

The Modules: Spine

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The **Spine Module** of Socrates would not have been developed to the extent it has been without the input of Dr Brett Freedman, a Spine surgeon in the US army, based in Germany. He has been responsible for the input into the surgical details, the surgeon examination screens, implant details and the content of the patient medical and spine history. He has donated hundreds of hours to help us and we are very grateful for his help.

Don't be daunted by what you may consider as too much data to collect when you first look through the various screens. You can select from a lot of options, from the very brief to the very detailed. The amount of data that different users want to collect varies between users. Some users will want to record detailed information about all procedures; others of you will throw your arms up in horror at this level of detail, and will just want to use the program to track what you've done by diagnosis and procedure name, and some patient related scores. Also, since Socrates will be with you for your entire practice, what you use it for, and how much detail you collect may change over time, as well as be different for various patient populations.

Regulatory and reimbursement changes are ever-present, and it may become mandatory to follow some of the new procedures and implants in different levels of detail over time. Socrates will let you adapt your needs to cover all the possible scenarios. It's like a one-size-fits-all program, even if you do get a bit lighter or heavier over the years. There is quite a bit of *customisation* possible also, and we regularly add new fields and scores as they become necessary due to changes in technology and technique.

You can set up "Favourites" for the surgical details screen so that almost all the fields that you might routinely check for some procedures would be populated with one tick for those surgeries. If you have a list of surgeries that you perform regularly and you take the time to set these up as "favourites" this will save a lot of time on data entry for the surgical fields.

You can also generate reports, operation reports, examination reports etc from any data that has been entered into Socrates. These can be saved word or pdf documents, and copied and pasted into another EMR. These can be set up at the users end although they can be fiddly and time consuming to "build" just as any macro is. We are in the process of developing some default templates and will let users know when these are ready for use.

WHAT'S STILL TO COME

- At the time of releasing the Version 3.5 Build 10004, the spine module is still work in progress.
- Thoracic patient history questionnaire. There is currently a back and leg, and Neck and arm patient survey but we don't have one developed yet for patient with Thoracic symptoms.
- A "lite" version of the patient back and leg, and neck and arm surveys. We know that all patients won't have the patience to fill out the full questionnaires.
- Non operative treatment screen to allow capture of the details needed to track any non-operative procedures and their efficacy.
- Intraoperative Revision details.

We will start off by taking you through the various screens in Socrates, it would help if you have the document printed out, and can go through the screens while you are reading this.

HISTORY SCREEN

Most fields on this screen are self-explanatory, and the master lists are created on the Set Up screen. There is a short cut to the screen at the bottom of the page – hammer and spanner.

Created: 10/07/2012 15:16 - Admin Modified: 26/11/2012 13:10 - Admin

Spine History and Examination

Add/modify favourites Load from favourites

Patient name: ABABABAB Trevor Injury: Exam Module: Spine
 Patient ID: 479830 Exam: Side: ☐ Bilateral
 Latest FUP: 04/11/2012 3m Surgery: 10/07/2012 Protocol: Brett Test
 Surgery ID: Password: ☐ Enable Webscores for this Surgery

General	
Surgeon/Physician: Freedman Brett	Referring Dr: Field Claire
Hospital/Clinic: US Army Hospital L...	Other referrer: Bradley Tom
Anaesthetist: De Vitt Edward	Assistant: Brown Fred
Payer/Insurance Co.: Blue Cross	Other Assistant: Menzies George
Other Insurance Co.: Medicare	Physiotherapist:

Study	Study name	Study number
	NEW CAGE STUDY	XXX

Surgery Keywords: old

After surgery	
Admission date: 02/03/2009	Discharge date: 04/05/2009
Length of stay: 63 days <input type="checkbox"/> Day only	Discharged To: Home

Procedure details	
Date of surgery/ procedure: 10/07/2012	Age at surgery: 46
Type of surgery or study: Primary, Revision own <input type="checkbox"/> Non Surgical Treatment	
Diagnosis Codes	
Procedure Codes	
Initial Diagnosis/ Diagnoses	Cervical Spinal Stenosis
<input checked="" type="checkbox"/> Confirm Final Diagnosis	
Final Diagnosis/ Diagnoses	Cervical Spinal Stenosis
Procedure names	Cervical-Anterior Spinal Fusion

CONSENT: ☐ Consent Signed Date: ☐ Filed in Socrates

Diagnosis and Procedure Codes

If you are using these, the fields will be blank when you create your own database. Lists of these codes, whether in text or numerical format, can be imported from other sources. Examples include CPT, ICD, or DRG codes (depending on your country), or other codes or names your system may use to identify diagnosis, procedure name, etc. It is possible to have lists containing both numbers and text, and it is possible to select more than one for a particular surgery. Go to the Set Up and customisation chapter "Importing Adaptable fields/Keywords" for details of how to import your lists. They can also be added one by one manually to the master list. It is the responsibility of the site to obtain any licenses which might be required to use any of the codes that are imported by the user.

This screenshot shows the 'Procedure details' tab of the Spine Surgery details form. The form includes fields for 'Referring Dr', 'Other referrer', 'Assistant', 'Physiotherapist', 'Study number', 'Date' (11/11/2011), 'Age at surgery' (45), and 'Type of surgery or study' (Primary). The 'Diagnosis Codes' and 'Procedure Codes' fields are empty. The 'Initial Diagnosis/Diagnoses' field is empty. The 'Final Diagnosis/Diagnoses' field contains 'Degenerative Disc Disease'. The 'Procedure names' field contains 'Anterior Fusion Lumbar'. A callout box points to the 'Diagnosis Codes' and 'Procedure Codes' fields, stating: 'These are also options, and your list of codes can easily be imported to create your list of codes.' Another callout box points to the 'Final Diagnosis/Diagnoses' and 'Procedure names' fields, stating: 'Just add a diagnosis and Procedure name'. The 'CONSENT' section at the bottom has checkboxes for 'Consent Signed' and 'Filed in Socrates'.

Diagnosis and Procedure Names

Why do we have both codes and names?

Some sites don't record codes, but want clinically descriptive terms, others will record both. Also, for various reasons the codes and the clinically descriptive terms aren't always the same.

When you created your new database you had the option of installing the default adaptable fields. If you selected this you will see a list of procedures here, they are the same as are on the surgery details screen.

This screenshot shows the 'Surgical details' tab of the Spine Surgery details form. The form includes fields for 'Patient ID' (479830), 'Date' (10/07/2012), 'Age' (46), 'Operator', 'OR Start time', 'End time', 'Anaesthetic', and 'Anaesthetic rating'. The 'Surgical details' tab is selected, and the 'Procedures' sub-tab is active. A callout box points to the 'Procedures' list, stating: 'If you select a procedure on this screen'. The 'Procedures' list is divided into 'Cervical' and 'Thoracic' sections. The 'Cervical' section includes 'Anterior Cervical Discectomy and Fusion +'. The 'Thoracic' section includes 'Laminectomy', 'Nerve Root Decompression', 'Thoracic Discectomy', 'Thoracic Corpectomy - Decompression', 'Posterior Spinal Fusion', 'Anterior Spinal Fusion', 'Lateral Interbody Fusion', 'Posterior Instrumentation', 'Anterior Instrumentation', 'Placement of Interbody Device', 'Placement of Corpectomy Cage', and 'Implantation of Spinal Cord Stimulator'.

SURGICAL DETAILS.

If you don't plan on entering any more than just the diagnosis and procedure names and or codes, skip reading this section.

If you do, click on the surgeon icon in the top right hand corner of the screen.

In order for us to accommodate users who wanted to collect a lot of surgery details, as well as others who wanted to collect less, there is potentially a lot of data that can be entered into this screen. If you want to collect the intraoperative details in this level of detail you will need to spend some time finding your way around this screen, maybe practice entering a few dummy surgeries to get the hang of it.

You can set up most of the fields to prepopulate for the procedures you do more frequently which reduces data entry time down to less than a minute, and at the end of this you can generate an op report in about 5 seconds. So, it may be worth persevering as you can have all these data points available for research, and an op report without adding additional time to your day..

The screenshot shows the top section of the Spine Surgery details form. It includes fields for Patient name (ANDREWS Jimmy), Patient ID (4836), Latest FUP (13/11/2012), DOS, Injury, Exam, Surgery (13/11/2012), Module (Spine), Side (dropdown), Bilateral (checkbox), Protocol (dropdown), Surgery ID (383453), Password (NMA4y4Jm), and a checkbox for 'Enable Webscores for this Surgery'. A red arrow points to a surgeon icon in the top right corner. Below the form, a callout box says 'Click here to enter the surgical details'.

The screen below is what you will see.

The screenshot shows the full Spine Surgery details form. The 'Common details' section includes Date (25/11/2012), Age (35), Operator, OR Start time, End time, Duration, Blood Loss, Blood Replaced, Anaesthetic, and Anaesthetic rating. The 'Surgical details' section includes Surgery Custom Fields, Notes, Procedures, Other Details, Intra-op Complications, Implants, and Procedure Summary. The 'Procedures' list includes Cervical, Thoracic, Lumbar, Fusion, Fracture, Deformity, Infection, Tumor/Lesion, and Miscellaneous. The 'Position on table' section includes Initial Diagnosis/Diagnoses, Confirm Final Diagnosis, Final Diagnosis/Diagnoses, and Surgery Keywords.

Common details

The details at the top of the screen relate to the surgery overall, and are not procedure or region specific. If the start and finish time is entered using the 24 hour clock, the duration of surgery will be calculated. Otherwise just enter the duration in minutes.

Procedure type/Name

There is a list of the different types of spine procedures by region - Cervical, Deformity etc and inside each of these is a sub list which has the procedures belonging to those groups.

There is no limit to how many can be selected, you can select both a lumbar, thoracic and a cervical procedure. Each time you select from a new list a tab will be created alongside the main surgical details tab which gives you the option to record the details that are specific to that region/procedure. That's if you want to add more, if you don't you can bypass those tabs, and go to the other details, or implants.

Once you have added the names of the procedures the next step is to go to those tabs for each region. You selected both thoracic and cervical so you will see both those tabs. Each section has a top part, which enables you to record details of the approach, intraoperative imaging, bone graft materials used etc. The headings/titles of the list are all the same for each tab, but the fields on the list may differ. For example, the list of approaches may differ from the cervical to thoracic, but the other details may not.

This top section in the red box is the same for all tabs but with different options where appropriate

Cervical Discectomy Anterior Spinal Fusion

This section has the levels/segments that are appropriate for the type of surgery you selected on the previous screen displayed on the bottom section.

At the bottom of this screen you will see a tab for each of the procedures you selected for that region. This enables you to record the following details:

Levels operated on

The bottom of each screen on the sub tabs allows you to list the levels or segments for each procedure within the main heading (thoracic, cervical, fracture, deformity etc) If there are no levels you will see a list pop up " no levels. We have done our best to get these correct, if you find something that's not correct please let us know.

Different levels/segments depending on the type of procedure.

Posterior Instrumentation

Total Cervical Disc Replacement

Different levels/segments depending on the type of procedure.

Anterior Spinal Fusion

Side/Type

This allows you to enter the side, R L or bilateral, and the type. Own and elsewhere for revision or reoperation means was the original surgery was yours (own) or are you revising a surgery that was done elsewhere. It's possible to have both a primary and a revision procedure in the same surgery which is why it is there for each procedure.

If the Type is entered in the above fields on the surgery screen it will be cross populated back into the history screen also as well as the date of surgery.

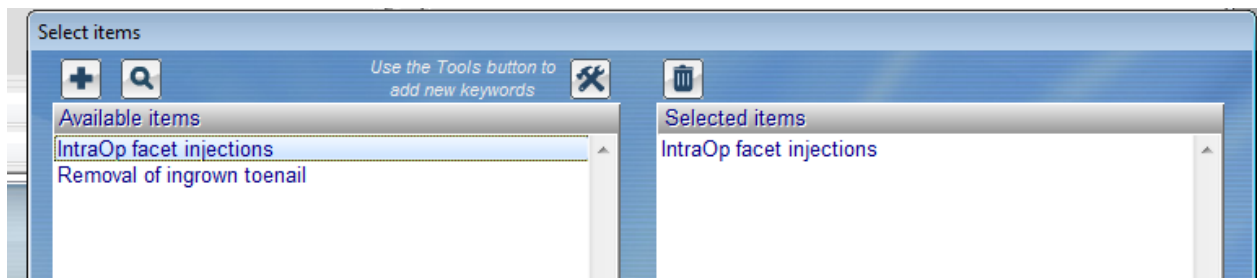
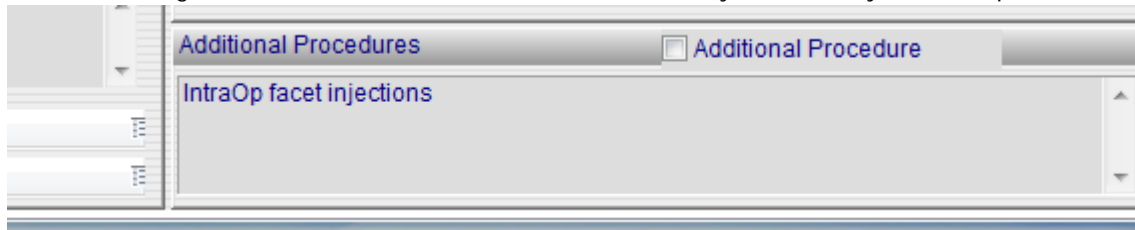
OK, we have covered the details for each location/region, we now have the option of adding some additional details about the procedure. Once again, if you don't want to record these details just don't go there.

Other surgery details

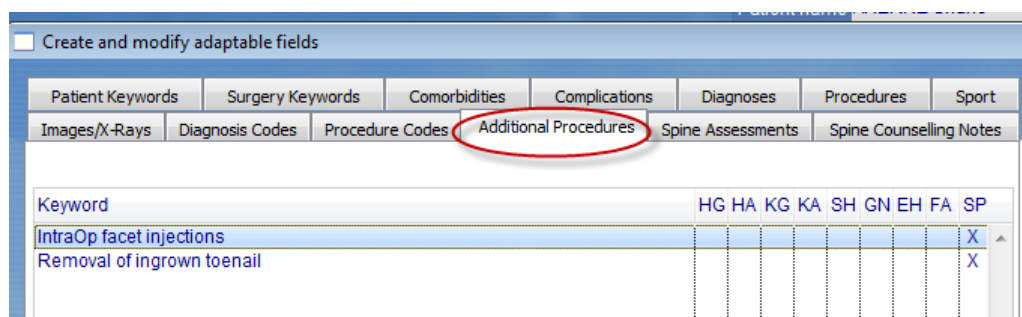
As you can see from the screen shot, this allows you to record additional details about the procedure, fluid loss and replacement etc.

Additional procedures

At the bottom right of this screen there is a window which enables you to add any additional procedures.

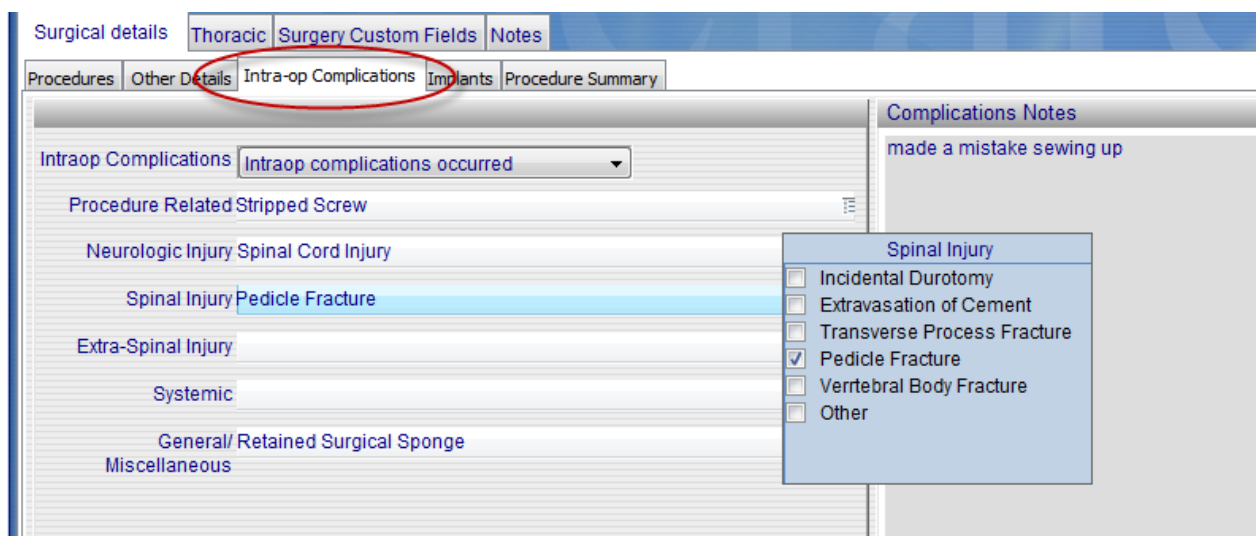


Rather than put in a set list of these, users can add their own list in Adaptable fields, in the Set Up screen.



Intraoperative complications

Hopefully you won't be in this screen too often however it's always a good idea to select the "No Complications occurred" if there weren't any. That way, you know that you just didn't forget.



As you can see they are sorted by headings, and each has a sub list attached. Once there is anything entered on this screen the basic details will also automatically be populated into the main complications screen as an intraoperative complication. This is on the surgeon follow up and complication screen. More about this screen later, for now just believe us.

Complications

Evaluation date: 13/11/2012 F/U: intraop Method of completion: Name:

Comorbidities & Biochemistry History-PreOp Examination-PreOp Assessments Recommendations **Complications & outcome**

Complications Outcome/Keywords

Complications

Complication occurrence: Yes Intra op Early Late

Check if Complication date = Evaluation date Date: 13/11/2012 weeks

Reoperation Date weeks since op

Revision Date weeks since op

Additional Details

Complication: Local Duration

General Duration

Caused by the product/device

Caused by the procedure

These details are populated into the complications screen.

Implant screen

This is where we had the hardest time trying to gain consensus on how much detail to collect for the implants used in the procedures. You can choose how much you want to record, but you will have to play with this for a while to get the hang of it. You can record just the type of implant, i.e. monorail Lateral mass screw. Or go to next step and records the monoaxial Lateral mass screw, and the brand or type. Or the next level and record all of these, as well as the size/s of each used. OR, add the levels where you used instrumentation in combination with any of the other fields.

When you first enter this screen it's just a big blank window. Click anywhere on the blank screen and the window below will pop up. The models/brands and sizes are going to be blank when you first install the software.

Common details

Date: 13/11/2012 Age: 38 Operator: OR Start time: End time: Duration: min Blood Loss (units):

Anaesthetic Total Intravenous Anesthesia

Surgical details Cervical Thoracic

Procedures Other Details Intra-op Complications

Levels

Select levels, implants, brands or procedures types, and sizes

Facet Screws Translaminar Screws Wires Cables Hooks Cross-Link Transition Rod

Lateral Mass Screws Posterior Plate Anterior Plate Interbody Cage Corpectomy Cage Artificial Disc Pedicle Screws

Levels Segments Type Models/Brands Sizes

Occ Occ/C Left Only

C1 C1/2 Monaxial

C2 C2/3 Polyaxial

C3 C3/4 Reduction

C4 C4/5 Right Only

C5 C5/6

C6 C6/7

C7 C7/T1

T1 T1/T2

T2 T1/2

T3 T2/3

T4 T3/4

T5 T4/5

T6 T5/6

T7 T6/7

T8 T7/8

Double click to select just a Type (& levels/segments if ticked). Single click to display a list of Models/brands to choose from.

Double click to select the model/brand with no size. Single click to display a list of sizes to choose from.

Double click on a size to select the size (and other fields)

Click anywhere in here and this screen will pop up.

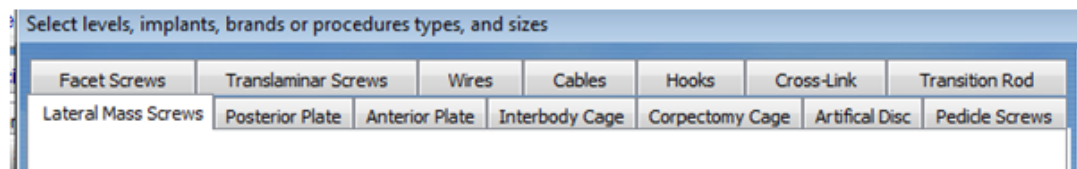
Click anywhere in the body of the s...

The implant screen has the generic groups and sub groups already entered, but the individual brands and sizes must be added by the user. If you are going to want to collect brands and sizes it's a really good idea to spend some time adding these right at the start. Firstly you will get to know how to do it, and secondly you won't get

held up in the OR when you are adding the data on the surgical screen when you find missing sizes or implants. They can be added at anytime to the master list but chances are a few months down the track you might have forgotten how to do it.

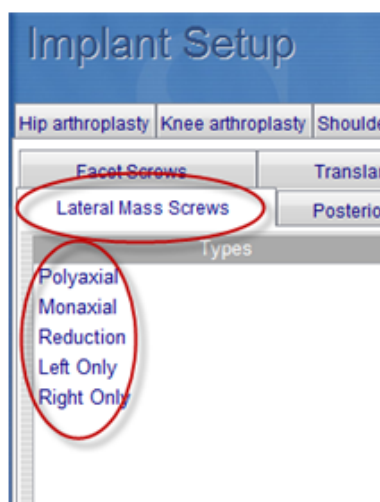
If we have missed anything, or there are new types that come along let us know as we can add new tabs

The main generic groups are as below

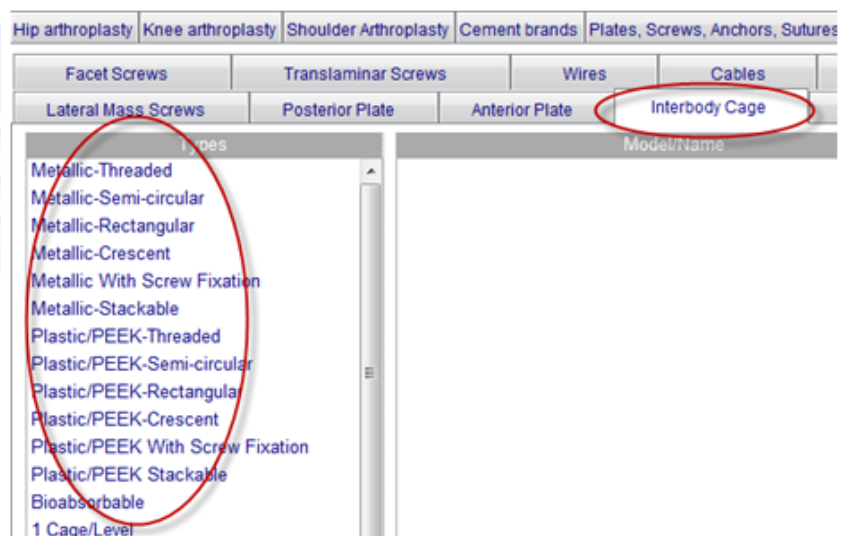


Each generic tab is then broken down into another generic list of implants which fit into that category.

Lateral Mass screw list



Interbody Cage list



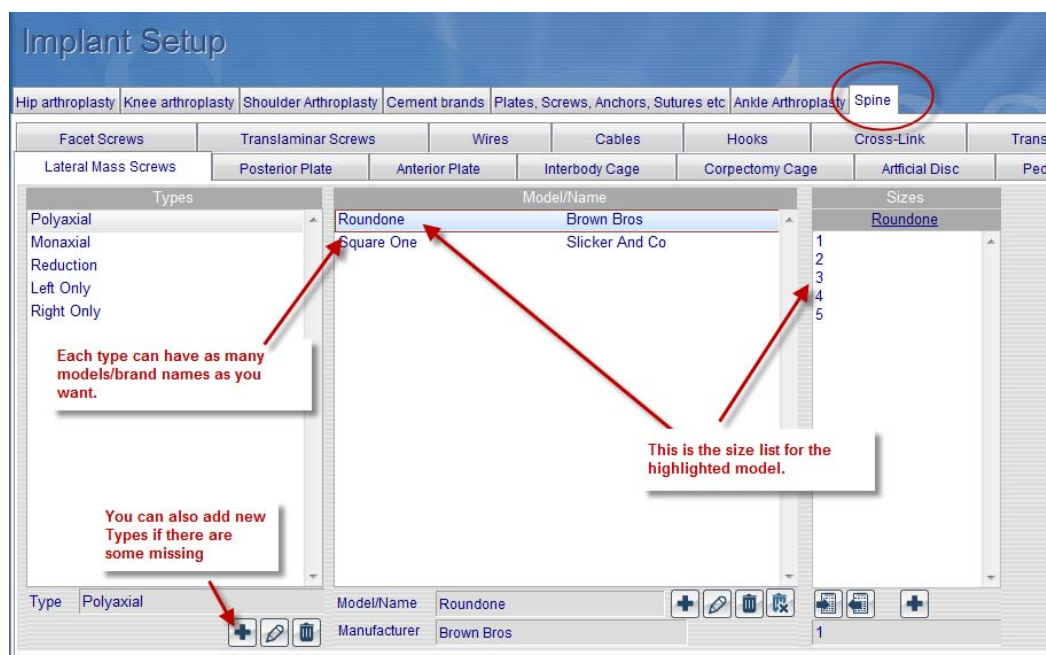
If you don't want to add the implant brand and size you don't need to add anything else. The generic names and types are already included in Socrates. However you can add to the list of Types if you find something is missing, or something new comes along.

Adding new implant types, brand, manufacturer, and sizes

OK, so you do want to collect data on the brands etc. To do this you need to first set up the master list of those implants for your own site. This is accessed via the Set Up screen (that's the hammer and wrench icon) Implants. There is a direct link to it from the implant screen also.

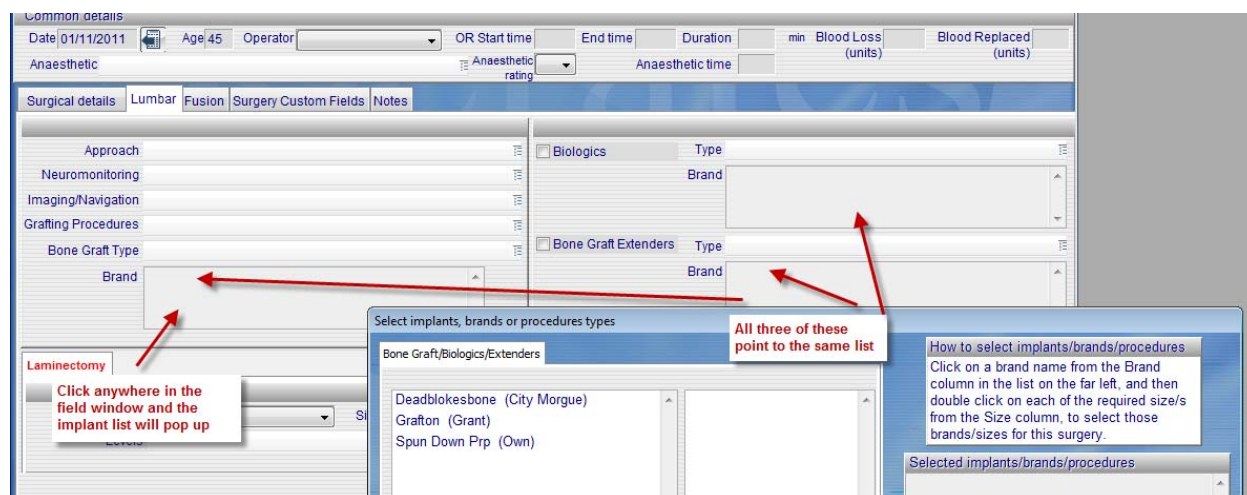


This is the screen where you can add the brands/models, manufacturers, sizes etc. Go to the chapter on Set Up and customisation for full details about how to add/modify implants.



Bone Graft implant details

It is possible to create the brands and sizes/volumes for these three fields also. This is the same list for Bone graft, Biologics and Bone graft extenders. This list is also shared with the other modules, as these are generally the same regardless of where in the body they are used. Thus if you have other modules in Socrates being used you may see names on the list that you don't use.



This is where they "live" on the implant set up screen.

Implant Setup

Hip arthroplasty	Knee arthroplasty	Shoulder Arthroplasty	Cement brands	Plates, Screws, Anchors, Sutures etc	Ankle Arthroplasty	Spine
Plates/Cables/Wires		Screws/Staples/Pins		Suture/Anchors	Darts	Nails/Rods
Plugs	Drug /Product/Procedure		Cages	Bone Graft/Biologics/Extenders		Cortical Screws
Model/Name			Sizes			
Deadblokesbone			City Morgue			
Grafton			Grant			
Spun Down Prp			Own			

OK, so now you have added models, manufacturers and sizes to the implant master list. You now need to know how to add what you used to an individual surgery.

Adding implants to the surgery record

Firstly you need to decide how much detail you want to collect. You can choose levels/segment, Type, model/brand/sizes or a combination of these.

Select levels, implants, brands or procedures types, and sizes

Facet Screws	Translaminar Screws	Wires	Cables	Hooks	Cross-Link	Transition Rod
Lateral Mass Screws	Posterior Plate	Anterior Plate	Interbody Cage	Corpectomy Cage	Artificial Disc	Pedicle Screws

Levels	Segments	Type	Models/Brands	Sizes
<input type="checkbox"/> Occ	<input type="checkbox"/> Occ/C	Left Only		
<input type="checkbox"/> C1	<input type="checkbox"/> C1/2	Monaxial		
<input type="checkbox"/> C2	<input type="checkbox"/> C2/3	Polyaxial		
<input type="checkbox"/> C3	<input type="checkbox"/> C3/4	Reduction		
<input type="checkbox"/> C4	<input type="checkbox"/> C4/5	Right Only		
<input type="checkbox"/> C5	<input type="checkbox"/> C5/6			
<input type="checkbox"/> C6	<input type="checkbox"/> C6/7			
<input type="checkbox"/> C7	<input type="checkbox"/> C7/T1			

How to select levels, implants/brands/procedures, sizes.
Highlight all levels and or segments it was used in, by clicking on the required levels/segments (note - these can be left blank and just a brand and size selected), then click on a Type, then a brand name from the Brand column in the list in the middle column, then double click on the required size from the Size column on the left.

Selected levels, implants/brands/procedures, sizes
Monaxial

You can choose the following working from the most basic.

- To select the type only, double click on the one/s you want to enter it into the record. This would show up on the reports and search as Lateral mass screw, Monoaxial.

Select levels, implants, brands or procedures types, and sizes

Facet Screws	Translaminar Screws	Wires	Cables	Hooks	Cross-Link	Transition Rod
Lateral Mass Screws	Posterior Plate	Anterior Plate	Interbody Cage	Corpectomy Cage	Artificial Disc	Pedicle Screws

Levels	Segments	Type	Models/Brands	Sizes
<input type="checkbox"/> Occ	<input type="checkbox"/> Occ/C	Left Only		
<input type="checkbox"/> C1	<input type="checkbox"/> C1/2	Monaxial		
<input type="checkbox"/> C2	<input type="checkbox"/> C2/3	Polyaxial		
<input type="checkbox"/> C3	<input type="checkbox"/> C3/4	Reduction		
<input type="checkbox"/> C4	<input type="checkbox"/> C4/5	Right Only		
<input type="checkbox"/> C5	<input type="checkbox"/> C5/6			
<input type="checkbox"/> C6	<input type="checkbox"/> C6/7			
<input type="checkbox"/> C7	<input type="checkbox"/> C7/T1			

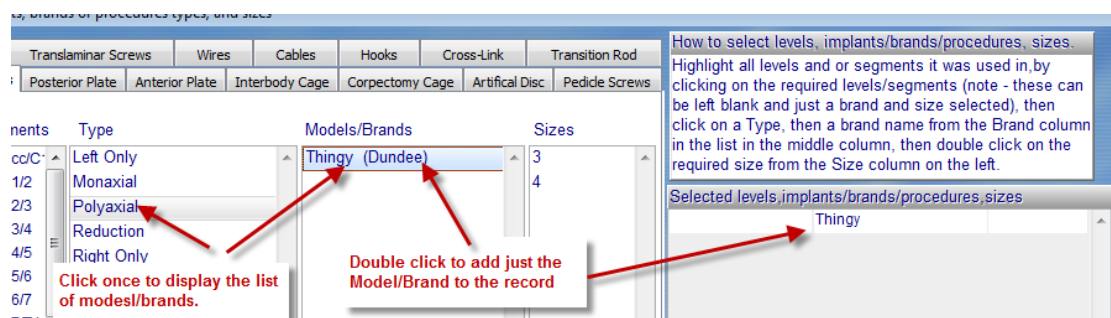
How to select levels, implants/brands/procedures, sizes.
Highlight all levels and or segments it was used in, by clicking on the required levels/segments (note - these can be left blank and just a brand and size selected), then click on a Type, then a brand name from the Brand column in the list in the middle column, then double click on the required size from the Size column on the left.

Selected levels, implants/brands/procedures, sizes
Monaxial

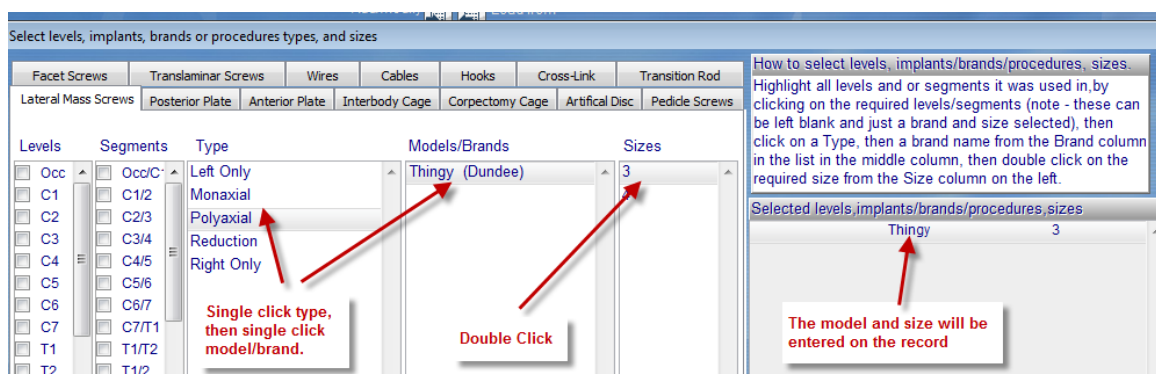
Double click if you only want to enter the Type.

It will be displayed here.

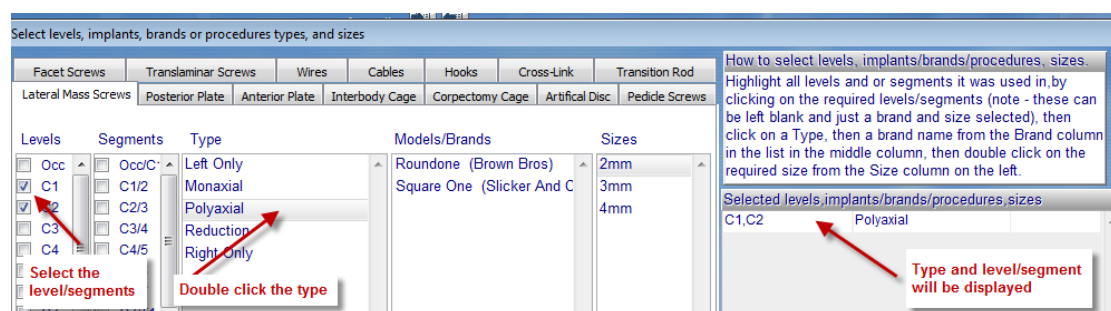
- To select the Type and the model/brand name. Single click on the Type you want, and the Model/Brands for that type will be displayed. If you have entered sizes, these will also be displayed in the Size columns. If you don't care about the size, double click on the model and the Type and model/brand will be recorded.



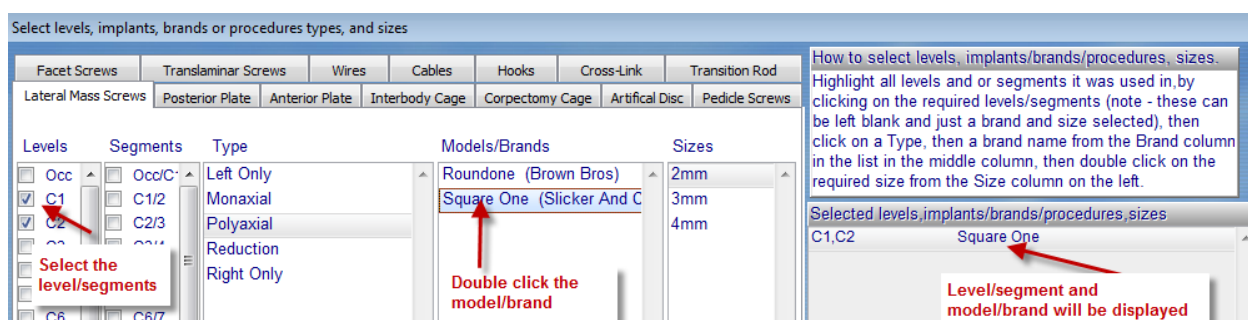
- To select the Type, the model/brand name and sizes. Single click on the Type, Model/Brand then double click on the size. Repeat if more than one size is used, or 2 of the same size.



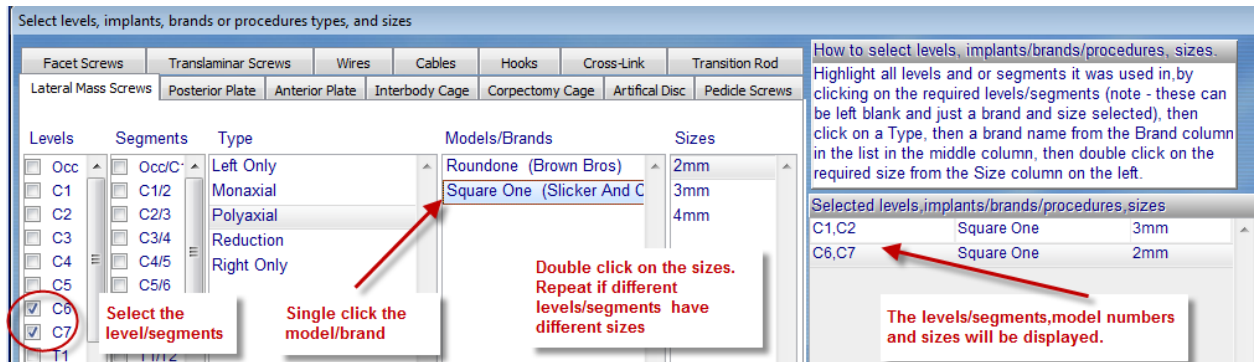
- To select level/segments and type only



- To select level/segments and model/brand



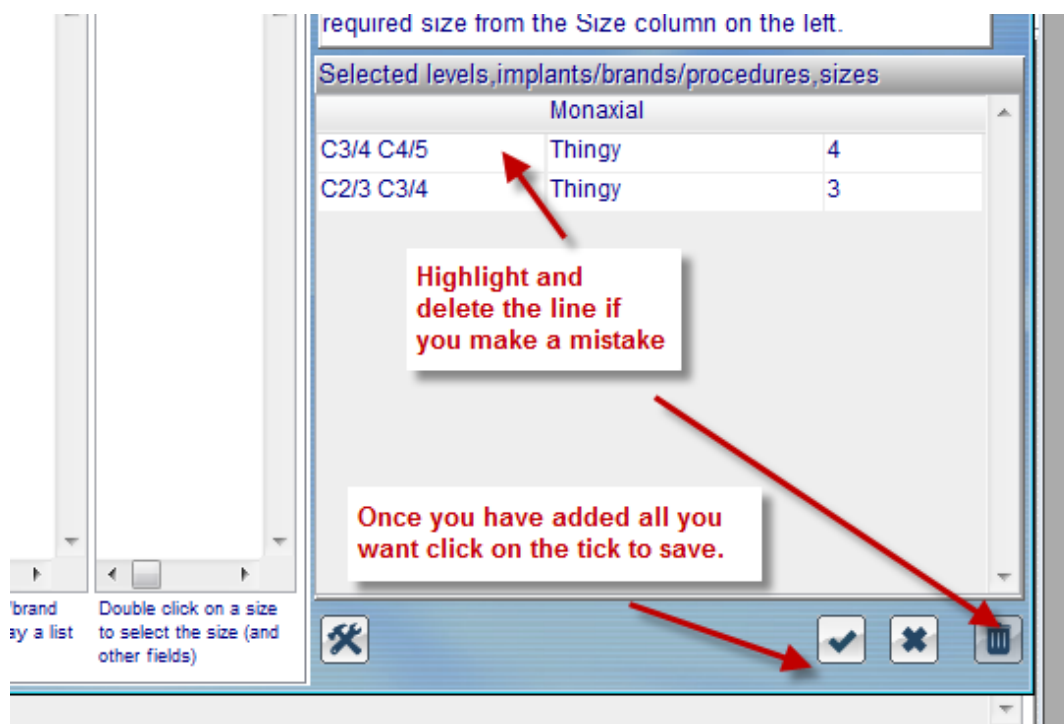
- To select level/segments, model/brand and sizes



This all sounds complicated but once you have decided what you want to collect, and you have done it a few times you will get the hang of it. The basic rule is, select the levels you want or leave them out with a single click, then use the double click icon to choose whichever field you want to appear on the list – the Type only, the Model only or the Model and size/s. The single click icon just moves you along to the next option.

You have a delete icon, you will probably use it quite a bit when you are getting familiar with this.

Once what you want is displayed on the far right column just click the tick and it will be saved.



Note that the manufacturer's name is displayed on the list but doesn't populate the screen however it is available for searching, and is included in any reports that are generated.

Once you have saved this you will see the implants and levels displayed as below. The screenshot below shows a mixture of implants selected.

Procedure Summary

This tab displays a summary of the region, Procedure name/s, Type and levels/segments.

Procedures	Other Details	Intra-op Complications	Implants	Procedure Summary		
Region	Procedure	Type	Side	Levels		
Cervical	Cervical Corpectomy - Decompressive	Primary	Left	C1		
Cervical	Total Cervical Disc Replacement	Primary	Right	C1/2,C2/3		
Lumbar	Facetectomy	Revision own	Left	L2/L3,L3/L4		
Lumbar	Lumbar Microdiscectomy	Revision own	Left	T12/L1,L1/L2		

Surgical Custom Fields

By now I am sure that you think there couldn't be any more intraoperative details that you could possibly need to record... However there will always be something that an individual user might want that's not included in the main screens. The custom tab allows you to add your exclusive (only one option allowed) lists, multi lists (can select multiple fields on the list), and numeric fields or date fields for intraoperative events. This is also an option to add your own fields other than intraoperative ones but for now we will just tell you about the intraoperative ones. See the chapter on Personalise in the Set Up and customisation chapter for full details.

On the master list in the Set Up screen where you add these new fields, this is what it looks like.

On the surgery details screen you will now see your newly created lists and can now add the approach Dr Nutt used for this surgery,

The Co2 levels, and the date of the last surgery

This is the multi list that was added to the master custom fields list

This is what appears on the surgery screen..

Adding surgery favourites

Now that you are at the end of the surgery screen we have some good news. It's possible to store the surgical data for the procedures that you perform routinely so that it can prepopulate the screen. If you have some surgeries that you do often that may have the same approach, anaesthetic, implants etc. used you can populate a screen. Give it a name and then store it for the next time you do the same surgery. It takes a bit of time to set these up, but once you have the fields stored it will all populate the screen all at once and you only have to change the details that might be different for that specific patient's procedure. You can also do this on the previous history screen, it can store the names of the assistant, anaesthetist hospital etc for the different places and teams you operate at. So you can save them as ***St Judes, Monday am list***, for example and the names will auto populate.

Post Op and rehabilitation details.

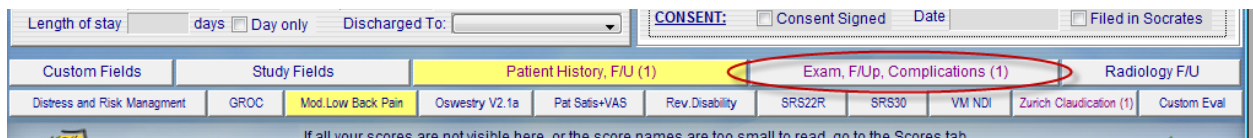
This enables users to record text about any post op medications or follow up needed. You can set up “favourites” here as well so that over time you build up a list of the standard instructions for the different operations that you do and these will then auto populate without having to re-enter them each time. They can be modified for that surgery if things are a bit different. This is a separate favourite to the main surgery screen as you can have the same surgery but with different post-operative details for different patients.

You had saved these details as post op follow up. Select that on the list, then the tick and the saved data appears. If you have set up an operation report, and selected the Post Op and Rehab notes to be included these data will also automatically be included in the report.

EXAMINATION, FOLLOW UP AND COMPLICATIONS

This screen includes a lot of detail on each tab, if you want it use it you'll need to read about each one. In general terms, everything that is recorded in this tab are fields or data that may need to be recorded at more than one time point, they require either a date, or a follow up delay, (preop, 3 weeks, 6 months etc) It is also possible to create a report from any of these screens either individual screen's, or a report which combines data from any of them.

Access the *Exam, F/Up and Complications* tab on the bottom of the history screen, the top row of icons above the scores.



If you can't see this tab, go to the Set Up screen and make sure it's selected to be displayed.



Once inside this tab it has the following sub tabs.



Comorbidities & BiochemistryTab

This screen, is like all the others which have data that can be entered at different time points (preop, 3 months, 5 years etc) in that it requires the user to use the ADD icon to add data at that time point. It then needs either a date or follow up period entered. If a date is entered the follow up will be calculated from the date of surgery, or if there is no surgery date it will be preop. Or you can leave the date field empty and enter just the follow up period - preop, 3m (months) 5y (years) etc. Each time you add a new follow up use the ADD icon, you only use the pencil (modify) if you are making changes to an existing follow up.



Comorbidities

This screen records details of comorbidities, and requires the user to use the ADD icon to add data, and then a date or follow up, preop, 3m (months) 5y (years) etc. Each new follow up requires the ADD icon, you only use the pencil (modify) if you are making changes to an existing follow up. Most of the time the Comorbidities will only be added preop, but over time patients may develop other conditions which can affect their outcome.

History, Surgeon Exam, F/Up and Complications

Patient name: ABABABAB Trevor Patient ID: 479830 Latest FUP: 01/11/2011 DOS: 01/11/2011 Surgery: 01/11/2011 Protocol: Module: Spine

Comorbidities & Biochemistry History-PreOp Examination-PreOp Assessments Recommendations Complications & outcome

Comorbidities

☒ Significant Comorbidities
☐ Deteriorated/changed since last review

Mental Health Depression

Neurological

Cardio/Pulmonary/Vascular

GI/GU

Musculoskeletal Osteoporosis/Osteoarthritis

Infection/Immune Immuno-compromised

Systemic Multiple Myeloma, Leukemia

Other Comorbidities

Charlson Comorbidity index

Charlson Comorbidities Any tumor Leukemia

Total score 4

Select items for Charlson Index

Available items

Points Description

1 Cerebrovascular disease

1 Chronic pulmonary disease

1 Congestive heart failure

1 Connective tissue disease

1 Dementia

1 Diabetes

1 Mild liver disease

1 Myocardial infarct

1 Peripheral vascular disease

1 Ulcer disease

2 Any tumor

2 Diabetes with end organ damage

2 Hemiplegia

2 Leukemia

2 Lymphoma

2 Moderate or severe renal disease

3 Moderate or severe liver disease

6 AIDS

6 Metastatic solid tumor

Selected items

Any tumor

Leukemia

If it finds something on these lists that's on the Charlson list it will populate it there as well.

If its not on the list above, you can add them yourself in this feild.

SOCRATES

The lists have been sectioned into sub headings, Mental Health, Neurological, etc, and these lists are fixed – the user can't add or modify them. However, at the bottom of the screen on the left side there is a field for "other" Comorbidities. Here you can set up your own master list of Comorbidities, (from the adaptable fields screen) and use this instead of, or as well as the fields that are in the lists. There may already be a default list there, this list can be deleted, added, to or modified by the user. If we have left anything off the standard lists let us know.

Charlson Comorbidity Index

Ref: Charlson ME, Pompei P, Ales KL, MacKenzie CR (1987). A new method of classifying prognostic comorbidity in longitudinal studies: development and validation. J Chron Dis, 40(5): 373–383.

This is a list of comorbidities, each of which has been weighted and will give a total. If there are matching comorbidities entered on the list on the left they will be populated into this list as well.

nts Recommendations Complications & outcome

Charlson Comorbidity index

Charlson Comorbidities Dementia Lymphoma

Total score 3

An excerpt from a paper below describes how it can be useful in predicting increased cost and outcome. This list cannot be added to or modified.

The investigators found that the Charlson Index scores substantially correlated with length of stay ($P < .001$) and hospital cost ($P < .001$). They noted the difference in hospital cost was over \$11,000 between patients with a Charlson score of zero and those with a Charlson score of greater than or equal to 5 in the lumbar decompression and fusion group.

"In terms of Medicare reimbursement, when there is a major morbidity or complication it doesn't go up much," Robinson said. "So there is a tremendous variance between what Medicare is going to contribute in this situation since the Medicare cost arrangement does not reflect what comorbidities are doing to spine costs."

Using a regression analysis of the data, the investigators determined that a Charlson Index greater than 5 is a powerful indicator of substantial increased costs of a spine procedure.

"These comorbidities are very common in spine surgery and they seem to have additive impact on length of stay and hospital costs. You can predict how much these added costs will be by using the Charlson Index," he said.

• **Reference:**

Walid MS, Robinson ER, Robinson JS, III, Robinson JS, Jr. Comorbidities in Spine Surgery Patients and Impact on Length of Stay and Hospital Cost. Paper #729. Presented at the 78th Annual Meeting of the American Association of Neurological Surgeons. May 1-5, 2010. Philadelphia.

Biochemistry

This section enables you to add the more commonly recorded biochemistry/blood values. The unassigned ones can be assigned titles/names in the Set Up screen.

The screenshot shows a software interface with a 'Biochemistry' tab highlighted by a red oval. Below the tab, there are several input fields for laboratory values: ESR, INR, CRP, PTT, and Hb. There are also three 'Unassigned' labels with corresponding input fields, indicating that these values can be assigned titles/names in the Set Up screen.

Complications

This screen requires the user to use the ADD icon to add data, and then a date or follow up, preop, 3m (months) 5y (years) etc. Each new follow up requires the ADD icon, you only use the pencil (modify) if you are making changes to an existing follow up. In this module, there is a full list of Intraoperative complications on the surgical details screen, so this screen would normally be used for post-operative complications. However, if you are not using the surgical details screen and still want to record any intraoperative complications you can still use this screen, and would add/select the complications from the "other complications. This screen would not be used preoperatively.

The complications have been sectioned into sub headings. If we have missed any out, or you want to use all, or some of your own you can use the "other" complications field, adding these to the master list in Adaptable fields, from the Set Up screen.

Complication Details:

Procedure Related	Implant Failure - Rod Breakage
Spinal Injury	
Extra-Spinal Injury	
Systemic	Infection - Urinary Tract Infection
General/ Miscellaneous	
Other complications	

Complications

Evaluation date: 18/11/2012 F/U: 12m Method of completion: Name: Next Score:

Comorbidities & Biochemistry History-PreOp Examination-PreOp Assessments Recommendations **Complications & outcome**

Complications Outcome/Keywords

Complication occurrence: Yes ☐ Intra op ☐ Early ☒ Late
☒ Check if Complication date = Evaluation date Date: 18/11/2012 55 weeks
 Reoperation: Date: weeks since op
 Revision: Date: weeks since op

Complication Details:

Procedure Related	Implant Failure - Rod Breakage
Spinal Injury	
Extra-Spinal Injury	
Systemic	Infection - Urinary Tract Infection
General/ Miscellaneous	
Other complications	

Additional Details

Complication: ☐ Local Duration: days
☐ General Duration: days
 Caused by comorbidity:
 Caused by the product/device:
 Caused by the procedure:
 Hospitalised due to complication:
 If so how many days: days
 Outcome:
 Adverse event: Serious adverse event:
 Complications Notes:

Click here to add any complications that are not on the standard list. These are added to the master list in Adaptable Fields, in the Set Up screen

The Additional details on the right are not commonly used, Its up to the user how much of this screen you want to use.

If there have been entries for any intraoperative complications, some details will be populated into this screen as below - Yes, Intra-op, and the date. The details of those complications and the search list are stored in the surgery details screen.

Complications

Evaluation date: 13/11/2012 F/U: Intraop Method of completion: Name: Next Score:

Comorbidities & Biochemistry History-PreOp Examination-PreOp Assessments Recommendations **Complications & outcome**

Complications Outcome/Keywords

Complication occurrence: Yes ☒ Intra op ☐ Early ☐ Late
☐ Check if Complication date = Evaluation date Date: 13/11/2012 weeks
 Reoperation: Date: weeks since op
 Revision: Date: weeks since op

Additional Details

Complication: ☐ Local Duration: days
☐ General Duration: days
 Caused by comorbidity:
 Caused by the product/device:
 Caused by the procedure:
 Hospitalised due to complication:
 If so how many days: days
 Outcome:
 Adverse event: Serious adverse event:
 Complications Notes:

These details are populated across from the surgical details field.

Surgeon examination

There's a lot in this screen. It has 11 sub tabs separated into the body regions, and one for spinal injury. Use as much or as little of it as you want to. Most of the tabs have a **Normal** check, and if this is checked some of the fields on the standard tests that are normally examined will be populated.

Below, you can see that the patient nutrition status, and their appearance has populated. The values for the BP, heart rate etc have not as they may vary, but still be within what the surgeon considers the normal range for that patient.

Here are the normal values for the Mental and Eye section.

Comorbidities & Biochemistry | History-PreOp | **Examination** | Assessments | Recommendations | Complications & outcome

General/Allergy | Mental/ENT/Eyes/Skin | Head/Chest/Abdomen | Cardio/Cervical Spine | Lumbar Spine | **Shoulder** | Knee/Hip | Neurological | Gait/Reflexes | Signs

Upper Extremity | Lower Extremity | Neurological Notes

UPPER EXTREMITY - STRENGTH:

UPPER Extremity: All Normal ☒

Exam effort - LEFT: Good

Exam effort - RIGHT: Good

Give way weakness: None

LLE Tone: Normal

Atrophy:

RLE Tone: Normal

Atrophy:

Tremor:

	Deltoid	Rot. Cuff	Bicep	Tricep	Wrist ext.	Wrist flexor	Finger Flex	Finger Abduct.	Grips
LEFT	5	5	5	5	5	5	5	5	5
RIGHT	5	5	5	5	5	5	5	5	5

UPPER EXTREMITY - SENSATION:

LEFT : Intact to Light Touch: Yes

If No: Abnormal levels:

Abnormal areas:

Abnormal type of sensation:

LEFT : Intact to Pin Prick:

If No: Abnormal levels:

Abnormal areas:

Abnormal type of sensation:

RIGHT : Intact to Light Touch: Yes

If No: Abnormal levels:

Abnormal areas:

Abnormal type of sensation:

RIGHT : Intact to Pin Prick:

If No: Abnormal levels:

Abnormal areas:

Some of the tabs, like the shoulder in the next example have no normal, and nothing is pre-populated when the main normal screen is checked as this region is not always examined, and it is unlikely that all the tests that are displayed would ever be done for the same patient.

Comorbidities & Biochemistry | History-PreOp | Examination-PreOp | Assessments | Recommendations | Complications & outcome

General/Allergy | Mental/ENT/Eyes/Skin | Head/Chest/Abdomen | Cardio/Cervical Spine | Lumbar Spine | **Shoulder** | Knee/Hip | Neurological | Gait/Reflexes | Signs | Spinal Cord Injury

SHOULDER:

Shoulder ROM - Left: Limited by Stiffness Right: Full

Elbow ROM - Left: Limited by Pain Right: Full

Shoulder/UE signs

	LEFT	RIGHT
Durkins Carpal Compress:	Positive	
Phelan's Sign:		
Tinel's Sign-Carpal Tunnel:		
Tinel's Sign-Cubital Tunnel:		
Impaired Median N Sensation:		
Impaired Ulnar N Sensation		
Thenar Wasting/Atrophy:	Negative	
Intrinsic Atrophy:		
Finger Escape Sign:		
Froment's Sign:		
Papal sign/Clawing:	Negative	
Elbow Flexion Test:		
Medial Elbow TTP:		
Arachnodactyly/Spindly Fingers:		

Shoulder/UE signs

	LEFT	RIGHT
Spastic Hand:		
Joint Laxity/Hypermobility:		
Shoulder Escape Sign:		
UE pain worse with Shoulder ROM:		
Mechanical S/Sx (i.e. click, pop):		
Hawkin's Sign:		
Neer's sign:		
O'Brien's Sign:		
Posterior Corner RRP:		
Biceps Tendon TTP:		
Shoulder Instability:		
Prior Shoulder DX:		
Prior Shoulder Injury:		
Prior Shoulder Surgery:		
Well healed incision(s):		
Current Intrinsic Shoulder Pathology:		

Notes:

Once again you can generate a report based on data that has been entered into these screens.

History Preop

This is another big screen. But good news here as well! There are 3 patient surveys that can be selected to send via the web for your patients to fill out. These are the spine Medical History, the preop Back and Leg, and preop Neck and Arm. Once they have been completed, when you create the pre-op record on this examination screen by clicking on ADD, if there are any of those surveys in the patient history screen the responses will be cross populated into the surgeon screen. So, you have the relevant details of the patient medical conditions, and their spine signs and symptoms and history on the surgeon examination screen. You can also print out a hard copy report of the all the responses from each survey that the patient completed if you have created a report for these.

The top part of the image shows a list of questionnaires with checkboxes. The following are checked and circled in red:

- ☒ Back/Leg Patient F/U (Preop)
- ☒ Neck/Arm Patient F/U (Preop)
- ☒ Back/Leg Patient F/U (Postop)
- ☒ Neck/Arm Patient F/U (Postop)
- ☒ Medical History

The bottom part of the image shows the 'Complications' form. The 'History-PreOp' tab is selected and circled in red. The form is divided into several sections:

- Impacts**: Includes 'If you have pain in your back and legs, which hurts worse?' with a dropdown menu.
- Chief Complaint - Back**: Includes fields for VAS Back Pain score, Quality of back pain, Frequency of back pain, Back pain onset, Back pain started on, OR: If date not known, duration of back pain, First episode of back pain, If not first episode, how many prior episodes have you had, and Trend: Back pain is getting:.
- Chief Complaint - Leg**: Includes fields for VAS Left Leg Pain score, Quality of Left Leg pain, VAS Right Leg Pain score, Quality of Right Leg pain, Frequency of leg pain, Leg pain onset, Leg pain started on, OR: If date not known, duration of leg pain, First episode of leg pain, If not first episode, how many prior episodes have you had, and Trend: Leg pain is getting:.

The three questionnaires that will send the data to this screen are the medical history, and the Spine, neck and arm and back and leg questionnaires.

All the tabs below, with the exception of the EMG Discogram will have data in them if the corresponding questionnaires were completed by the patient. This happens when you first click the ADD icon. There will be a slight delay after clicking ADD as it finds and populates the fields from the patients history screens.

This screenshot shows the 'Complications' form with the 'Chief Complaint - Leg' section highlighted. The 'History-PreOp' tab is still selected. The form structure is similar to the previous screenshot, but the focus is on the leg-related fields.

Its now up to the user whether they accept what the patient has entered, or ask further questions about some of their responses, and if necessary, make changes.

On the neurological tabs, you have the option of clicking *Confirmed* or *Corrected* to the patient responses, and making any changes that you might need to.

The patient spine history questionnaires are separated into 2, one for neck and arm, the other for back and leg. It's possible that some patients will have symptoms in both regions and will fill them both out. There are some common questions, - how many nights does the pain wake you, how many days do you exercise etc. If they have responded to the same questions differently, the program will record the worst option. E.g. If they say it

wakes them 3 nights due to their back, and 5 nights due to their neck, 5 nights is what will be recorded in this field.

Not all the fields on the surgeons examination screen related to the patient history are populated, some are not on the patient questionnaire, and other are felt to be important enough that the surgeon should ask the question.

Assessments

Once again, there is a lot on this screen, and you may choose not to use it. This screen records in more detail, the diagnosis and a full clinical assessment of the patient condition, and ICD 9 and 10 codes.

NOTE: We have done our best to ensure that the ICD codes are accurate, but each site should check before relying on these for any billing. The ICD 10 codes are fairly new and still evolving and there may be changes to these over time. If you find any inaccuracies please let us know!

Most of the main fields have sub windows that will appear once the main field is entered if there are any more details relevant to that field, levels, type (extrusion, sequestration etc.)

There is also an ICD summary on the last screen

Comorbidities & Biochemistry		History-PreOp	Examination	Assessments	Recommendations	Complications & outcome	
Back Pain Disorders		Radiating/Neurogenic		Disc Herniation Disorders	Degenerative Spinal Disorders	Trauma 1/3	Trauma 2/3
Inflammatory/Infectious Disorders		Tumor/Metabolic		Spine Surgery Complications	Spinal Deformity	Spinal Anomalies/Confounding Factors	
Assessment				ICD-9	ICD-10	ICD Summary	
Backache				724.50	M54.9		
Nonallographic Lesion of the Sacrum				739.4	M99.04		
Nonallographic Lesion of the Pelvis				739.5	M99.05		
Post-Laminectomy Syndrome/Failed Spine Surgery				722.83	M96.1		
Intervertebral Herniated Nucleus Pulposus - Lumbar				722.10	M51.26		
Intervertebral Herniated Nucleus Pulposus - Lumbar				722.73	M51.06		
Open Fracture of the Lumbar Spine W/O SCI				805.5	S32.009A		
Postoperative Infection				998.59	T81.4XXA		

Recommendations

This screen covers the various treatment or surgery options that are recommended after the clinical examination.

Evaluation date F/U Method of completion Name Next Score

Comorbidities & Biochemistry History-PreOp Examination Assessments **Recommendations** Complications & outcome

Recommendations 1/5 Recommendations 2/5 Recommendations 3/5 Surgery Details Counselling/Studies Needed/Follow Up General Notes

RECOMMENDATIONS: Rx'd

☐ Activity Limitation

☐ No limitations. Activity as tolerated

☐ Cleared to return to sports/physical training/recreation activities

☐ Avoid Pain-Producing Activity/Select non-painful recreational activities

☐ Low Impact Activity

☐ Avoid twisting or bending forward with weight in arms

☐ Profile/Limited Work Slip Duration

Restrictions:

☐ No lifting greater than: Weight

☐ Limit work days/shifts to less than: Hours Weeks

☐ Cleared for desk work only

☐ Cleared to work from home

☐ Tele-work/Tele-communicating options if feasible

☐ Needs frequent breaks and change of positions

☐ Needs time to attend to on-going care visits

☐ No sit-ups

☐ No running, Avoid high impact activities

☐ Physical training at own pace and distance

☐ Other:

☐ Quarters/Bed Rest - 3 Days

☐ Convalescent Leave Duration

☐ MEB/Medical Separation/Disability

☐ Medications ☐ Select ALL medications

☐ NSAIDS (like Motrin, Naprosyn, Mobic, Celebrex)

☐ Non-narcotic pain killers (eg Tylenol or Tramadol)

☐ Muscle Relaxers (eg Robaxin, Flexiril, Valium)

☐ Nerve Modulating agents (eg Gabapentin, TCA, Topamax)

☐ Short acting Narcotic (eg Percocet, Vicodin, Oxycontin)

☐ Sustained-Release Narcotic

☐ Oral Steroid Course (eg Medrol Dosepak, Prednisone)

Surgery details

When you get to the surgery details tab there is a bit to get your head around. This can be used to generate a planning note, which will help to make sure that others in the team know what the surgeon is planning to do, and that the appropriate equipment/implants etc are available.

Evaluation date F/U Method of completion Name Next Score

Comorbidities & Biochemistry History-PreOp Examination Assessments **Recommendations** Complications & outcome

Recommendations 1/5 Recommendations 2/5 Recommendations 3/5 **Surgery Details** Counselling/Studies Needed/Follow Up General Notes

RECOMMENDATIONS: Rx'd

☐ Activity Limitation

☐ No limitations. Activity as tolerated

☐ Cleared to return to sports/physical training/recreation activities

☐ No sit-ups

☐ No running, Avoid high impact activities

☐ Physical training at own pace and distance

These allow up to 4 options, which in turn allows 5 different operations. You can select the levels, side/type and type of instrumentation (if relevant to that surgery)

Planning details

Each option has a sub tab which allows the user to select what they will require for the planned surgery including implants, and notes. A planning report can be generated from this screen.

If you want to use the Approach surgeon name you would need to enter their names on the surgeon master list in the Set Up screen.

The same for the list of implants, it's the same list used for the implants used in surgery, minus the details of the levels and sizes.

Neuromonitoring: MEP
 Imaging: Fluoroscopy
 Approach Surgeon: Needed
 Bone Graft: DBM-Paste, DBM-Matrix
 Prophylactic Antibiotic: Vancomycin
 Latex Allergy: No
 Position: Mayfield Head Harness
 Special Equipment:

Enter surgeon names into Surgeon field in Set Up screen.

Surgeon: Smith Rod
 Brown Bill
 Freedman Brett
 Hawkins Richard
 Smith Rod
 Smithers Sue

Select implants

Pedicle Screws Facet Screws Translaminar Screws Wires Cables Hooks Cross-Link Transition Rod
 Lateral Mass Screws Posterior Plate Anterior Plate Interbody Cage Corpectomy Cage Artificial Disc

Type Models/Brands
 Figure of 8 Plate
 Fixed Angled Screws-Rotational
 Hybrid (Variable and Fixed)-Rotational
 Pyramid Plate
 Translational Plate
 Variable Angled Screws-Rotational
 Z-plate

These are from the master list in the Set Up screen.

How to select implants
 Click on a implant and then select from the list on the right.

Selected implant
 Thingy

Counselling/Studies/Follow up

This records any further tests, imaging, blood tests etc that are needed after the initial examination. The counselling notes are text.

Comorbidities & Biochemistry History-PreOp Examination Assessments Recommendations Complications & outcome
 Recommendations 1/5 Recommendations 2/5 Recommendations 3/5 Surgery Details Counselling/Studies Needed/Follow Up General Notes

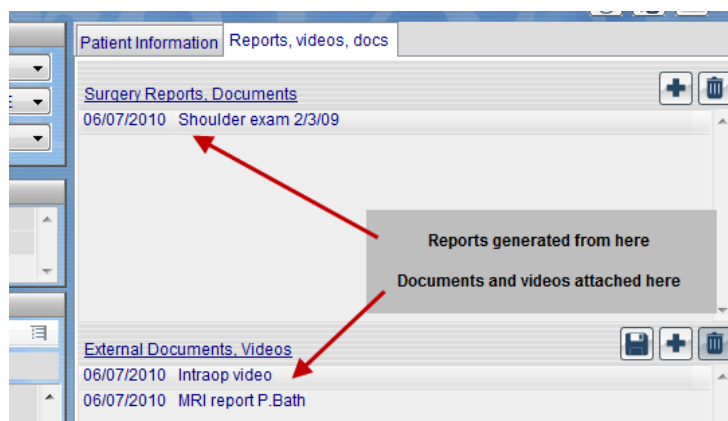
Studies Needed Prior to Next Visit:
 Imaging:
☐ Plain XR (CSP, TSP or LSP, Scoliosis Survey, Supine Side-Bending)
☐ F/E XR (CSP, TSP or LSP)
☐ CT (CSP, TSP or LSP)
☐ CT Myelogram (CSP, TSP or LSP)
☐ MRI (CSP, TSP or LSP, Screening whole spine)
☐ MRI W/Contrast (CSP, TSP or LSP, Screening whole spine)
☐ Other Imaging:

Other Studies:
☐ Dexa
☐ Bone Scan
☐ EMG
☐ LABS
☐ PREOP Clearance
☐ Other

Labs Details:
 Other Studies Details:
 Next Follow-Up:

Counselling Notes

REPORTS



The program can generate reports based on any data that has been entered into Socrates. However, like any macro, they are time consuming and fiddly to put together initially. We recommend that you find your way around the program before attempting to set up your reports so that you have a clear idea of what data you want to enter, thus what can be populated into a report. We are putting together some default protocols over the next month or so and these will be available to users to develop into their own layout. Once you have decided what you want to include, we can help you put your own together but there will be an hourly cost to provide this service.

You also need to be cognisant that the report is computer generated, you can add your own text to it, and rename or remove the field titles but the fields in Socrates which populate into the report can't be changed by the user. It probably won't ever look quite like the reports you dictate now. You will have to decide whether the time it might save you will compensate for some compromise in what it looks like.

Here's an example of part of a default surgery report. It takes about 3 seconds for the program to generate this report, assuming that the data was entered into Socrates surgery details screen. You can always add your own blurb to the document.

Name: Trevor ABABABAB	DOB: 05/04/1966
Male, aged 46	Surgery date : 10/07/2012
Surgeon : Brett Freedman LTC, MC (MD)	Hospital: US Army Hospital Landstuhl
Insurance co: Blue Cross Medicare	
Initial Diagnosis: Cervical Spinal Stenosis	
Final Diagnosis: Cervical Spinal Stenosis	
Surgery Details	
Laminectomy, Left Primary T2, T3, T4	
Corpectomy-decompressive Left Primary Levels: T1, T2, T3, T4	
Approach: Lateral	
Anaesthetist : Eward De Vitt	Assistant : Fred Brown George Menzies
Anaesthetic time 290 minutes	ASA rating = 1
Start: 1000 Finish: 1420 Duration: 260 minutes	
Findings consistent with Diagnosis: Yes	
Bone graft details	
Iliac crest autograft-Posterior-Left, Bone marrow aspirate - Local Biologics: Yes Type: DMB Matrix Brand:	
Bone Graft/Biologics/Extenders - Grafton (Grant) Size: 5ml	
Type: Calcium-Phosphate Paste Brand: Bone Graft/Biologics/Extenders - Grafton (Grant) Size: 5ml	
Implants used	
Type: Lateral Mass Screws - Polyaxial Brand: Thingy (Dundee)	Size: 4 Levels: C3/4 C4/5
Type: Lateral Mass Screws - Polyaxial Brand: Thingy (Dundee)	Size: 3 Levels: C2/3 C3/4
Type: Lateral Mass Screws - Polyaxial Brand: Thingy (Dundee)	Size: 4 Levels: T8/9 T9/10
Type: Lateral Mass Screws - Polyaxial Brand: Thingy (Dundee)	Size: 4 Segments: T7 T8

Go to the chapter in the manual "Reports" which give full details about how to create and populate the reports.



Report Templates and Word Processing

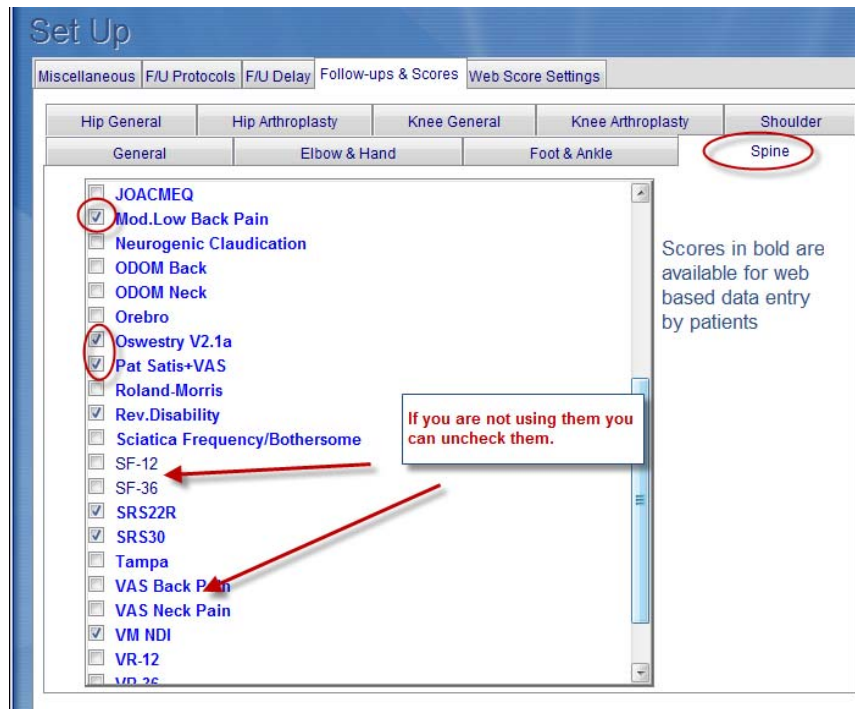
SPINE SCORES AND OUTCOMES QUESTIONNAIRES

The chapter in the manual “Scores and Evaluations” gives more details of the scores and questionnaires that are included in the Spine module, and any licenses needed. Scores included are:

- * SF 12 and SF 36 – Only calculated scores can be entered, they must be scored by using the scoring software obtained from the developers (\$1.55 for each time a form is completed)
- Veterans Rand 12 and 36 – free alternative to SF 12 and SF 36 after obtaining a license. Contact us on info@socratesortho.com
- * EQ5D Euroqol quality of life – license needed. This will not be a web score, the licensors will only allow electronic data capture using their own server.
- SRS 22 and 30 SRS 30
- Orebro
- Tampa score for Kinesophobia
- Roland Morris low back pain and disability index
- Oswestry V2 - license needed.
- Vernon Moir disability index
- Japan Orthopaedic Association – cervical myelopathy and back pain scores.
- Neurogenic Claudication Outcome Score
- Zurich Claudication Score
- Sciatica Bothersome and Frequency Index
- VAS pain score for Back and Leg, Neck and Arm.
- GROG – Global rating of change.
- ODOMS – Neck and Back This is post-operative or post-treatment questionnaire which assesses the patients view of their outcome.
- DRAM – Distress and Risk Management score - this combines the Modified Zung Depression Scale and the Modified Somatis perception questionnaire.
- Patient medical history – details past and present of the patient and family medical history.
- Spine History – This is a detailed questionnaire covering the patient's current spine symptoms, pain and function and previous surgery or treatment. Some fields of this survey are cross populated to the surgeon examination screen so that if the surgeon is using the surgeon examination screen the relevant responses from the patient. There is a separate one for patients with Back and leg, and Neck and Arm symptoms, If they have both, select both questionnaires to be completed. We are working on a shorter version which will combine both.

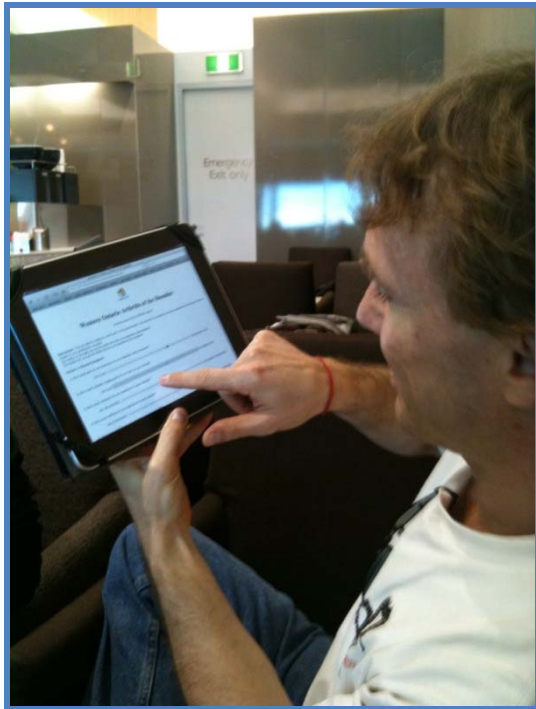
* Means that this score is not available as a web score.

Note that there are too many scores to be displayed on the History screen. Select the ones you are using from the Set-Up Screen.



Web Scores

It's possible for patients to enter their scores on line, either at home via Email or in the clinic using a computer, iPad or anything that will connect to the internet. The answers come back into your own copy of Socrates via our HIPAA compliant web server. You can either send them manually to a single patient or a group, or set up a protocol and allocate scores and time points and it will then send them automatically. Read the chapter on web scores for more details. This is an additional service to the standard Socrates program with an annual fee per user, and is only in English.



SOCRATES ORTHOPAEDIC OUTCOMES

Scoliosis Patient Questionnaire (SRS-22R)

▶ Which one of the following best describes the amount of pain you have experienced during the past 6 months?

- ☐ None
- ☐ Mild
- ☒ Moderate
- ☐ Moderate to severe
- ☐ Severe

▶ Which one of the following best describes the amount of pain you have experienced over the last month?

- ☐ None
- ☐ Mild
- ☒ Moderate
- ☐ Moderate to severe
- ☐ Severe

The patient scores can also be scanned in using a standard office document scanner. These can be printed out from the screen of each score, or from the Forms folder on the web site.

Read the chapter from the manual on Scannable forms for how to scan.

An example of a section of a scan form.

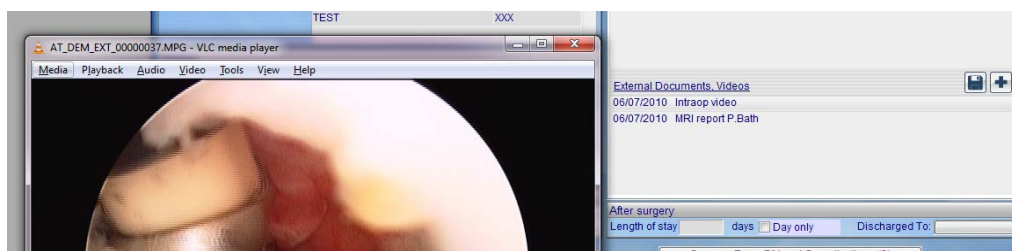
Patient Name: _____
Patient ID: _____
Date of review: (complete either the date of review or the follow up period below)
Follow up period: Pre Op OR _____ Weeks / Months / Years (add the delay and circle one)
Patients - please place an X in one box on each line to indicate your response to that question.

1. Pain Intensity

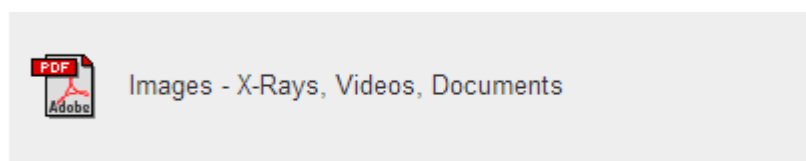
☐ I have no pain at the moment
☐ The pain is very mild at the moment
☐ The pain is moderate at the moment
☐ The pain is fairly severe at the moment
☐ The pain is very severe at the moment
☐ The pain is the worst imaginable at the moment

Videos and electronic documents

Any electronic document (PDF, Word, Excel, etc.) can be imported and stored with the surgery record for viewing. Simply click on the **Add** to attach a document or video relevant to this surgery.



See the chapter on X-rays and videos for more information



DATA ANALYSIS

When you are the stage of needing to know how to search and analyse your data you will need to read the chapters of the manual on Exporting, Search, Statistics, and Reports.

FORMS

SPINE	WORD FORM	WEB SCORE	SCAN FORM	ALG MISSG	Type	Patient/Surg
Back & Leg Patient Survey PostOp	Y	Y			QS	P
Back & Leg Patient Survey PreOp	Y	Y			QS	P
GROC Global Rating of Change	Y	Y	Y		QS	P
Military Specific Patient History	Y	Y			QS	P
Neck & Arm Patient Survey PostOp	Y	Y			QS	P
Neck & Arm Patient Survey PreOp	Y	Y			QS	P
Patient Satisfaction, Normal, and Pain VAS Postop	Y	Y	Y		QS	P
SOMOS - US Military Patient History	Y	Y	Y		QS	P
Spine Medical History	Y	Y			QS	P
Zurich Claudication Questionnaire	Y	Y	Y		QS	P
Patient Satisfaction, Normal, and Pain VAS Preop	Y		Y		QS	P
DRAM Distress & Risk Assessment	Y	Y	Y		SC	P
Japanese Orthopaedic Association Back Pain Evaluation	y	Y	Y		SC	P
Japanese Orthopaedic Association Cervical Myelopathy Evaluation	y	Y	Y		SC	P
Modified Low Back Pain Disability Questionnaire	y	y	y		SC	P
Neurogenic Claudication Outcome	y	y	Y		SC	P
ODI - Oswestry Disability Index	Y	Y	Y	Y	SC	P
ODOM Back	Y	Y	Y		SC	P
ODOM Neck	Y	Y	Y		SC	P
Orebro Musculoskeletal Pain Questionnaire	Y	Y	Y		SC	P
Revised Disability Index for Low Back Pain/Dysfunction	y	y	y		SC	P
Roland-Morris Back Pain and Disability Score	Y	Y	Y		SC	P
Sciatica Frequency and Bothersome	Y	Y	Y		SC	P
Tampa Scale for Kinesiophobia	Y	Y	Y		SC	P
VAS Back & Leg		Y	Y		SC	P
VAS Neck & Arm		Y	Y		SC	P
Vernon Moir Neck Disability Index	Y	Y	Y		SC	P
Veteran Rand-12 General Health Survey	Y	Y	Y		SC	P
Veteran Rand-36 General Health Survey	Y	Y	Y		SC	P
Euroqol EQ5D-3L	Y		Y		SC	P
Euroqol EQ5D-5L	Y		Y		SC	P
Complications	Y		Y		SU	S
Patient Demographics and Surgery Details	Y				SU	S
Rehab and PostOp	Y				SU	S
Surgeon Physical Examination	Y				SU	S

LEGEND

Y: these forms are available in the format of the column heading.

Scan forms: forms available as a scannable PDF to capture data via a Scanner

ALG missing: Y indicates that an algorithm is built in to the score so that if some questions are missing, a score is still possible. See chapter on scores for individual scores information.

Type: QS = patient questionnaire; SU = surgeon form; SC = Score

Patient/Surg: P indicates the patient completes the form; S is a surgeon completed form; C is combined