strut adjustment. When the frame reaches these final strut lengths the deformity is corrected. The software calculates this prescription.

Computer System Requirements

Recommended Browser and Display Settings: In order to accommodate the large quantity of information, the detailed graphical images and the proper sequencing of the correction methods, each screen of the TAYLOR SPATIAL FRAME Web Application has been designed to provide an efficient user interface. To ensure you the best possible experience with this site, we suggest the following display and browser settings.

Display Settings

Screen resolution of 1024 x 768 or higher.

Supported Browsers

Netscape Navigator/Communicator 4.7 or higher.

Microsoft Internet Explorer 5.5 or higher.

Browser Settings

Must support 128-bit SSL encryption.

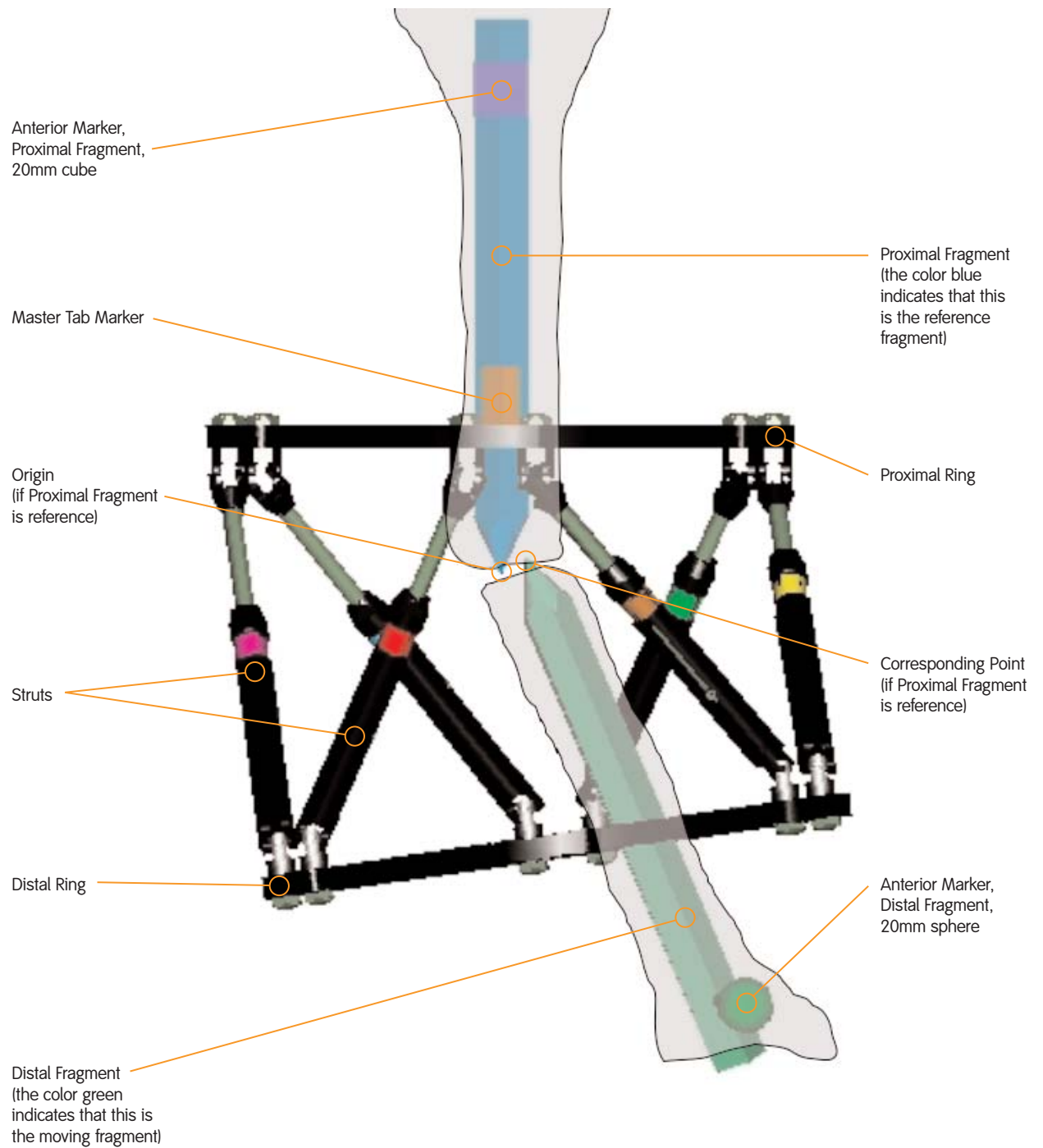
JavaScript enabled.

Cookies enabled.

Internet Connection

A high-speed cable or DSL connection is recommended.

TAYLOR SPATIAL FRAME Image Nomenclature



Login Page

Obtaining a Password

All aspects of the TAYLOR SPATIAL FRAME software are handled electronically from upgrades to requesting and setting up passwords.

Passwords are requested by accessing the login page at

<http://www.spatialframe.com>

TAYLOR SPATIAL FRAME*

Home Cases Utilities Literature

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SPATIAL NEWS

Version 2.1 is now available! Click on "What's New" to see the changes.

Please join us at our next Spatial Frame course February 20-22 in Snowmass, Colorado. For course information, please call Bonnie Muse at 901-399-5202 or e-mail at bonnie.muse@smithnephew.com

Secure Customer Login

User Name

Password

Forgot User Name or Password? Click [here](#).

[Request an Account](#)

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The following popup box will appear

Type your information and make sure your email address is perfect to the letter.

You can also provide additional information in the **Notes** field.

Click **Submit** and your new password will be emailed to you usually within one business day.

TSF Account Request

First Name: (required)

Last Name: (required)

E-mail Address: (required)

Phone Number: (required)

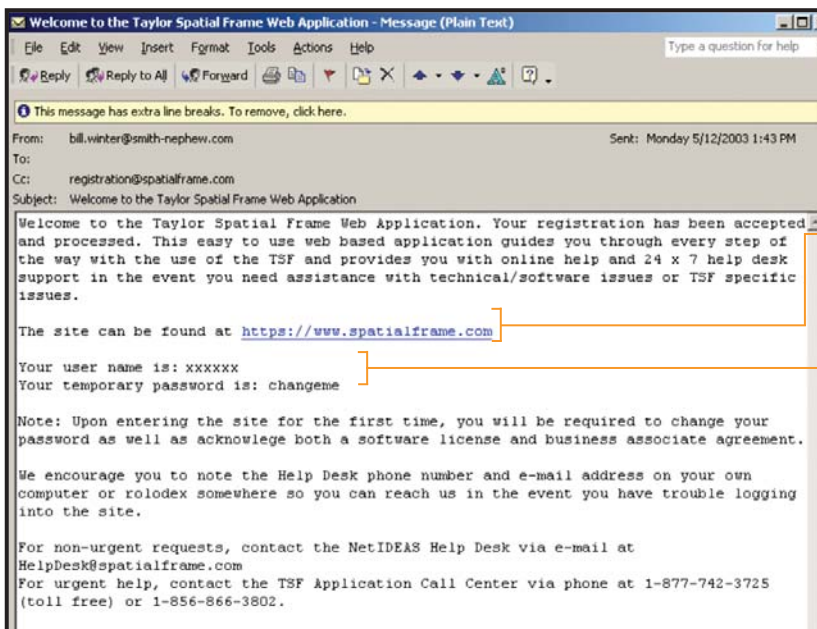
Smith & Nephew Sales Representative: (required)

Hospital Affiliation: (required)

Requested User Name:

Notes:

You will receive an email at your registered address. The message will contain both your user name and password. At this point, you are ready to login and begin using the TAYLOR SPATIAL FRAME web-based software.

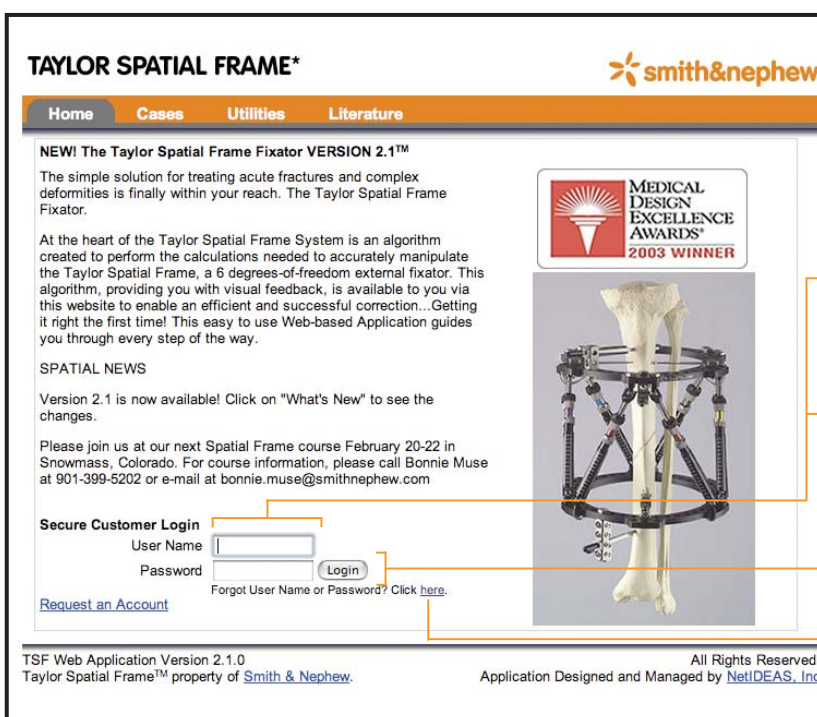


Click on the hyperlink to go to the website.

Your User Name and Password are sent to the email address you used when you registered.

Logging Into the Site

You can access the TAYLOR SPATIAL FRAME software using any computer connected to the Internet from anywhere in the world. Simply type <http://www.spatialframe.com> into the address window. The address window is located at the top of most Internet web browsers. Then press enter on the computer keyboard. Your user name and password are assigned to you electronically by Smith & Nephew.



Click on the **User Name** input field and type your user name.


Tab to the **Password** input field and type your password.

Enter or click **Login** to log in.

If you forget your password, click [here](#) or see the following page.

Forgotten Password

If you forget your password, you can have it restored electronically. The following procedure will result in a new password being sent to you immediately at your registered email address:

TAYLOR SPATIAL FRAME* 


[Home](#) [Cases](#) [Utilities](#) [Literature](#)

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User Name
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[Request an Account](#) Forgot User Name or Password? Click [here](#).



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If you forget your password, click [here](#).

This popup box will appear.

Enter your **User Name** or your **Registered Email Address**.

Click **Submit** to send your request.


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Please enter either User Name or E-mail address.

User Name:

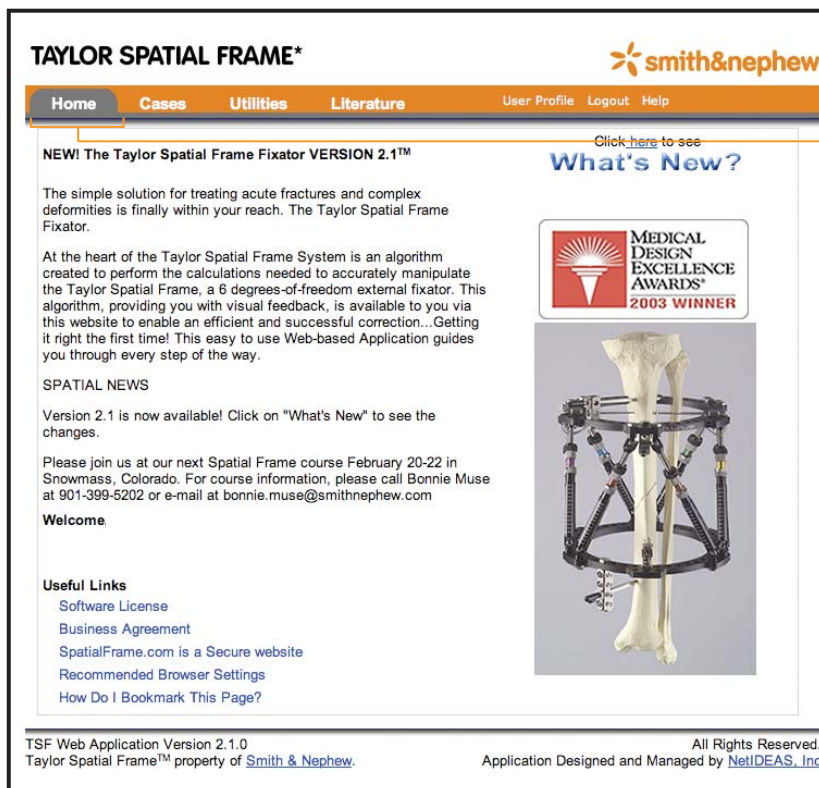
-- or -- E-mail Address:



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Home Tab



The screenshot shows the 'Home' tab of the Taylor Spatial Frame web application. The header includes the 'TAYLOR SPATIAL FRAME*' logo and the 'smith&nephew' logo. A navigation bar contains links for 'Home', 'Cases', 'Utilities', 'Literature', 'User Profile', 'Logout', and 'Help'. The main content area features a 'What's New?' section with a link to 'Click here to see' the 'NEW! The Taylor Spatial Frame Fixator VERSION 2.1™'. Below this, there is a detailed description of the fixator, a 'SPATIAL NEWS' section mentioning Version 2.1, and a 'Welcome' message. A 'Useful Links' section provides links to 'Software License', 'Business Agreement', 'SpatialFrame.com is a Secure website', 'Recommended Browser Settings', and 'How Do I Bookmark This Page?'. On the right, there is a 'MEDICAL DESIGN EXCELLENCE AWARDS* 2003 WINNER' badge and an image of the fixator. The footer contains version information and copyright notices.

TAYLOR SPATIAL FRAME*

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Home Cases Utilities Literature User Profile Logout Help

[Click here to see](#)

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Welcome

Useful Links

- [Software License](#)
- [Business Agreement](#)
- [SpatialFrame.com is a Secure website](#)
- [Recommended Browser Settings](#)
- [How Do I Bookmark This Page?](#)

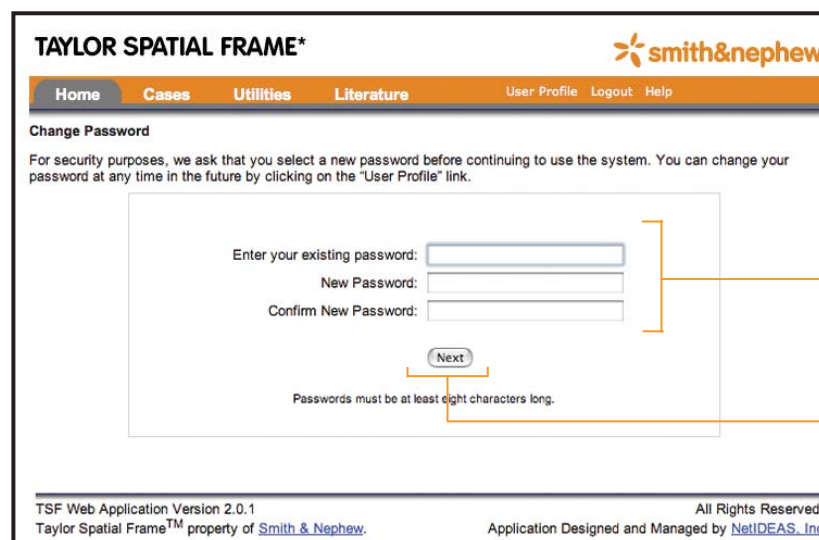
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Once you have successfully logged into the software, you will see the home page. You now have full access to the software.

Changing Your Password

The first time you log on using your initial password, you will be prompted to create your own unique password. For instructions on additional changes to your account information, please see "Changing the User Profile" on page 30.



The screenshot shows the 'Change Password' screen of the Taylor Spatial Frame web application. The header and navigation bar are identical to the Home Tab. The main content area has a 'Change Password' section with a message: 'For security purposes, we ask that you select a new password before continuing to use the system. You can change your password at any time in the future by clicking on the "User Profile" link.' Below this, there are three input fields: 'Enter your existing password:', 'New Password:', and 'Confirm New Password:'. A 'Next' button is located below the input fields. A note states: 'Passwords must be at least eight characters long.' The footer contains version information and copyright notices.

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Home Cases Utilities Literature User Profile Logout Help

Change Password

For security purposes, we ask that you select a new password before continuing to use the system. You can change your password at any time in the future by clicking on the "User Profile" link.

Enter your existing password:

New Password:

Confirm New Password:

Passwords must be at least eight characters long.

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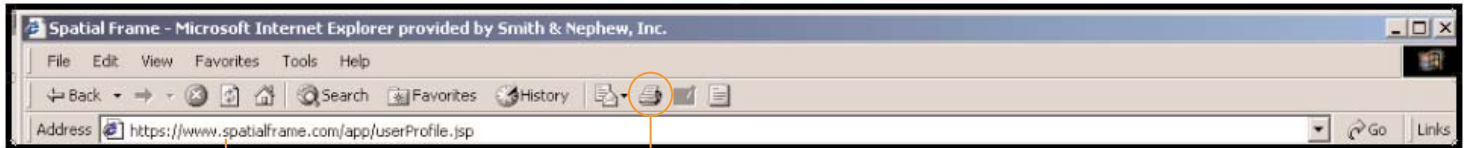
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Type your changes in the appropriate input field.

Click **Next** to submit your changes.

Site Navigation

Browser Control Bar controls how the page appears on the monitor and the print functions.



Website address window

Click the print icon to print any page at any given time. This will print the page exactly as it appears on the monitor.

Printing is a function of your browser. Click the print icon to print the current page. This will need to be done separately for each page you wish to print.

The Browser Window

Site Navigation Tabs appear in the header at the top of the browser window. Click on a tab to access the information stored within it.

Site Utilities are secondary features that appear within the site header of the top of the browser window. Click on the name of the utility to access it.

Browser window

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- [Recommended Browser Settings](#)
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Data Entry Guidelines

All parameters should be entered with both a magnitude and a direction.

Where distance measurements are required, those numbers should be entered in millimeters, not centimeters.

The software will provide a prescription to correct the exact deformity you describe. Therefore, it is important to enter your data as accurately as possible.

All data must be entered sequentially from left to right beginning with the "Case Info" sub tab.

You can advance from field to field within a page by using the tab key.

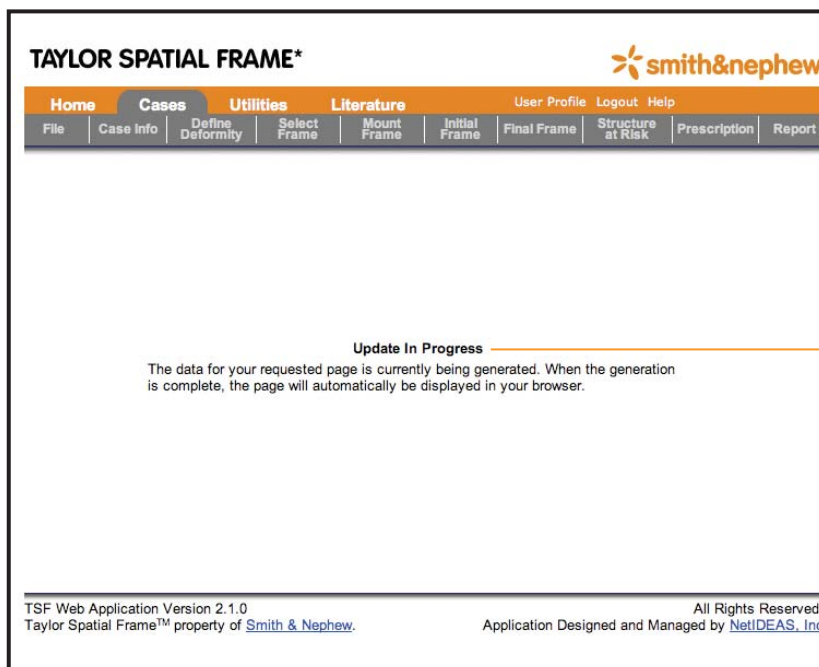
You can advance from one page to the next by clicking on the sub tab in sequence or by clicking **Next**.

When you run the Total Residual program after a previous correction, update the deformity parameters to reflect the current deformity. Any deformities that were corrected previously should be removed or they will be corrected again.

For frames with U-plates, foot rings or 2/3 rings, always select the appropriate **2/3 Ring/U-plate Orientation**. This will allow a more accurate graphic representation of the frame. This will in no way affect your calculations.

Any changes made to your input are not saved until you actively save them. If you wish to keep the changes, always save your input before logging out of the software.

Screen Updates



If calculations or screen updates take longer than 10 seconds, you will receive this message.

Case Tab

Starting a Case

To start a case, click on the **Cases** tab. You will then see the 10 sub-tabs below the site navigation tabs. When starting a new case, you must input information sequentially into each of the sub tabs working from left to right. Type in the requested information and click on the **Next** button at the bottom of the screen.

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Home Cases Utilities Literature User Profile Logout Help

File Case Info Define Deformity Select Frame Mount Frame Initial Frame Final Frame Structure at Risk Prescription Report

Patient

Case Number: BRU7147

Case Name: GEA HTO Surgery 8/12/02

Patient Initials: GEA

Patient Number: 1457

Date: 02/17/2004 (mm/dd/yyyy)

Anatomy: Right

(Per the Health Insurance Portability and Accountability Act of 1996, the Notes field and any other input field should not include the patient's full name. The user takes full responsibility for non-compliance.)

Case Notes

Next

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Case Number is the alpha-numeric code used to match a patient with a particular Spatial Frame Case. This appears at the top of the Prescription and Report pages.
Optional

Case Name allows you to specify the text that will appear at the top of each page of the record. The case name and case number could be the same or you could specify something different.
Optional

Patient Initials allows you to enter the initials of the patient.
Optional

The patient's unique number can be entered in the **Patient Number** field. This text appears on the Prescription and Report pages.
Optional

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Home Cases Utilities Literature User Profile Logout Help

File Case Info Define Deformity Select Frame Mount Frame Initial Frame Final Frame Structure at Risk Prescription Report

Patient

Case Number: BRU7147

Case Name: GEA HTO Surgery 8/12/02

Patient Initials: GEA

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Anatomy: Right


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Case Notes

Next

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Case Info

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Mount Frame

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Structure at Risk

Prescription

Report


Patient


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Patient Initials: GEA

Patient Number: 1457

Date:  02/17/2004 (mm/dd/yyyy)

Anatomy: Right 

(Per the Health Insurance Portability and Accountability Act of 1996, the Notes field and any other input field should not include the patient's full name. The user takes full responsibility for non-compliance.)

Case Notes

Next

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The **Date** field indicates the date that appears at the top of the Report page. It does not affect the start date for the Prescription. If this is a new case, the date defaults to the current date. If it is a retrieved case, the date the original case was saved will appear. You can change the date by clicking on the calendar icon and selecting the appropriate date.

Required

The **Anatomy** drop down menu allows selection of left or right anatomy. This is used for all calculations so proper selection is critical for an accurate outcome.

Required

Free text entered in **Case Notes** appears at the bottom of the Report Page. Limited to 100 characters.

Optional

Click **Next** to advance to the next screen.

Define Deformity

At the Define Deformity page, you will describe all deformities that exist at the time of frame application. There are six possible planes of deformity, but each patient may not have a deformity in every plane. Only enter values where a deformity exists. For those planes with no deformity, enter nothing. All deformities must be entered with both a magnitude and a direction.

Click the small "?" for additional help.

TAYLOR SPATIAL FRAME*

Home Cases Utilities Literature User Profile Logout Help

File Case Info **Define Deformity** Select Frame Mount Frame Initial Frame Final Frame Structure at Risk Prescription Report

Reference Fragment: Proximal Case Name: GEA HTO Surgery 8/12/02

| | | |
|---|--|---|
| AP View Angulation (deg) 23.0 <input type="radio"/> Valgus <input checked="" type="radio"/> Varus | Lateral View Angulation (deg) 10.0 <input type="radio"/> Apex Posterior <input checked="" type="radio"/> Apex Anterior | Axial View Angulation (deg) 15.0 <input type="radio"/> External <input checked="" type="radio"/> Internal |
| AP View Translation (mm) 20.0 <input checked="" type="radio"/> Medial <input type="radio"/> Lateral | Lateral View Translation (mm) 35.0 <input type="radio"/> Anterior <input checked="" type="radio"/> Posterior | Axial Translation (mm) 25.0 <input checked="" type="radio"/> Short <input type="radio"/> Long |

Right AP View Right Lateral View Right Axial View

Clicking on graphic will enlarge ? Previous Regenerate Views Next

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The **Define Deformity** page allows you to input the current deformity using the "origin/corresponding point" method of deformity characterization. Before entering the deformity parameters, a thorough analysis of AP and lateral radiographs and a clinical examination to determine internal/external rotation is required. On the Define Deformity page, first select the **Reference Fragment**, either proximal or distal. All deformity parameter measurements are made relative to the reference fragment. Proper selection is a critical step toward getting an accurate reduction.

Click the **Previous** button to return to the previous page.

Click **Regenerate Views** to update the images presented within the view boxes before advancing to the next input page.

Click the **Next** button to proceed to the next page.

Define Deformity – Example

TAYLOR SPATIAL FRAME* 

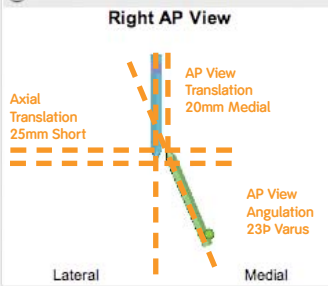
Home Cases Utilities Literature User Profile Logout Help

File Case Info Define Deformity Select Frame Mount Frame Initial Frame Final Frame Structure at Risk Prescription Report

Reference Fragment: Proximal Case Name: GEA HTO Surgery 8/12/02

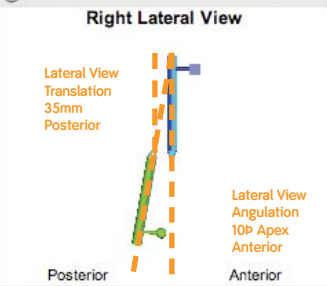
| | | |
|---|--|---|
| AP View Angulation (deg) 23.0 <input type="radio"/> Valgus <input checked="" type="radio"/> Varus | Lateral View Angulation (deg) 10.0 <input type="radio"/> Apex Posterior <input checked="" type="radio"/> Apex Anterior | Axial View Angulation (deg) 15.0 <input type="radio"/> External <input checked="" type="radio"/> Internal |
| AP View Translation (mm) 20.0 <input checked="" type="radio"/> Medial <input type="radio"/> Lateral | Lateral View Translation (mm) 35.0 <input type="radio"/> Anterior <input checked="" type="radio"/> Posterior | Axial Translation (mm) 25.0 <input checked="" type="radio"/> Short <input type="radio"/> Long |

Right AP View



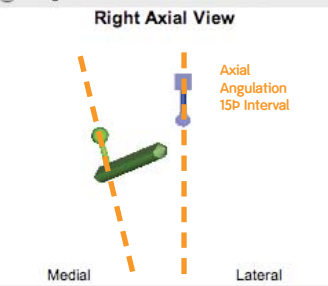
Lateral Medial

Right Lateral View



Posterior Anterior

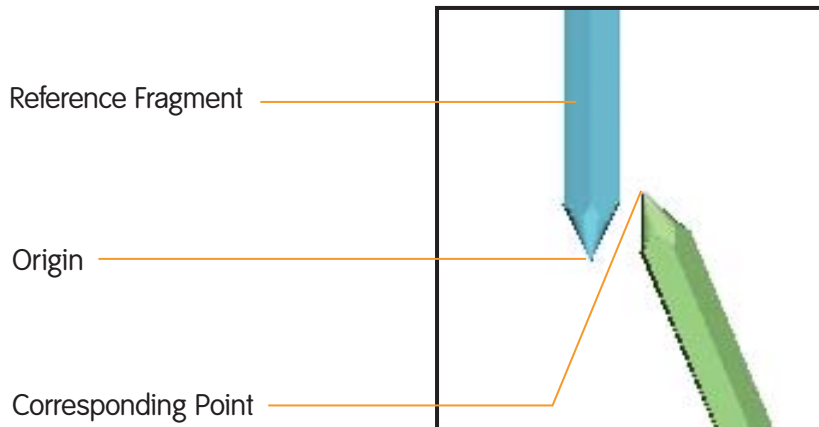
Right Axial View



Medial Lateral

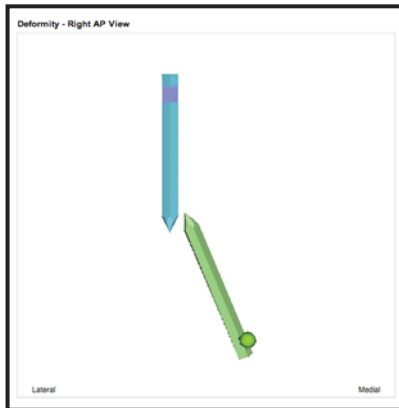
Clicking on graphic will enlarge ? Previous Regenerate Views Next

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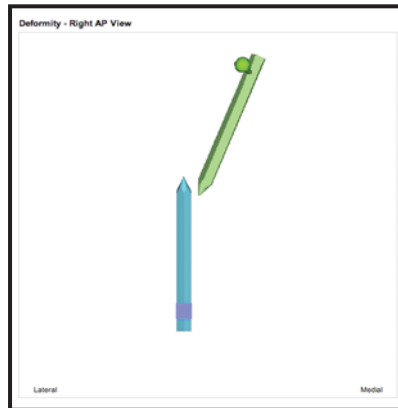


Define Deformity – Example (continued)

The **reference fragment** is the anatomical reference. All deformity measurements are made relative to it. The software assumes that the radiographic images are orthogonal to the reference fragment. The reference fragment can be either proximal or distal. Within the three images presented in the view box, the reference fragment is always blue; the moving fragment is green. The orthopaedic deformity parameters describe the deformity at hand relative to the reference fragment. For example: a 10mm medial translation for a proximal reference fragment means that the distal fragment is 10mm medially translated. However, 10mm medial translation for a distal ring reference means that the proximal fragment is medially translated.



AP View, Proximal Ring Reference, 23P Varus, 10mm medial translation



AP View, Distal Ring Reference, 23P Varus, 10mm medial translation

Next, define the deformity. The deformity parameters completely describe the position of the moving fragment relative to the reference fragment based on AP, lateral, and axial radiographic projections. There are two parameters for each plane: angulation and translation. To input a deformity parameter, click on the parameter text box and input the magnitude in millimeters of the deformity. Next, select the direction by clicking the appropriate radio button located next to the direction text. It is important to realize that the images presented in the view boxes do not necessarily represent bone structures. Rather, they represent axis and points. Hence it is possible to evaluate the deformity anatomically or mechanically.

Once you have completed the deformity inputs, click **Regenerate Views** and the view box images will update to your latest inputs.

Lateral View Angulation (deg)

☐ Apex Posterior

☒ Apex Anterior

Magnitude text box. Click inside the box and edit the value. Values must be entered in millimeters.

Direction selection radio buttons.

Select Frame

TAYLOR SPATIAL FRAME hardware is selected through the Select Frame page. Select the appropriate proximal and distal ring sizes by clicking the down arrow on the drop down box. Next, select the appropriate strut family. If you select **Standard Struts** or **Fast Fx** the system will choose an appropriate set of struts for you. This is necessary for the chronic operative mode since, at this stage, the required strut lengths have yet to be determined. If you select **Use Selection Below**, you must choose a strut for each position.

Select the appropriate proximal and distal ring sizes from the drop down menu.

When using a 2/3 Ring or U-Plate, you can describe the location of the ring opening. This provides a more accurate graphic but has no effect on the calculations.

TAYLOR SPATIAL FRAME*

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File Case Info Define Deformity **Select Frame** Mount Frame Initial Frame Final Frame Structure at Risk Prescription Report

Case Name: GEA HTO Surgery 8/12/02

Ring Selection: ?

Proximal Ring*: 180 mm, 7107-0115

Distal Ring: 180 mm, 7107-0115

* Reference Ring

2/3 Ring/U-Plate Orientation: Select

Strut Family:

☐ Standard Struts ☐ Fast Fx ☒ Use Selection Below

Strut Selection:

| Size: | Standard Struts | | | | Fast Fx® | | | |
|-----------|----------------------------|----------------------------|----------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| | Extra Short | Short | Medium | Long | Extra Short | Short | Medium | Long |
| Range: | 75-96 mm | 90-125 mm | 116-178 mm | 169-283 mm | 91-121mm | 116-152 mm | 143-205 mm | 195-311 mm |
| Cat. No.: | 7107-0205 | 7107-0210 | 7107-0220 | 7107-0230 | 7107-0705 | 7107-0710 | 7107-0720 | 7107-0730 |
| | Select All | Select All | Select All | Select All | Select All | Select All | Select All | Select All |
| Strut 1 | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Strut 2 | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Strut 3 | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Strut 4 | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Strut 5 | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Strut 6 | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

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If **Standard Struts** or **Fast Fx** is selected, the software will automatically select struts for you. Click **Use Selection Below** to select your own struts.

Regular Strut selection grid. You must select **Use Selection Below** to activate.

Fast Fx Strut selection grid. You must select **Use Selection Below** to activate.

Each frame uses six struts. You can use any combination of sizes and strut family (Fast Fx or Standard) on a frame.

Mount Frame

The Mount Frame page allows you to specify the operative mode and how the frame is positioned on the limb.

TAYLOR SPATIAL FRAME*

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File Case Info Define Deformity Select Frame **Mount Frame** Initial Frame Final Frame Structure at Risk Prescription Report

Operative Mode ? Case Name: GEA HTO Surgery 8/12/02

☒ Total Residual ☐ Chronic ☐ Residual

Mounting Parameters

AP View Frame Offset (mm) Lateral View Frame Offset (mm) Axial Frame Offset (mm)

☐ Medial to Origin ☐ Anterior to Origin ☒ Proximal to Origin

☐ Lateral to Origin ☒ Posterior to Origin ☐ Distal to Origin

Rotary Frame Angle (deg)

☐ Frame Externally Rotated ☐ Frame Internally Rotated

Right AP View **Right Lateral View** **Right Axial View**

Lateral Medial Posterior Anterior Medial Lateral

Clicking on graphic will enlarge ?

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Operative Modes

Chronic mode – radiographic measurements are used in conjunction with the computer software to provide **six strut settings that cause the Taylor Spatial Frame mechanism to mimic the deformity**. The frame is then surgically attached to the patient. The patient then adjusts the struts back to their neutral position based on a prescription for strut adjustment. The software calculates the prescription.

Residual mode – radiographic measurements are used in conjunction with the computer software to provide **six strut settings that cause the Taylor Spatial Frame apparatus to mirror the deformity**. This requires that a neutral frame be surgically attached to the patient prior to the strut length calculation. The patient then adjusts the struts from the neutral position to the calculated strut lengths based on a prescription for strut adjustment. The software calculates the prescription.

Total Residual mode is similar to the Residual mode except that an initial neutral frame application is not necessary. This case is termed the **“crooked frame on crooked bone”**. Radiographic measurements and initial strut lengths are used in conjunction with the computer software to calculate final strut lengths. The patient then adjusts the struts from the initial position to the calculated final strut lengths based on a prescription for strut adjustment. When the frame reaches these final strut lengths, the deformity is corrected. The software calculates the prescription.

Mount Frame – Example

When you enter your Mounting Parameters, you only have to describe the relationship between the reference ring and the reference fragment. The graphic will reflect this. The software will infer the location of the moving ring.

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FileCase InfoDefine DeformitySelect FrameMount FrameInitial FrameFinal FrameStructure at RiskPrescriptionReport

Operative Mode ?Case Name: GEA HTO Surgery 8/12/02

☒ Total Residual☐ Chronic☐ Residual

Mounting Parameters

AP View Frame Offset (mm)

☐ Medial to Origin☐ Lateral to Origin

Lateral View Frame Offset (mm)

20.0

☐ Anterior to Origin☒ Posterior to Origin

Axial Frame Offset (mm)

30.0

☒ Proximal to Origin☐ Distal to Origin

Rotary Frame Angle (deg)

☐ Frame Externally Rotated☐ Frame Internally Rotated ?

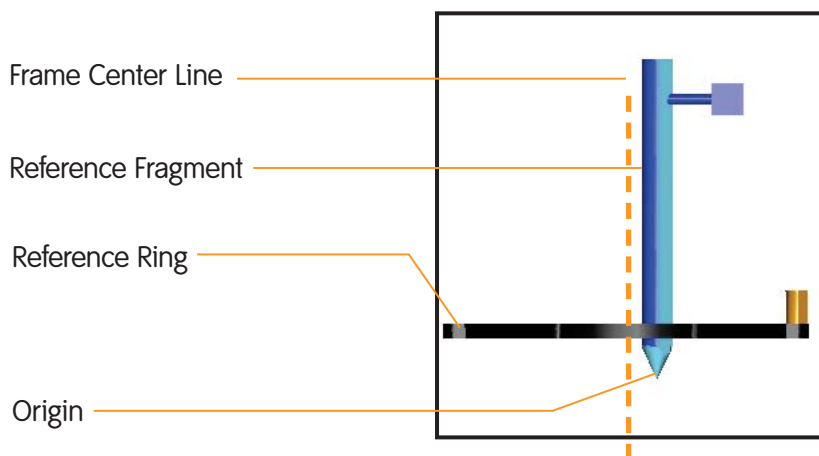
Right AP View ?

Right Lateral View ?

Right Axial View ?

Clicking on graphic will enlarge ?

PreviousRegenerate ViewsNext




Select the proper operative mode by clicking on the appropriate radio button. If you select chronic or residual, you must specify either the **Neutral Strut Length** or the **Neutral Frame Height**.

Operative Mode ?

☒ Total Residual☐ Chronic☐ Residual

Initial Frame - Total Residual Mode

TAYLOR SPATIAL FRAME*



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File Case Info Define Deformity Select Frame Mount Frame **Initial Frame** Final Frame Structure at Risk Prescription Report

Initial Settings for Total Residual Operative Mode

Case Name: GEA HTO Surgery
8/12/02

Strut 1 ● (mm)
(Red)


Strut 2 ● (mm)
(Orange)


Strut 3 ● (mm)
(Yellow)

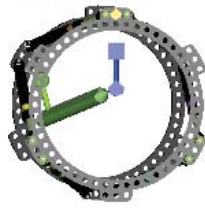
Strut 4 ● (mm)
(Green)

Strut 5 ● (mm)
(Blue)

Strut 6 ● (mm)
(Violet)

Right AP View

 Lateral Medial

Right Lateral View

 Posterior Anterior

Right Axial View

 Medial Lateral

Deformity Parameters
 AP View Angulation: 23.0° Varus
 AP View Translation: 10.0 mm Medial
 Lateral View Angulation: 10.0° Apex Anterior
 Lateral View Translation: 5.0 mm Posterior
 Axial View Angulation: 15.0° Internal
 Axial Translation: 5.0 mm Short

Mounting Parameters
 AP View Frame Offset: 0.0 mm
 Lateral View Frame Offset: 20.0 mm Posterior to Origin
 Rotary Frame Angle: 0.0°
 Axial Frame Offset: 30.0 mm Proximal to Origin

Clicking on graphic will enlarge ?

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Inputs are summarized at the bottom of the screen.

This is the **Initial Frame** page for the **Total Residual Mode**. The **Initial Frame** page shows the frame position/orientation and deformity on day one of the prescription schedule. Note the input boxes under each strut. Independent strut values must be entered here. These values are read directly from the struts. Once all of the strut lengths are entered, click on **Regenerate Views** to update the view boxes. If the initial frame is not what you anticipated, simply back up to the previous tab and correct your inputs. When the initial frame is correct, click **Next** to proceed to the Final Frame page.

Initial Frame - Chronic Mode

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Specify: Neutral Frame Height (mm): or Neutral Strut Length (mm):

Initial Settings for Chronic Operative Mode

Case Name: GEA HTO Surgery
8/12/02

Strut 1 (mm)
(Red)
147

Strut 2 (mm)
(Orange)
165

Strut 3 (mm)
(Yellow)
85

Strut 4 (mm)
(Green)
123

Strut 5 (mm)
(Blue)
145

Strut 6 (mm)
(Violet)
179

Right AP View

Right Lateral View

Right Axial View

Lateral

Medial

Posterior

Anterior

Medial

Lateral

Deformity Parameters

AP View Angulation: 23.0° Varus

Lateral View Angulation: 10.0° Apex Anterior

Axial View Angulation: 15.0° Internal

AP View Translation: 10.0 mm Medial

Lateral View Translation: 5.0 mm Posterior

Axial Translation: 5.0 mm Short

Mounting Parameters

AP View Frame Offset: 0.0 mm

Lateral View Frame Offset: 20.0 mm Posterior to Origin

Rotary Frame Angle: 0.0°

Axial Frame Offset: 30.0 mm Proximal to Origin

Clicking on graphic will enlarge ?

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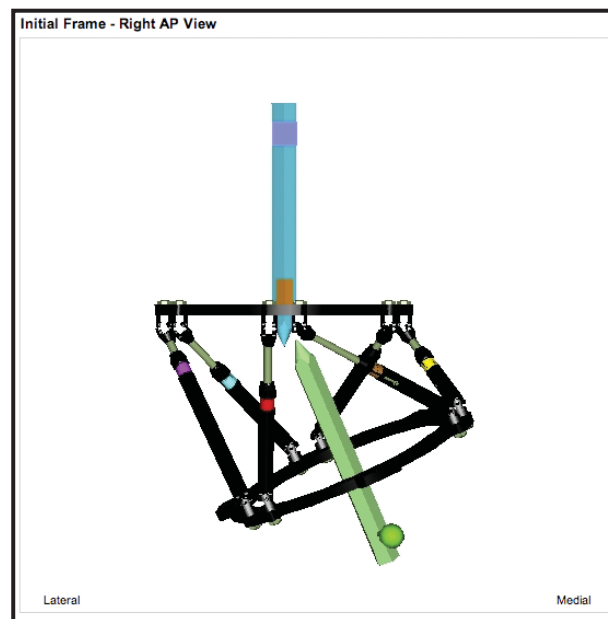
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This is the **Initial Frame** page for the **Chronic Mode**. The **Initial Frame** page shows the frame position/orientation and deformity on day one of the prescription schedule. The software calculates initial strut settings based on your deformity, frame, mounting parameters, and neutral frame height/neutral strut Length. If the initial frame is not what you anticipated, simply back up to the previous tab and correct your inputs. When the initial frame is correct, click **Next** to proceed to the Final Frame page.



Click on any of the view box images to enlarge the view within a separate window.

Initial Frame - Residual Mode

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Specify: Neutral Frame Height (mm): 145.5 or Neutral Strut Length (mm): 143

Initial Settings for Residual Operative Mode

Case Name: GEA HTO Surgery
8/12/02

Strut 1 (mm)
(Red)
143

Strut 2 (mm)
(Orange)
143

Strut 3 (mm)
(Yellow)
143

Strut 4 (mm)
(Green)
143

Strut 5 (mm)
(Blue)
143

Strut 6 (mm)
(Violet)
143

Right AP View

Right Lateral View

Right Axial View

Lateral

Medial

Posterior

Anterior

Medial

Lateral

Deformity Parameters

AP View Angulation: 23.0° Varus

AP View Translation: 10.0 mm Medial

Lateral View Angulation: 10.0° Apex Anterior

Lateral View Translation: 5.0 mm Posterior

Axial View Angulation: 15.0° Internal

Axial Translation: 5.0 mm Short

Mounting Parameters

AP View Frame Offset: 0.0 mm

Lateral View Frame Offset: 20.0 mm Posterior to Origin

Rotary Frame Angle: 0.0°

Axial Frame Offset: 30.0 mm Proximal to Origin

Clicking on graphic will enlarge ?

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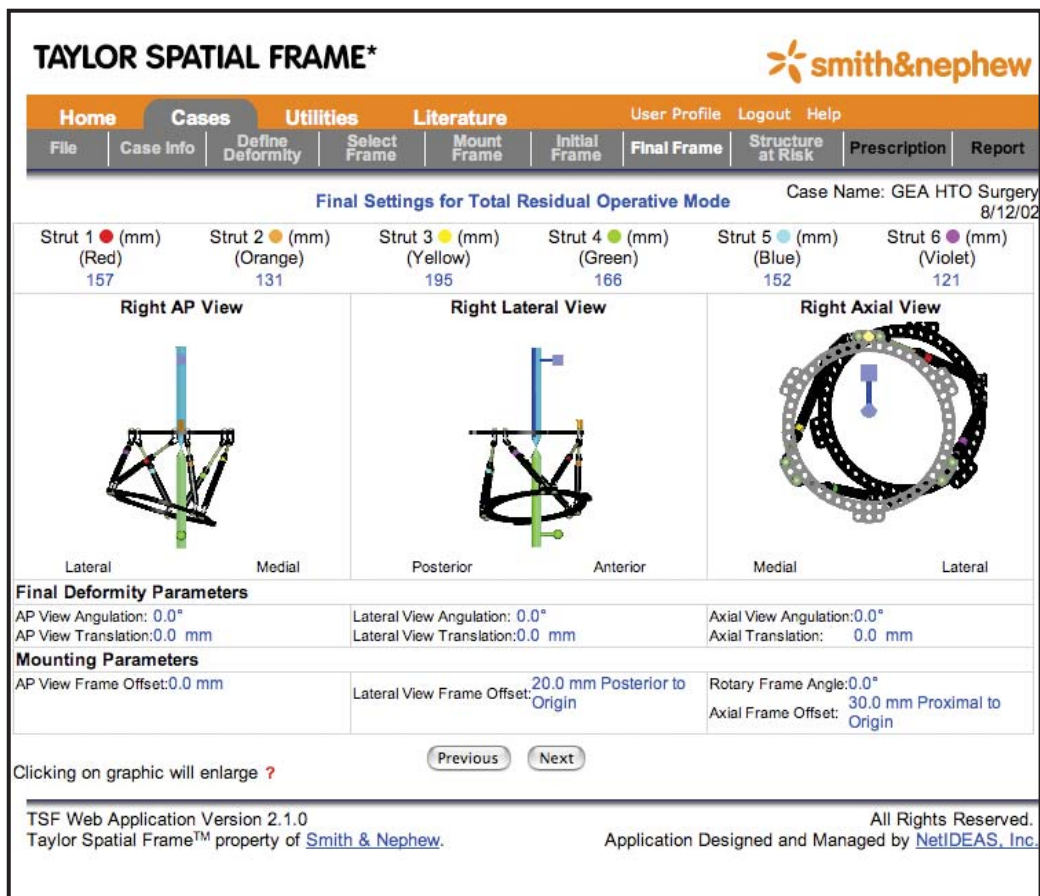
Next

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This is the **Initial Frame** page for the **Residual Mode**. The **Initial Frame** page shows the frame position/orientation and deformity on day one of the prescription schedule. In this mode, all the struts are the same length yielding a neutral frame. A neutral frame has no rotation, translation, or angulation. Once all of the strut lengths are entered, click on the **Regenerate Views** button to update the View boxes. If the initial frame is not what you anticipated, simply back up to the previous tab and correct your inputs. When the initial frame is correct, click **Next** to proceed to the Final Frame page.

Final Frame




The **Final Frame** page displays the frame position/orientation and the corrected deformity on the last day of strut adjustment. If you are satisfied you can advance toward the prescription to obtain these final results.

In the Chronic Mode, all final strut settings will be the same on this page according to the selected Neutral Frame Height/Neutral Strut Length.

In the Residual and Total Residual modes, most if not all the struts, will have different values on this screen.

This is an output only screen. The Final Deformity Parameters have all returned to zero since the deformity has been corrected. The Mounting Parameters remain constant.

Structure at Risk (SAR)

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File Case Info Define Deformity Select Frame Mount Frame Initial Frame Final Frame **Structure at Risk** Prescription Report

Case Name: GEA HTO Surgery 8/12/02

AP View SAR Offset (mm) Lateral View SAR Offset (mm)

☒ Medial To Origin ☐ Lateral To Origin

☒ Anterior to Origin ☐ Posterior to Origin

Axial SAR Offset (mm) Max Safe Distraction Rate (mm/day)

☐ Proximal to Origin ☒ Distal to Origin

Minimum Correction Time (days): Calculate Minimum Correction Time

Enter Correction Time (days):

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Edit text box
to override
calculated value.

The **Structure at Risk** screen is used to set up the time it will take to correct the deformity. Input the projected offset distance between the origin and the structures at risk and click the **Calculate Minimum Correction Time** button. Or, you can manually override the calculated value by entering a value in **Enter Correction Time (days)**. Once the SAR is completed, click **Next**.

The effect of entering SAR values is the velocity of correction will be reduced. This slows down the rate of correction but does not change the ultimate correction.

You can also reduce the velocity of correction by entering lower values as the Max Safe Distraction Rate.

Structure at Risk – Example

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Case Name: GEA HTO Surgery 8/12/02

AP View SAR Offset (mm)

☒ Medial To Origin
☐ Lateral To Origin

Lateral View SAR Offset (mm)

☒ Anterior to Origin
☐ Posterior to Origin

Axial SAR Offset (mm)

☐ Proximal to Origin
☒ Distal to Origin

Max Safe Distraction Rate (mm/day)

Minimum Correction Time (days):

Calculate Minimum Correction Time

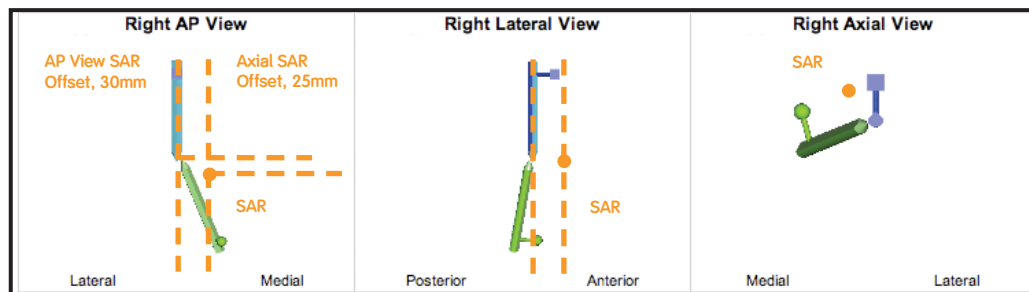
Enter Correction Time (days):

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Prescription

Click on the **calendar** icon to activate the calendar utility. The calendar utility is helpful for selecting **Prescription** start date and scheduling clinical visits.

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Report

Josh Harper

Office Phone: 1-801-278-3773

Case Number: BRU7147

Case Name: GEA HTO Surgery 8/12/02

Prescription Start Date

12

23

04

02/17/2004

Update

Prescription

| Date | Day | Strut 1 (Red) | Strut 2 (Orange) | Strut 3 (Yellow) | Strut 4 (Green) | Strut 5 (Blue) | Strut 6 (Violet) | View |
|---------|-----|------------------|---------------------|---------------------|--------------------|-------------------|---------------------|----------------------|
| 2/17/04 | 0 | 150 | 145 | 140 | 135 | 160 | 160 | View |
| 2/18/04 | 1 | 151 | 144 | 146 | 138 | 159 | 156 | View |
| 2/19/04 | 2 | 151 | 142 | 151 | 141 | 158 | 152 | View |
| 2/20/04 | 3 | 152 | 141 | 157 | 144 | 158 | 148 | View |
| 2/21/04 | 4 | 153 | 139 | 162 | 147 | 157 | 144 | View |
| 2/22/04 | 5 | 153 | 138 | 168 | 150 | 156 | 140 | View |
| 2/23/04 | 6 | 154 | 137 | 173 ^a | 154 | 155 | 137 | View |
| 2/24/04 | 7 | 155 | 135 | 179 | 157 | 154 | 133 | View |
| 2/25/04 | 8 | 156 | 134 | 184 | 160 | 154 | 129 | View |
| 2/26/04 | 9 | 156 | 132 | 190 | 163 | 153 | 125 | View |
| 2/27/04 | 10 | 157 | 131 | 195 | 166 | 152 | 121 | View |

Strut Change-Outs

| Change-Out | Strut | Overlap Interval | | Strut Change | |
|------------|---------------|------------------|----------------|------------------------------|----------------------------|
| | | First Day | Last Day | From | To |
| a | 3 (Yellow) | 6 (2/23/04) | 6 (2/23/04) | 7107-0220 Medium Standard | 7107-0230 Long Standard |

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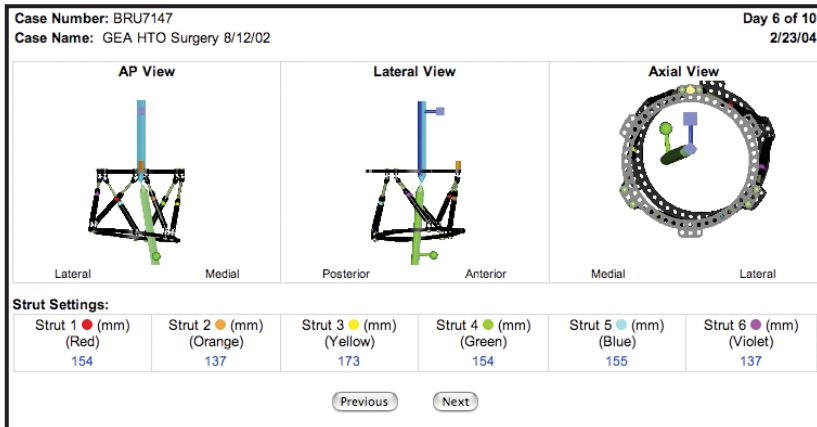
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The **Prescription** duration is set by the **SAR**. The **Prescription Start Date** can be modified using the input field.

Colored blocks clearly identify when struts need to be changed to a different size.

The progress of the virtual correction can be viewed on any day by clicking **View**.




Click **View** for any day of the correction to view the virtual progress of the deformity correction.

Report

The **Report** page provides a summary of all the input and output information in text form including the prescription, strut change schedule, hardware listing, and case notes. A hard copy of the report page should be placed in the patient's file. It is the best way to reconstruct the case if the electronic file is not available.

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[Open a printable version of this page in a new window](#)

Josh Harper, Office Phone: 1-901-278-3773, Date: 02/17/2004
Patient Initials: GEA, Case Name: GEA HTO Surgery 8/12/02, Case Number: BRU7147

Deformity Parameters

| | | |
|-------------------------------------|--|---------------------------------------|
| AP View Angulation: 23.0° Varus | Lateral View Angulation: 10.0° Apex Anterior | Axial View Angulation: 15.0° Internal |
| AP View Translation: 10.0 mm Medial | Lateral View Translation: 5.0 mm Posterior | Axial Translation: 5.0 mm Short |

Anatomy: Right **Operative Mode:** Total Residual

Frame Parameters

| | |
|---------------------------------------|---------------------|
| Proximal Ring: 180mm Ring (7107-0115) | Reference: Proximal |
| Distal Ring: 180mm Ring (7107-0115) | |

Mounting Parameters

| | | |
|------------------------------|--|--|
| AP View Frame Offset: 0.0 mm | Lateral View Frame Offset: 20.0 mm Posterior to Origin | Rotary Frame Angle: 0.0° |
| | | Axial Frame Offset: 30.0 mm Proximal to Origin |

Initial Strut Settings

| | | | | | |
|-------------------------|----------------------------|----------------------------|---------------------------|--------------------------|----------------------------|
| Strut 1 (Red) 150 | Strut 2 (Orange) 145 | Strut 3 (Yellow) 140 | Strut 4 (Green) 135 | Strut 5 (Blue) 160 | Strut 6 (Violet) 160 |
|-------------------------|----------------------------|----------------------------|---------------------------|--------------------------|----------------------------|

Final Strut Settings

| | | | | | |
|-------------------------|----------------------------|----------------------------|---------------------------|--------------------------|----------------------------|
| Strut 1 (Red) 157 | Strut 2 (Orange) 131 | Strut 3 (Yellow) 195 | Strut 4 (Green) 166 | Strut 5 (Blue) 152 | Strut 6 (Violet) 121 |
|-------------------------|----------------------------|----------------------------|---------------------------|--------------------------|----------------------------|

Structure at Risk

| | |
|---|--|
| AP View SAR Offset (mm): 30.0 mm Medial To Origin | Lateral View SAR Offset (mm): 45.0 mm Anterior to Origin |
| Axial SAR Offset (mm): 25.0 mm Distal to Origin | Max Safe Distraction Rate (mm/day): 3.7 |
| Correction Time (days): 10 | |

Prescription

| Date | Day | Strut 1 (Red) | Strut 2 (Orange) | Strut 3 (Yellow) | Strut 4 (Green) | Strut 5 (Blue) | Strut 6 (Violet) | View |
|---------|-----|------------------|---------------------|---------------------|--------------------|-------------------|---------------------|----------------------|
| 2/17/04 | 0 | 150 | 145 | 140 | 135 | 160 | 160 | View |
| 2/18/04 | 1 | 151 | 144 | 146 | 138 | 159 | 156 | View |
| 2/19/04 | 2 | 151 | 142 | 151 | 141 | 158 | 152 | View |
| 2/20/04 | 3 | 152 | 141 | 157 | 144 | 158 | 148 | View |
| 2/21/04 | 4 | 153 | 139 | 162 | 147 | 157 | 144 | View |
| 2/22/04 | 5 | 153 | 138 | 168 | 150 | 156 | 140 | View |
| 2/23/04 | 6 | 154 | 137 | 173 ^a | 154 | 155 | 137 | View |
| 2/24/04 | 7 | 155 | 135 | 179 | 157 | 154 | 133 | View |
| 2/25/04 | 8 | 156 | 134 | 184 | 160 | 154 | 129 | View |
| 2/26/04 | 9 | 156 | 132 | 190 | 163 | 153 | 125 | View |
| 2/27/04 | 10 | 157 | 131 | 195 | 166 | 152 | 121 | View |

(See next page for screen continuation.)

To print the report without banners, click on **Open a Printable Version of this page in a New Window**. Then click on **Print** to print this version.

(Screen continuation from previous page.)

| Mounting Parameters | | | | | | | | |
|---|--|--|------------------------|------------------------------|----------------------------|----------------|------------------|----------------------|
| AP View Frame Offset: 0.0 mm | Lateral View Frame Offset: 20.0 mm Posterior to Origin | Rotary Frame Angle: 0.0° Axial Frame Offset: 30.0 mm Proximal to Origin | | | | | | |
| Initial Strut Settings | | | | | | | | |
| Strut 1 (Red) 150 | Strut 2 (Orange) 145 | Strut 3 (Yellow) 140 | Strut 4 (Green) 135 | | | | | |
| Strut 5 (Blue) 160 | Strut 6 (Violet) 160 | | | | | | | |
| Final Strut Settings | | | | | | | | |
| Strut 1 (Red) 157 | Strut 2 (Orange) 131 | Strut 3 (Yellow) 195 | Strut 4 (Green) 166 | | | | | |
| Strut 5 (Blue) 152 | Strut 6 (Violet) 121 | | | | | | | |
| Structure at Risk | | | | | | | | |
| AP View SAR Offset (mm): 30.0 mm Medial To Origin | | Lateral View SAR Offset (mm): 45.0 mm Anterior to Origin | | | | | | |
| Axial SAR Offset (mm): 25.0 mm Distal to Origin | | Max Safe Distraction Rate (mm/day): 3.7 | | | | | | |
| Correction Time (days): 10 | | | | | | | | |
| Prescription | | | | | | | | |
| Date | Day | Strut 1 (Red) | Strut 2 (Orange) | Strut 3 (Yellow) | Strut 4 (Green) | Strut 5 (Blue) | Strut 6 (Violet) | View |
| 2/17/04 | 0 | 150 | 145 | 140 | 135 | 160 | 160 | View |
| 2/18/04 | 1 | 151 | 144 | 146 | 138 | 159 | 156 | View |
| 2/19/04 | 2 | 151 | 142 | 151 | 141 | 158 | 152 | View |
| 2/20/04 | 3 | 152 | 141 | 157 | 144 | 158 | 148 | View |
| 2/21/04 | 4 | 153 | 139 | 162 | 147 | 157 | 144 | View |
| 2/22/04 | 5 | 153 | 138 | 168 | 150 | 156 | 140 | View |
| 2/23/04 | 6 | 154 | 137 | 173 ^a | 154 | 155 | 137 | View |
| 2/24/04 | 7 | 155 | 135 | 179 | 157 | 154 | 133 | View |
| 2/25/04 | 8 | 156 | 134 | 184 | 160 | 154 | 129 | View |
| 2/26/04 | 9 | 156 | 132 | 190 | 163 | 153 | 125 | View |
| 2/27/04 | 10 | 157 | 131 | 195 | 166 | 152 | 121 | View |
| Strut Change-Outs | | | | | | | | |
| Change-Out | Strut | Overlap Interval | | Strut Change | | | | |
| | | First Day | Last Day | From | To | | | |
| a | 3 (Yellow) | 6 (2/23/04) | 6 (2/23/04) | 7107-0220 Medium Standard | 7107-0230 Long Standard | | | |
| Parts List | | | | | | | | |
| Part | | | | | Quantity | | | |
| 180mm Ring (7107-0115) | | | | | 2 | | | |
| Standard Identification Band Kit (7107-0320) | | | | | 1 | | | |
| Medium Strut (7107-0220) | | | | | 6 | | | |
| Long Strut (7107-0230) | | | | | 1 | | | |
| Case Notes | | | | | | | | |
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| TSF Web Application Version 2.1.0 Taylor Spatial Frame™ property of Smith & Nephew . | | | | | | | | |
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The **Report** page also includes a detailed schedule for **Strut Change-outs** and **Parts Listing**.

Saving a Case

You can save a case at anytime. Under the **Cases** tab, simply click **File** and **Save Case**.

The screenshot shows the 'TAYLOR SPATIAL FRAME*' software interface. The 'Cases' tab is selected, and the 'File' menu is open, with 'Save Case' highlighted. The interface includes a navigation bar with 'Home', 'Cases', 'Utilities', and 'Literature'. Below the navigation bar, there are links for 'New Case', 'Open Case', and 'Save Case'. A text box displays patient information: 'Josh Harper, Office Phone: 1-901-278-3773, Date: 02/17/2004' and 'Patient Initials: GEA, Case Name: GEA HTO Surgery 8/12/02, Case Number: BRU7147'. Below this, there are sections for 'Deformity Parameters' and 'Frame Parameters'.

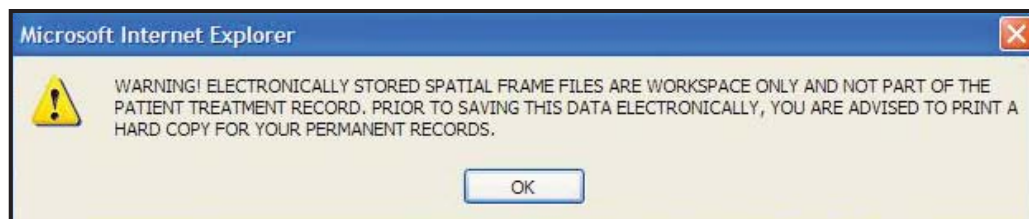
To save a case, click **File**, then **Save Case**.

The screenshot shows the 'TAYLOR SPATIAL FRAME*' software interface. The 'Cases' tab is selected, and the 'File' menu is open, with 'Save Case' highlighted. The interface includes a navigation bar with 'Home', 'Cases', 'Utilities', and 'Literature'. Below the navigation bar, there are links for 'New Case', 'Open Case', and 'Save Case'. A text box displays patient information: 'Josh Harper, Office Phone: 1-901-278-3773, Date: 02/17/2004' and 'Patient Initials: GEA, Case Name: GEA HTO Surgery 8/12/02, Case Number: BRU7147'. Below this, there are sections for 'Deformity Parameters' and 'Frame Parameters'.

The files in your folder are listed.

You will be prompted to enter a file name. Since you cannot create subdirectories, you may want to use file names that will help you organize or locate files

When saving the case, the following message will be displayed in a pop up box alerting the user that the files are saved electronically via the software.



Restoring a Case

You can open a case at anytime. Under the **Cases** tab, simply click **File** and **Open Case**.

TAYLOR SPATIAL FRAME*

smith&nephew

Home

Cases

Utilities

Literature

User Profile

Logout

Help

File

Case Info

Define Deformity

Select Frame

Mount Frame

Initial Frame

Final Frame

Structure at Risk

Prescription

Report

New Case

Open Case

Save Case

Open a printable version of this page in a new window

Josh Harper, Office Phone: 1-901-278-3773, Date: 02/17/2004

Patient Initials: GEA, Case Name: GEA HTO Surgery 8/12/02, Case Number: BRU7147

Deformity Parameters

AP View Angulation: 23.0° Varus

Lateral View Angulation: 10.0° Apex Anterior

Axial View Angulation: 15.0° Internal

AP View Translation: 10.0 mm Medial

Lateral View Translation: 5.0 mm Posterior

Axial Translation: 5.0 mm Short

Anatomy: Right

Operative Mode: Total Residual

Frame Parameters

Proximal Ring: 180mm Ring (7107-0115)

Reference: Proximal

Distal Ring: 180mm Ring (7107-0115)

Strut 1: Medium Strut (7107-0220)

Strut 4: Medium Strut (7107-0220)

Strut 2: Medium Strut (7107-0220)

Strut 5: Medium Strut (7107-0220)

Strut 3: Medium Strut (7107-0220)

Strut 6: Medium Strut (7107-0220)

Mounting Parameters

AP View Frame Offset: 0.0 mm

Lateral View Frame Offset: 20.0 mm Posterior to Origin

Rotary Frame Angle: 0.0°

Axial Frame Offset: 30.0 mm Proximal to Origin

Initial Strut Settings

Strut 1 (Red) 150

Strut 2 (Orange) 145

Strut 3 (Yellow) 140

Strut 4 (Green) 135

Strut 5 (Blue) 160

Strut 6 (Violet) 160

Final Strut Settings

Strut 1 (Red) 157

Strut 2 (Orange) 131

Strut 3 (Yellow) 195

Strut 4 (Green) 166

Strut 5 (Blue) 152

Strut 6 (Violet) 121

Structure at Risk

AP View SAR Offset (mm): 30.0 mm Medial To Origin

Lateral View SAR Offset (mm): 45.0 mm Anterior to Origin

Axial SAR Offset (mm): 25.0 mm Distal to Origin

Max Safe Distraction Rate (mm/day): 3.7

Correction Time (days): 10

Prescription

| Date | Day | Strut 1 (Red) | Strut 2 (Orange) | Strut 3 (Yellow) | Strut 4 (Green) | Strut 5 (Blue) | Strut 6 (Violet) | View |
|------|-----|---------------|------------------|------------------|-----------------|----------------|------------------|------|
| | | | | | | | | |

To open a case, click **File**, then **Open Case**.

TAYLOR SPATIAL FRAME*

smith&nephew

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Load from local filesystem ?

Cases From Others

| Name | Last Modified | Sent From User... | Actions |
|------|---------------|-------------------|---------|
| | | | |

My Cases

| Name | Last Modified | Actions |
|-------------------------|-----------------|------------------|
| GEA HTO Surgery 8-12-02 | 2/17/04 6:30 PM | Open Delete Send |

TSF Web Application Version 2.1.0

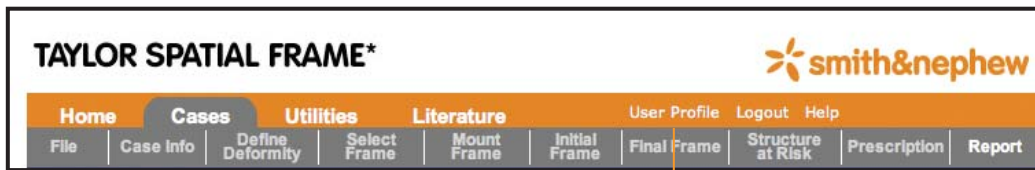
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Click **File Name**, or **Open** to retrieve an existing file.

Changing the User Profile

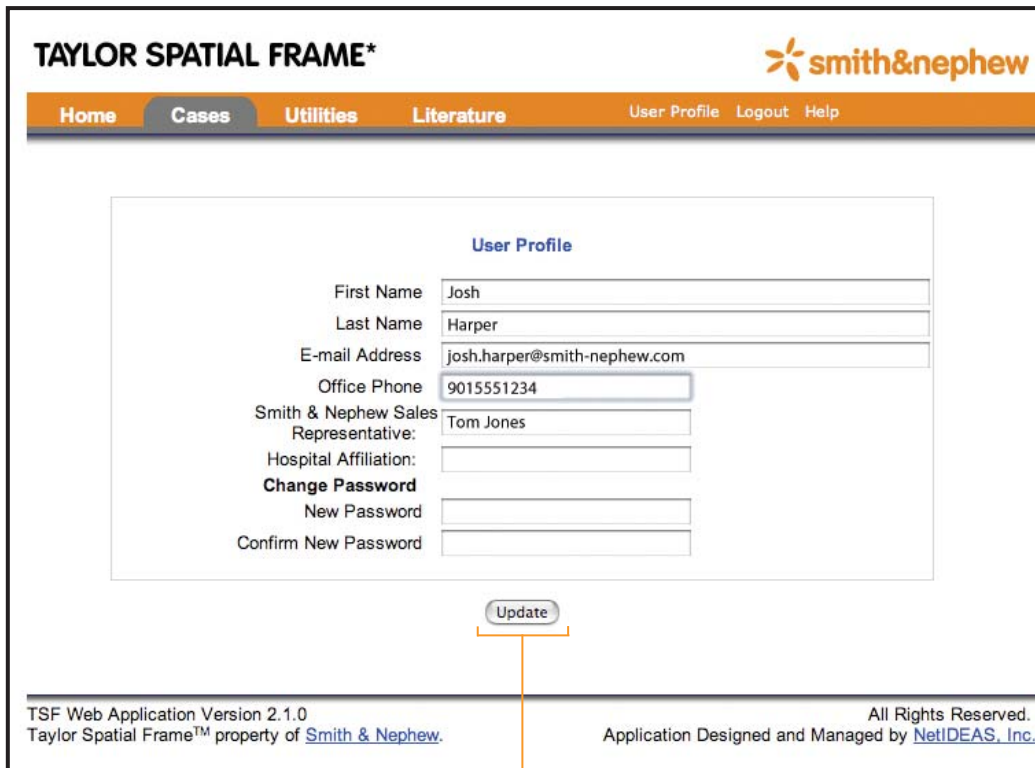



TAYLOR SPATIAL FRAME* 

Home **Cases** **Utilities** **Literature** **User Profile** **Logout** **Help**

File **Case Info** **Define Deformity** **Select Frame** **Mount Frame** **Initial Frame** **Final Frame** **Structure at Risk** **Prescription** **Report**

To change the name, phone number, email address, or password, click on **User Profile**.



TAYLOR SPATIAL FRAME* 

Home **Cases** **Utilities** **Literature** **User Profile** **Logout** **Help**

User Profile

First Name

Last Name

E-mail Address

Office Phone

Smith & Nephew Sales Representative:

Hospital Affiliation:

Change Password

New Password

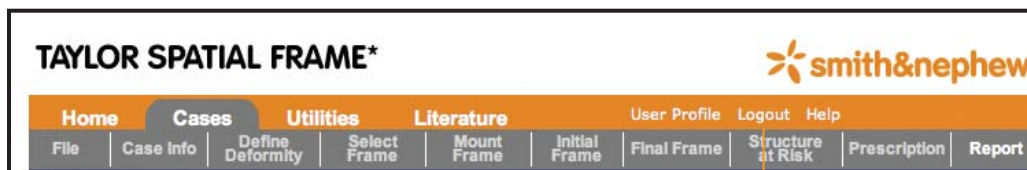
Confirm New Password

TSF Web Application Version 2.1.0
Taylor Spatial Frame™ property of [Smith & Nephew](#).

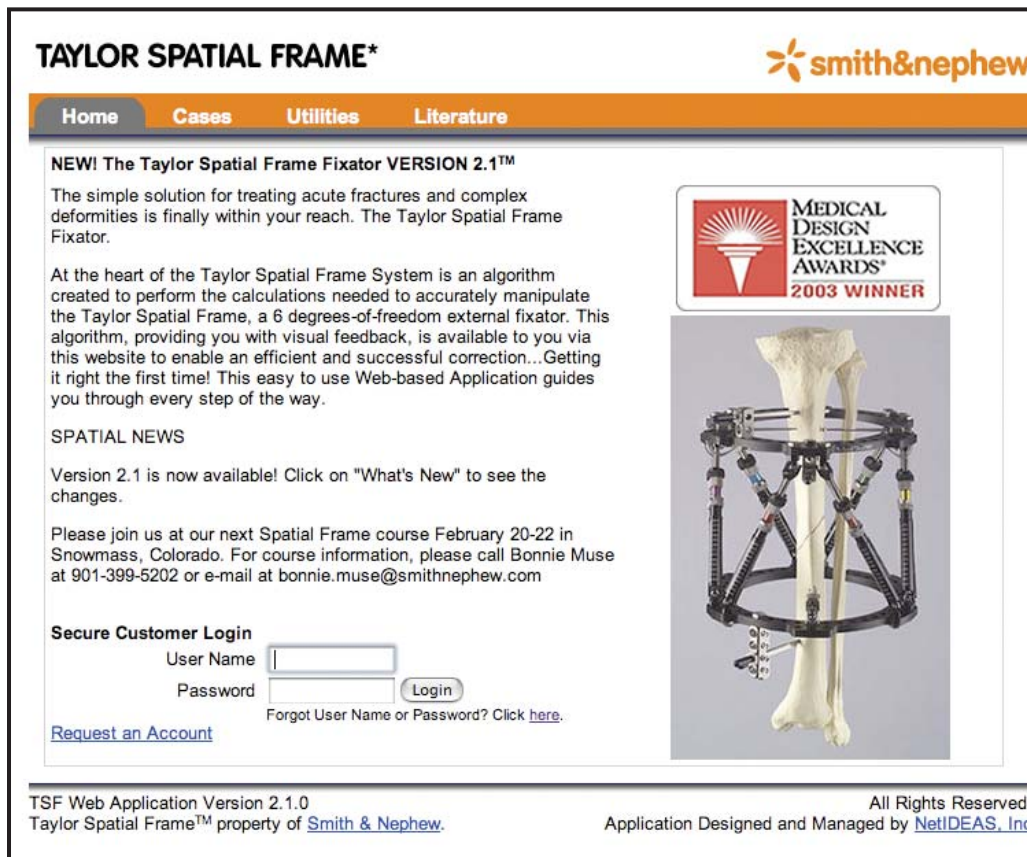
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Once your profile has been edited, click the **Update** button.

Logging Out



Click the **Logout** text to exit the protected portion of the site.



After logging out of the site, you will return to the **Login** page.

Note: You can also log out by closing your browser.

Notes

Tearout Reference

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File

- New Case
- Open Case
- Save Case
- Share Case



Case Info

- Case Number
- Case Name
- Patient Initials
- Patient Number
- Date
- Anatomy
- Case Notes



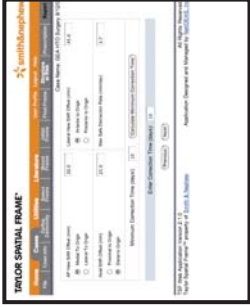
Mount Frame

- Operative Mode
- AP View Frame Offset
- Lateral View Frame Offset
- Axial View Frame Offset
- Rotary Frame Offset



Final Frame

- AP Frame View
- Lateral Frame View
- Axial Frame View
- Final Deformity Parameters
- Mounting Parameters



Structure at Risk

- AP SAR Offset
- Lateral SAR Offset
- Axial SAR Offset
- Maximum Rate of Correction
- Total Correction Time



Prescription

- Prescription Start Date
- Strut Correction Schedule
- Strut Change-outs
- View Prescription
- View Virtual Correction



Select Frame

- Ring Selection
- 2/3 Foot Ring/U-plate Orientation
- Strut Family Selection
- Individual Strut Selection



Initial Frame

- Initial AP View
- Initial Lateral View
- Initial Axial View
- Deformity Parameters
- Mounting Parameters



Define Deformity

- Reference Fragment
- AP View Angulation
- AP View Translation
- Lateral View Angulation
- Lateral View Translation
- Axial View Angulation
- Axial View Translation



Report

- View Input/Output Summary Information
- Prescription
- Strut Change-outs
- Parts List
- Case Notes

Orthopaedics

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