

Electronic Data Entry – Scannable Forms

Scannable forms	2
Scanner Specifications	3
Scanner Brand	3
Printing Scan Forms	4
Printer Specifications	4
Paper Specifications	4
Printing the scannable forms	4
Location of the forms	6
Double Sided scanning	7
Setting Up Your Scanner	7
Drivers	8
Scanning the Forms	8
Entering Dates	10
Missing or Ambiguous Responses	10
Completing the Scan Form Correctly	11
Error Messages	12
Scanning Surgery Forms or Forms Other Than Scores	13
Scanning - Trouble Shooting	15
Validation of Socrates' Scanning Function	17
Administering KOOS Scores in Languages Other Than English:	17
Index	18

SCANNABLE FORMS

As you probably know, most of the scores and some of the surgeon examination and surgery details in Socrates can be scanned directly into the program, saving a great deal of time, and increasing accuracy of data input. For example, a four-page ASES form, which has 70 responses, takes about 40 seconds to scan, from clicking "Scan" to clicking "Save". A two-page form, such as the Oxford score takes about 20 seconds to scan. It's an even bigger time saver for the Visual analogue scales, which technically should be measured with a ruler and then entered. For example to enter the MHOT Hip scope 33 question VAS score takes around 6 minutes manually, its takes 35 seconds with a fast scanner.

Importantly, our testing indicates no incorrect responses were scanned or stored. Any missing, duplicated, or ambiguous responses on the forms were identified as such, prompting an error message, and were not recorded.

There are about 18 pages coming up that you need to wade through, but the process is actually very easy if all goes to plan. If your forms print out properly, and your patients manage to get the crosses or ticks in the right place it's literally a matter of locating the screen of the score for the surgery you want to fill in the answers for, click the scan icon and then enter the date. It's a 30-40 second process. But it's good to read through this chapter so you understand how it works, what you can scan, and some troubleshooting if it doesn't go to plan.

Note that we were not able to achieve an acceptable level of accuracy with any hand-written text or dates. Therefore, any dates and text on the forms such as clinical measurements must be entered manually. Most of the patient scores don't have text but the Hip Scope lite surgery details form does, and some of the patient history and sport has dates and text which need to be input manually.

The scores are scanned using forms that are printed from each of the corresponding screens.

You can easily see which are scannable by looking for the **print and scan icon** on any screen which is scannable.



What it doesn't scan: All details on the top of the sheet (as below) won't be scanned but are needed so the data entry person can identify the correct record into which they can scan the forms. The side is necessary, and there might have been bilateral procedures so it helps to have this filled in but it won't be scanned. The date or follow up needs to be input manually. Don't forget you can bypass the date on the screen and just fill in the follow up period, preop, 6 weeks (6w), 5 years (5y) etc. If you are scanning the surgery details form there will be quite a few fields which are numbers or text that will need to be manually entered after you have scanned in the form.

Patient Name: _____	Side: <input type="checkbox"/> Left
Patient ID: _____	<input type="checkbox"/> Right
Date of review: <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> (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)	

Scanner Specifications

In order to ensure the scanning function of Socrates runs smoothly, we have a few recommendations regarding your choice of hardware. Scanners can range in price from \$500 - \$2000. How much you spend often depends on whether you are using the scanner for scanning documents other than in Socrates. Many offices are now paperless and use their document scanner regularly for attaching paper reports that come in from other sources and need to be filed in the patient EMR. In this case you'd want the fastest you could find to save time. The most pages that any Socrates form has is 6 pages, most are 2-4 so the speed isn't as important.

- **Document Feeder** - Your scanner should ideally have a document feeder to enable multiple pages to be scanned at once. (Some scanners also have a flat bed integrated into them, which is handy for bulky, wrinkled, or otherwise non-standard items, but a flat bed is not necessary for Socrates.) Doing it one page at a time defeats the main purpose which is to save time.
- **Network/remote scanners** - in general it is not possible to use this function with a remote scanner on a network. The scanner needs to be connected locally to the client machine where Socrates is installed.
- **Speed** - It should be able to scan at least 12 pages per minute, the faster they can scan the faster it will populate the screen. They range from 12-100 ppm.
- **TWAIN** - It should be TWAIN-compatible, which all modern scanners are.
- **Settings** - resolution set to 150 dpi
- **Colour** - This is important! The forms won't scan if the scanner resolution is set to black and white or greyscale. It has nothing to do with the forms being printed in black and white.
- **Single-sided/double sided**. It's possible to scan Socrates forms double sided but the scanner needs to be set correctly for single or duplex.
- **Size and Location** - Your scanner should live near the computer that houses Socrates so to save space, you may want to choose a scanner with a small footprint – this can be important if the person scanning only has a small desk. Having a big shared scanner/printer in the next office won't work! You want to be able to click on the scan icon, then place the form in the scanner and click scan without having to get up and go somewhere else to find the scanner.
- **Drivers** – despite your scanner being new it's possible that the drivers may not be the most recent. It's a good idea to go to the web and update the scanner drivers to the most recent before you start. The same for your printers if you are having trouble printing the forms. If you do update the drivers, you will have to reset your scanner settings.
- **Brightness/contrast** - you may have to alter this to a lighter setting if you are getting the black dot error messages consistently and everything else seems OK.

Scanner Brand

Any common brand of scanner that has a twain driver and document feeder should be adequate. Recommended brands are Epson, Brother, Canon, Fujitsu 6000 series (6180 is a great fast accurate model) and Avison (Australasia only) Below are some examples. Multi-function scanners can do the job but they are often bulky and may not be in the same room as the Socrates person doing the scanning.

You may not find them in an Office Works or Staples-style retail outlet; you may need to source one from the manufacturer or from a store that specialises in high-tech product.



Printing Scan Forms

IMPORTANT! The success of scanning is highly dependent on the forms printing out properly and the black dots in the 4 corners being aligned and straight. Some printers do odd things so you should print out a few forms and try them out to see if they scan correctly before you go off and print or copy a big run of forms.

Printer Specifications

Any good-quality printer with a resolution higher than 300 dpi should be fine. Make sure the printer drivers are the most recent available. The forms do NOT have to be printed from a colour printer.

Paper Specifications

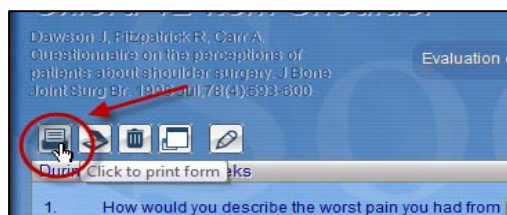
Again, good quality paper is necessary, with a weight of about 80 g/m². This is what you would use for normal letters; nothing special. White paper is best, or if it's coloured only a light colour should be used.

Printing the scannable forms

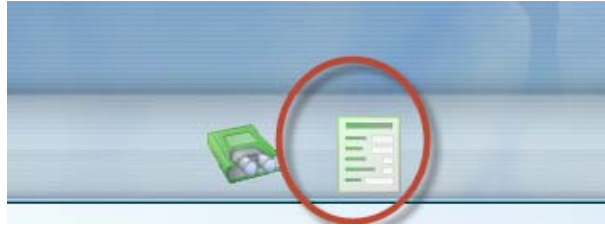
Before you start to scan forms into Socrates, it is important that your scanner can read them correctly. Don't print out a large number of blank forms until you have tried the scanning function and are sure that your forms will scan properly.

You have two options regarding the printing of blank scannable forms that your patients can fill out.

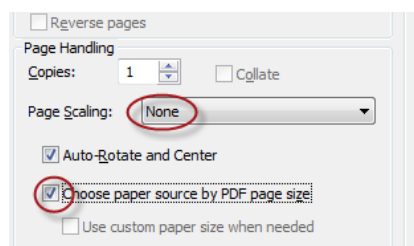
- ➔ The first is accessed from within the screen of the score you want to scan. Simply choose the **print icon** from the top left of the screen.



- ➔ The second option is to print from the PDF versions of the forms. These PDF files reside in the Socrates Forms Folder, which can be accessed from the client section of our web site from a link on the home page. They are also on the home page of the Socrates screen if you have registered as a user on our web site. If you do not live in the US make sure your paper size is set to A4 not Letter (US size) otherwise the top half of the 2 dots at the top of the page will be chopped off.



Note: When you print out the PDF versions of the forms, it is important that you don't shrink or scale the page to fit. From the Page Handling options on your printing menu, select "None" for Page Scaling. If you are in the US you should also select the "Choose paper source by PDF page size" or it may chop off the top of the dots at the top of the page.



Some quick printing checks include:

- The grey check boxes and the shaded area around the VAS line on the forms must print out dark enough for the patients to be able to see them easily. The colour reproduced here is about right.

Rarely	Sometimes	Often	Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- There **should not** be a border around the boxes (see below). If they appear, the boxes will incapacitate the scanning function – it reads all the boxes as having been checked. We don't know why some printers randomly apply borders around the check boxes.
- Through our testing, we have found two possible work-arounds: in some cases, updating the printer's drivers solves this problem, or alternatively, printing the PDF version of the forms from the Forms Folder (rather than directly from the Socrates score screen) sometimes eliminates the problem as well. Bottom line: it's possible that you will have to use another printer to print the forms. Sometimes if the printer is connected via a network you may have to connect it directly to the computer you are printing from.



This is what the boxes should look like:



	Never	Rarely	Sometimes	Often	Always
No borders around shaded boxes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you have swelling in your knee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



recreational activities?

LESS

There should only be a middle line, no border.

Shoulder affected your ability to perform the specific skills required for your sport or work? (If your shoulder affects both sports and work,

Correct VAS box shown here:



Section A: Physical Symptoms

No border

How much pain do you experience in your shoulder with movement?

NO PAIN

EXTREME PAIN

Once you have forms that look like this, you can confidently test the scanning process:

Patients - please place an X in one box on each line to indicate your response to that question.

Symptoms

These questions should be answered thinking of your knee symptoms during the last week.

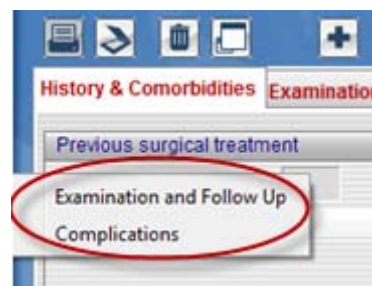
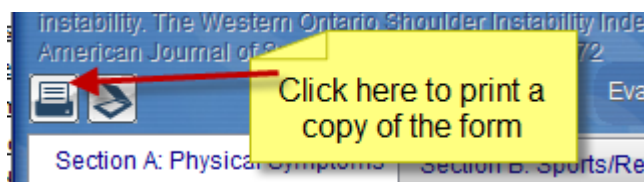
	Never	Rarely	Sometimes	Often	Always
Do you have swelling in your knee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you feel grinding, hear clicking or any other type of noise when your knee moves?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does your knee catch or hang up when moving?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section A: Physical Symptoms

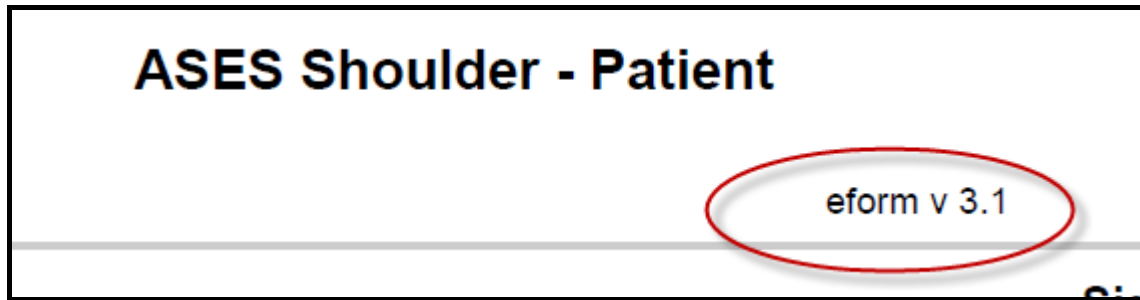
- How much pain do you experience in your shoulder with movement?
NO PAIN EXTREME PAIN
- How much constant, nagging pain do you experience in your shoulder?
NO PAIN EXTREME PAIN
- How much weakness do you experience in your shoulder?
NO WEAKNESS EXTREME WEAKNESS
- How much stiffness do you experience in your shoulder?

Location of the forms

Each screen that has a scannable form has a print icon on it. If there are 2 forms for that screen (a primary or revision, surgeon or patient form for example) you will be given the option to choose which one you want.



They are also available from a direct link on the home page to our web site and are in folders according to each module, then the scan forms sit inside another folder. These are in a pdf format so take care not to choose page scaling when they are printed.



Photocopying forms: The scannable forms can be photocopied after printing them out, providing the original and the photocopy are of a high quality. If the grey checkboxes are too light, the patients won't see them and the crosses or ticks will be outside the boxes and the program can't read them. This may happen with an old copier, or when toner is running low. Some copiers also shrink the pages which will move the dots so if you are copying make sure you try a photocopied form before you copy off a large number of them.

Colour paper: In general we advise against using colour paper, but if you feel you must use a lighter colour and try it out first. It will need to be a very good print copy.

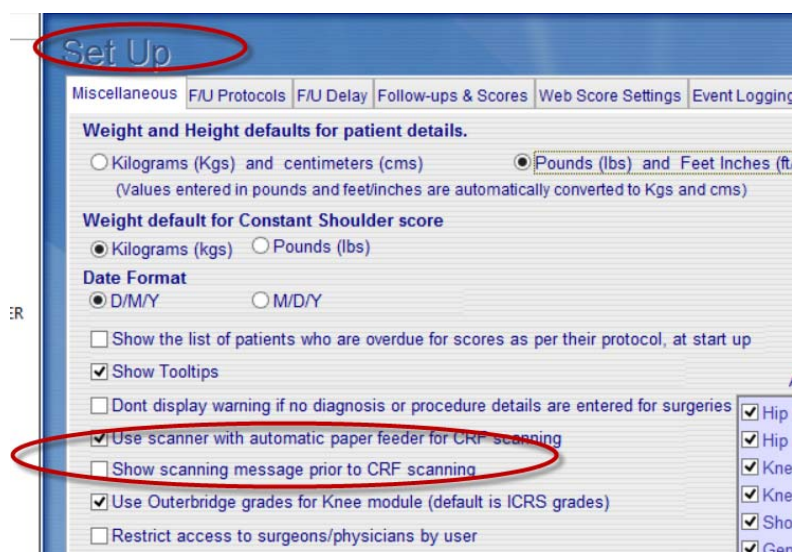
Staples: If you have to use staples to keep the pages together make sure that the staple holes are not near the black dots. This will always cause the error, "cannot locate the black dots" as even though the staple holes are small, it will see them first and as they are not where they are supposed be it will turn up its toes and give you the error. If you have some with staple holes it can usually be sorted by putting a small amount of white out over the staple hole. You'll have to work out whether this is faster than entering them by hand.

Double Sided scanning

It is possible to scan the forms if they are printed on both sides, its faster and uses less paper. However, your scanner must be able to scan double sided, and the settings altered for this. Care also needs to be taken not to use a pen that might bleed through to the other page which may create black marks that the scanner will read as responses.

Setting Up Your Scanner

First, use the **tools icon** to navigate to the miscellaneous section of the **Set-Up Screen**.



Ensure that:

- You have **checked** the “Use scanner with automatic paper feeder for CRF scanning” box, if you are indeed using this recommended type of scanner. (See section on Scanner Specifications.) Note that this option is set as the default. If it's a one page at a time scanner uncheck this.
- You have left the “Show scanning message prior to CRF scanning” box **checked** to begin with. This step is only needed until you have got the scanning up and running. This message allows you to see and change the resolution on your scanner as you are scanning. Once you have it set up to **colour** and 150dpm, the correct side selected (single or double) and it's all working fine, you can come back and **un-check** it. Then you will avoid seeing the scanner set-up specifications each time you scan, and will also avoid an extra click. (“Time is money” and all that...!)

Drivers

Once you have installed your scanner its best to log into the web site of the manufacturer and update the driver to the latest one. Even if you have a new scanner and have used the CD that came with it, these are often already out of date. If you are getting sporadic results with scanning this is the first thing to do after checking the quality of the printing, and position of the dots.

Scanning the Forms

After printing out the *scannable version* of the forms, and after the patient has completed filling out the responses on the score, insert the completed form into the scanner tray *facing the correct direction for your scanner*.

Click on the **Scan icon**, and the forms will automatically start scanning. (This time, you *don't* have to click on the **ADD** or **Modify icon** first! Will wonders never cease?!)

Created: 16/04/2010 09:45 - Admin Modified: 20/11/2009 08:26 - Admin

Patient name: ARKWRIGHT Trevor Injury: 01/02/2006 Module: Shoulder
 Patient ID: 479830 Exam: 01/05/2006 Side: Right ☐ Bilateral
 Latest record: 05/12/2009 3y Surgery: 01/02/2006 Protocol:

Oxford 12-item Shoulder
 Dawson J, Fitzpatrick R, Carr A
 Questionnaire on the perceptions of
 patients about shoulder injury. J Bone
 Joint Surg Br. 1993;75-B(3):393-400

Evaluation date: 20/11/2009 FU: 3y Reviewer: Name: Next visit:

During the past four weeks

1. How would you describe the worst pain you had from your shoulder? 3 Moderate

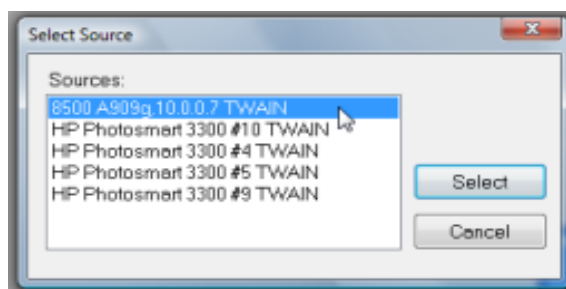
2. Have you had any trouble dressing yourself because of your shoulder? 4 Extreme difficulty

During the past four weeks

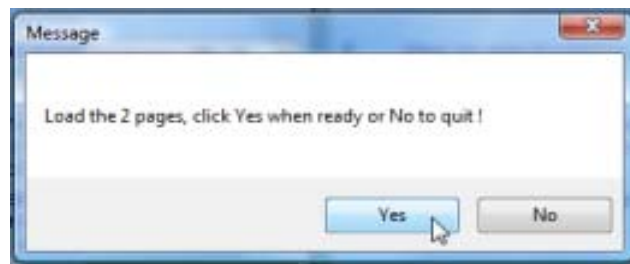
7. Could you brush/comb your hair with the affected arm? 3 With moderate di...

8. How would you describe the pain you usually had from your shoulder? 2 Very Mild

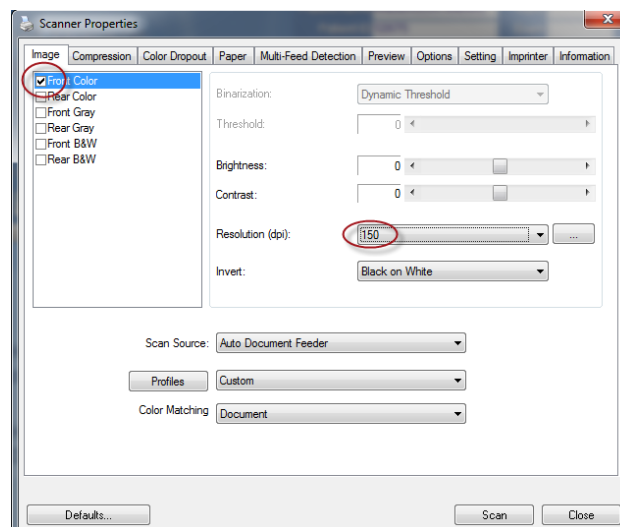
The first time you use the Socrates scan function in each scanning session, you will be asked to select the scanner you want to use, as your office may have more than one scanner connected to your network.



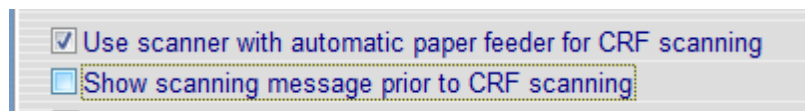
You will then see a message asking you to load the correct number of pages for each score. Socrates knows how many pages each score contains, and therefore, how many to prompt you for. After you have loaded the pages onto the scanner's document feeder, click “Yes,” or simply click on the Enter key.



The first time you scan any of the scores, you will see a message similar to that below. Yours will vary slightly, depending on your brand of scanner. This screen asks you to set up the scanner properties (including choosing Black and White, greyscale or Colour. You **MUST** select **Colour** and set the resolution at **150 dpi**. You may have several colour choices, 8 bit, 16 or 256. Choose 256 bit colour. If you choose a higher resolution it will scan slower, if you choose a lower one it may go too fast and pick up errors. We've found 150 to be the best.




Note that once the scanning is all working properly, you can get rid of this window and save yourself an extra click by going to the **Set-up screen** and deselecting the "Show scanning message prior to CRF scanning" message.



After a short delay (5-10 seconds), the pages will start to be fed through the scanner. Socrates will "think about" the scan for another 10-20 seconds (during which time, you may see the cursor flickering a few times), and then responses will automatically populate the correct corresponding fields on the screen. The responses will be stored and calculated. Now you just need to enter the date or follow up period and click save.

Created: - Admin Modified: - Admin

Oxford 12-Item Hip Questionnaire
JBJS (Br) 2007 ; 89-B:1010-14

Patient name: ARKWRIGHT Trevor
Patient ID: 479830
Latest record: 21/11/2009 5y
Injury:
Exam:
Surgery: 01/01/2004
Module: Hip Arthroplasty
Side: Right ☐ Bilateral
Protocol:
Name:
Next visit:
Evaluation date: 25/04/2010  Click here to automatically fill in today's date.

During the past four weeks

- How would you describe the pain you usually had from your hip? 3 Mild
- Have you had any trouble with washing and drying yourself (all over) because of your hip? 4 Extreme difficulty
- Have you had any trouble getting in and out of a car or using public transport because of your hip? (whichever you tend to use) 3 Moderate trouble
- Have you been able to put on a pair of socks, stockings or tights? 4 With extreme diffi...
- Could you do the household shopping on your own? 3 With moderate di...
- For how long have you been able to walk before the pain from your hip became severe? (with or without a stick) 4 Around the hous...

During the past four weeks

- Responses are automatically filled in and stored after scan. 7. ...mb a flight of stairs? 3 With moderate di...
- After a meal (sat at a table), how painful has it been for you to stand up from a chair because of your hip? 8. 5 Unbearable
- Have you been limping when walking, because of your hip? 9. 3 Often, not just at f...
- Have you had any sudden, severe pain - shooting, stabbing or spasms - from the affected hip? 10. 4 Most days
- How much has pain from your hip interfered with your usual work (including housework)? 11. 3 Moderately
- Have you been troubled by pain from your ... 12. ...st nights

Totals are automatically filled in, as well.

Oxford 12-Item Hip Score 17
Scoring method 0 = worst, 48 = best, as per reference above

Entering Dates



The **Date** field then becomes active once the form has been populated with the answers and calculated the score. As with all the scores, if you enter the actual date the follow up period will be calculated. Or you can just bypass the date and enter the follow up period as preinj (preinjury) preop or the number of weeks months or years. Just enter the number and use w,m,or y. 3 years for example is 3y. **No spaces.** Just leave the date field blank if you are entering the follow up period as you are effectively overriding the date you entered it by using the follow up period you want.

DASH - Disabilities of the Arm, Shoulder and Hand

Institute for Work and Health 2008
http://www.dash.iwh.on.ca/condi

3 year follow up entered as 3y, no date entered.

Patient ID: 12675
Latest FUP: 06/11/2010 7w
Exam:
Surgery: 1

Quick DASH  Evaluation date:  F/U 3y Method of completion:
DASH Work/Sport

To enter the date, you can manually type in the date the score was entered as 2/3/09 or select the **Calendar icon** to the right of the date field, which automatically enters today's date. Or, if the date you want to enter is within the current month, just enter the day of the month, then click the **Tab** key, and the program will automatically fill in the full date. For instance, if this is August 3rd, simply type "3", then "Tab" and "03/08/10" (or 08/03/10 depending on what part of the world you are in) will automatically be entered in. After using one of these methods to enter the date, click **Save** or **Enter**.

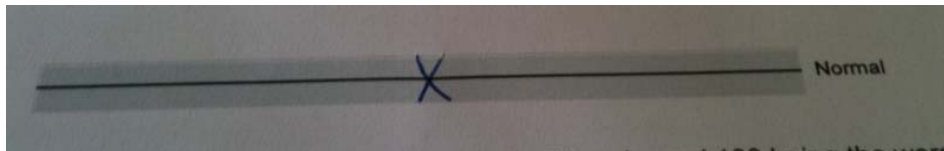
Missing or Ambiguous Responses

If there are responses missing from the score form, you will see the same error messages that you would have seen if the data was entered manually. The message will also tell you which questions are missing.

Completing the Scan Form Correctly

Obviously, the more accurately the forms are filled in, the quicker and more reliably they can be scanned into the program. You or the patient should put **a tick or a cross** in the appropriate response box in **black** or **dark marker**. A medium-tipped, black pen works best, but make sure it doesn't bleed through onto the page behind it if it's a felt tipped pen.

For the VAS there should be a line or a cross placed across the line on the form. The program calculates how long along the row the mark intersects the line using pixels and generates the number which appears on the screen. It's accurate to around 1mm. If the paper goes in the scanner crooked but still within the scan limits you may get a 1-2mm difference. Once it goes outside this it will give you an error message – "scan angle outside acceptable limits".



The program reads the X and you'll see the number appear in the relevant field.

How would you rate your shoulder today as a percentage of normal (0% to 100% scale with 100% being normal)?

50

If more than one response is entered per question, or if responses are missed, you will see an error message. For the VAS scores, if there are 2, the program will select the first one on the line. For the check boxes it won't enter a response. Likewise, if the check for the answer box is too far away from the box, if it is too light, or too small, the program will not be able to detect it.

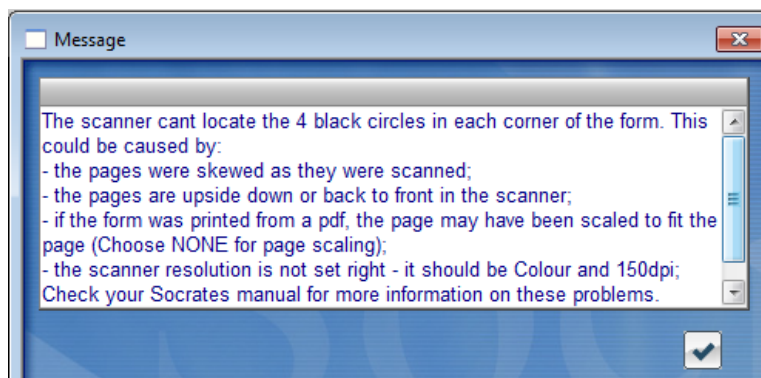
IMPORTANT: You should check the VAS forms since the program will pick up the first line it sees on the line, from the left. If the patient has put 2 crosses on the line it will read the one on the left, but you will not get an error message. You should enter this manually.

This is an example of what the scanner does and doesn't like.

Symptoms		Never	Rarely	Some times	Often	Always
These questions should be answered thinking of your knee symptoms during the last week.						
Do you have swelling in your knee?		X				
Do you feel grinding, hear clicking or any other type of noise when your knee moves?			X			
Does your knee catch or hang up when moving?			X			
Can you straighten your knee fully?		Always	Often	Some times	Rarely	Never
				X		
Can you bend your knee fully?			X			

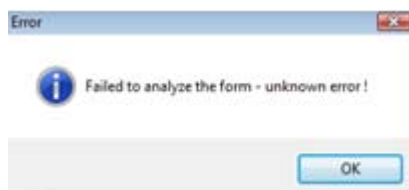
Error Messages

The following issues can cause failure to scan and this message will appear. Normally this is caused by printing from a pdf where page scaling has been chosen, reprint the form and check this. Check that there are no staple holes near the black dots. If it happens consistently it may be that the brightness/contrast needs to be lightened.

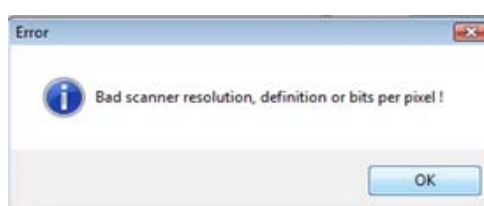


If you have an older version of Socrates the message might read “SCAN ANGLE OUTSIDE ACCEPTABLE LIMITS”

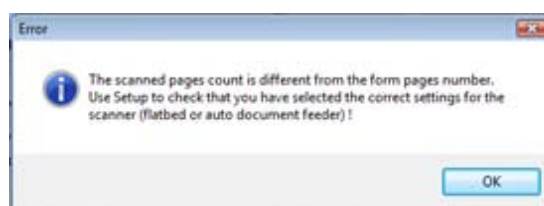
Failed to analyse form: This message appears when the forms are misaligned in the scanner feeder, and when they are put in facing the wrong way. Sometimes you will see this message for no reason that can be humanly ascertained. We estimate this happens about 2% of the time; scanners are mechanical, and can behave oddly at times. If you see this message, try to scan again. If it happens again, it is likely to be due to poor quality printing or copying of the forms, or the settings on your scanner are wrong. Maybe you have chosen Black and White instead of Colour. Additionally, if the forms are too light, the crosses on the paper can't be detected properly.



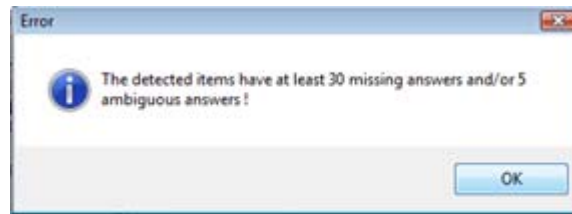
Bad scanner resolution, definition, or bits per pixel: This message indicates that you have set the resolution of your scanner too low. It should be at 150 dpi, and colour; not greyscale or black and white.



Scanned pages count is different: This message will appear if you loaded the scanner's document feeder with too few or too many pages, versus the expected number for that score. Another time this may occur is if you have chosen “Flat-bed scanner” in the Set-Up Screen, but are actually using a scanner with an automatic document feeder. Flat-bed scanners can only take one page at a time. Another time you may see this message is if you try to scan the wrong form, a one-page Lysholm form into a four-page KOOS screen, for example.



Missing or Ambiguous Answers: Here, the program detects that there are responses missing, or more than one response to a question. In this case, the responses will be left blank when scanned into the score screen. Calculation of a total score may not be possible, depending on the number of missing responses. Check the quality of the marks on the printed form, *and* check to see if you might have put the pages out of order, don't have the pages back to front, or even tried to scan the wrong form. If you see a message like this with so many missing answers it's highly likely you have used the wrong form, or got the pages muddled up.



Memory Messages: The process of scanning uses a lot of memory, each page approximately 10 MB. If you get messages referring to problems with memory, check that all other applications are closed. If it persists, contact your IT person: you may need to add memory to your computer.

Scanning Surgery Forms or Forms Other Than Scores.

Some surgery screens can be scanned, as well as the patient pre- and post-op work and function scores, and some examination screens. Since one or more of the answers may be checked on these, and missing answers are allowed, there will be no missing or ambiguous question prompts. Thus it's important that the person scanning makes sure that the pages are in the right order, or not missing, as you won't get a message telling you there are errors. For example, if you mixed up page 2 and 3, and it finds boxes checked in the same place on the wrong page, it will populate that answer from the wrong page.

Therefore, after each scan, just do a quick check to make sure it looks correct.

The pre-op history questions will also be populated into the **History screen** from this same form (even though you can't see them on this screen). When you return to that screen, you will see the answers displayed on the screen.

Scanning the Patient Work and Sport Form

This form is a combination of the history questions, which are only answered once pre-operatively, and those relating to the work and sport status of the patient, which are answered both pre- and post-op. The preop includes questions which are on 2 different screens, the history screen and the patient work and sport. This section is from the **History screen**.

Note: you will need to enter the height and weight, dates and sport played manually.

Weight	90	Kgs	Height	156	cms
Enter data in kgs		Enter data in cms			
BMI	37				
Obesity	Medium Obesity				
Date of injury or joint problems			Date of examination		
01/02/2006			01/05/2006		
Dominant side			Same as injury/affected side		
Injury to exam time			Injury to surgery time		
13 weeks			1 weeks		
Workers Compensation			Yes		
Opposite site			Normal		
Other joint problems					
Onset of symptoms			Sudden		
Cause of injury			Work accident		
Duration of symptoms			1-3 months		

The last part of the form is from the work and sport screen on the patient history and follow-up.

Work and Function

What type of work do you do (before injury or joint problem)?

- ☐ Office
 ☐ Domestic duties
 ☐ Non manual work but involves walking
☐ Light manual
 ☐ Heavy manual
 ☐ Retired
☐ Student
 ☐ Unemployed due to joint problem
 ☐ Unemployed - other reason

What is your work status (before injury or joint problem)?

- ☐ Full time
 ☐ Part time
 ☐ Don't do paid work
 ☐ Unable to do usual work

What is your current functional status?

- ☐ I can do everything
 ☐ I can do nearly everything
☐ I am restricted, many things are not possible
 ☐ I am severely restricted in everything I do

Which joint are you seeing the doctor about?

- ☐ Knee
 ☐ Hip
 ☐ Ankle
 ☐ Shoulder
 ☐ Elbow
 ☐ Wrist
 ☐ Other

Affected Side ☐ Right ☐ Left

Dominant Side ☐ Same as injury/affected side
 ☐ Opposite to injury/affected side
 ☐ Ambidextrous

What is your current weight: _____ kgs What is your height: _____ cms

If your condition is caused by an injury what was the date of the injury: ____/____/____

Is this a workers compensation case: ☐ Yes ☐ No

Is your opposite joint: ☐ Normal ☐ Nearly normal ☐ Abnormal ☐ Severely abnormal

Any other joint problems? (tick all those affected):

- ☐ Hips
 ☐ Ankles
 ☐ Shoulders
 ☐ Elbows
☐ Hands
 ☐ Feet
 ☐ Spine
 ☐ Neck
 ☐ Knees

The form is scanned in on the Patient work and sport follow-up screen history screen, even though the history questions are on a different screen, the first history screen you arrive at in the surgery you are entering data for.

The screenshot shows a software interface for 'Patient History and F/U'. At the top, there are tabs for 'SF-36', 'SF-12', 'ASES', 'Constant (1)', and 'WORC'. The 'Work and function status' section is highlighted. It contains the following fields and options:

- Usual type of work: Office
- Usual level of work: Full time
- Curr functional status: Nearly everything
- Is the type of work the same as before your injury or joint problem: Yes
- If it is different is this because of your injury or joint problem: Yes
- Able to return to a job which places less demand on your joint: (dropdown menu)
- How long after surgery were you able to return to work: < 1week

To scan, select either the pre-op or post-op form, and scan in the normal manner.

Remember that you will need to fill in the number and free text manually.

What is your current weight: _____ kgs What is your height: _____ cms
 If your condition is caused by an injury what was the date of the injury: ____/____/____

Hip General Surgery Lite Scan Form

Example of a section of the Hip General Lite scan form.

12. Ligamentum Teres - (a) Pathology						
None/Normal	Haemorrhagic	Partial Tear	Ruptured	Degenerative	Hypertrophy	Synovitis
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) Treatment						
None	Excision complete	Excision partial	Reconstructed	Synovectomy		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

13. Labrum - (a) Pathology						
None	Partial Tear	Full thickness tear	Sulcus variant	Previous resection	Degenerative	Haemorrhagic
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hypoplastic	Hyperplastic	Inverted	Calcified/ossified	Acute calcinosis	Other	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

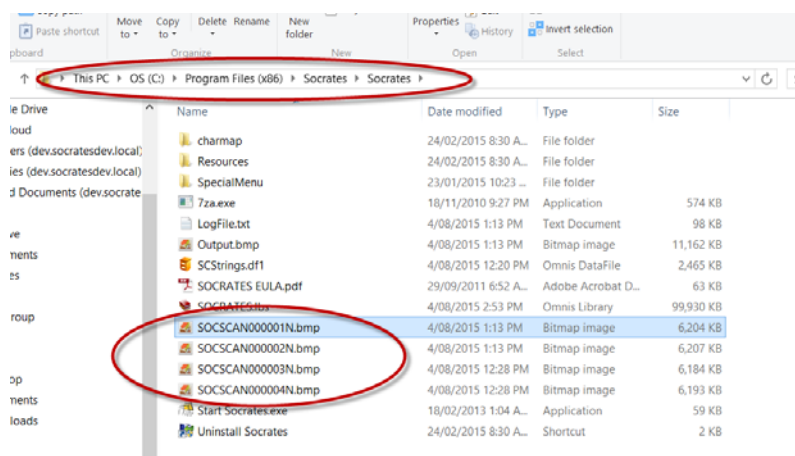
Go to the **Hip General Surgery Lite screen** and in **Modify** mode you will see the **Scan icon**. Scan in the usual manner, making sure the pages are in the right order and the right way up, as there are no error messages for this form.

Scanning - Trouble Shooting

- Make sure you have the scanner resolution set to Colour – not Black and White or Greyscale.
- Check that the grey boxes are clearly visible; they should be a medium grey colour, and that there **isn't a border** around the grey area. For the 1-100 VAS there should be a grey box enclosing the line down the middle. If you can't see the grey area well, neither can the program. Try another printer.
- Make sure the paper is the right way up, and facing in the right direction for your scanner. Don't use colour paper.
- If you are printing from a PDF copy (rather than directly from the screen), make sure you have selected NONE for page scaling.
- Can you see the four black dots in the four corners of all the pages? In the next example there are no dots visible at the top of the page; the scanner will give the bad scanner angle message and can't populate the screen.
- Make sure that the driver you are using is the most up to date. If you do update to the new one don't forget to reset the driver settings to colour, and 150 dpm.
- Check there are no staple holes near the black dots
- Try lightening the contrast/brightness if you are consistently getting the black dots error message.

If all else fails...

If you have checked all these points and are still having problems, each scan saves an image of what it scanned in your computer. The last forms scanned are saved as a ".bmp" file in Program Files\Socrates\Socrates\. Open the SOCSCAN.bmp files and you will see an image of each page that the scanner saw.



If the ".bmp" opens with the page upside down this is how it went in the scanner, and it won't work. If it's blank, the page went into the scanner back to front.

If it looks OK, you can save all these files, including the Log file and Output into one folder, zip them up and contact us. We can have our developers see if they can diagnose the problem.

Validation of Socrates' Scanning Function

The results of our in-house quality control measures are as follows. One hundred sets of forms were scanned on two scanners by two different operators.

All responses were correctly interpreted: if the forms were complete and clear, all responses were accurately entered onto the screen. If there were missing, ambiguous, incorrectly positioned, or faded responses, the associated error messages were prompted.

All calculations were accurately reported.

No forms had incorrect responses or scores entered.

Two percent of the forms displayed a "Failed to analyse" message. In one case, the problem was caused by incorrect positioning of the forms into the automatic document feeder, and in another, no cause could be ascertained. In the latter case, the form was re-scanned, and then correctly analysed. (Go figure.)

If the boxes were checked too lightly, the program failed to detect them, showing a "Missing response" error.

Twenty percent of the forms used in the testing purposely had missing responses, ambiguous responses (two or more marks on one question), faint marks, or marks that were outside the grey checkbox area. This percentage was thought to reflect a real-life scenario in which patients will make errors such as these. For example, they may leave out a question asking about getting out of the bath if they don't have a bath at home, or skip a question asking about getting on and off a bus if they don't use public transportation, or if the bus stopped running on their route five years ago. Another common situation occurs when a patient checks two responses on the same line, say for example, if they had severe pain yesterday, and it is only mild today. As indicated above, one hundred percent of these less-than-ideal scenarios were correctly identified by Socrates as having "Missing or Ambiguous Answers."

You can be confident that the scanning function in Socrates is *accurate*. If there are responses on forms that cannot be read or are duplicated, you will be notified by an error message, and it will fail to scan. If you are getting errors this will be due to either a printing or scanner malfunction.

Administering KOOS Scores in Languages Other Than English:

The KOOS score is available in several languages other than English in the scannable format. Some of the translations are made up of many more words than their equivalent in English, and therefore occupy more space on the page than the English versions. In order to keep the questionnaire to four pages, and to allow enough space for the requisite translations, (*and* to accommodate the smaller US-page size of 8-1/2 x 11 inches), we had to delete the instructions that accompany the HOOS and KOOS scores. If you are using one of these scores, (in fact, it may be a good idea to do this for any score), we recommend you give patients a separate **Instructions Sheet**. You could include any additional information you might want to give the patient about their operation and their follow-up.

Please copy the following section for the benefit of your patients:

INSTRUCTIONS FOR COMPLETING YOUR KOOS QUESTIONNAIRE

This survey asks for your views about your knee. This information will help us keep track of how you feel about your hip and how well you are able to do your usual activities.

Answer every question by ticking the appropriate box: only ***one*** for each question. If you are unsure about how to answer a question, please ask us, or give the best answer you can.

INDEX

Hip General Surgery Lite Scan Form	15	Scanning - Trouble Shooting	15
Languages Other Than English		Scanning Surgery Forms or Forms Other Than Scores.....	13
KOOS scan form	17	Scanning the Forms	8
Printer Specifications	4	Scanning the Patient Scanning the Work and Sport Form.....	13
Printing Scan Forms	4	Setting Up Your Scanner.....	7
Scannable forms	2		
Scanner Specifications	3, 4		