# **Sacral Fracture Study**

### **Inclusion / Exclusion Criteria**

Surgeon Name Optional =		
Patient Study ID =	Screen Date =	

Please answer <u>ALL</u> of the following inclusion/exclusion questions and retain this form for study records.

#### **Inclusion Criteria**

1.	Is the patient between the ages of 18 and 80?	YES	No
2.	Does the patient have a unilateral sacral fracture?	YES	No
3.	Is the patient English speaking?	YES	No
4.	Did the patient sign informed consent?	YES	No

If you answered **NO** to any of the above inclusion questions, then the patient is **EXCLUDED**.

#### **Exclusion Criteria**

1. Does the patient have an APC injury?	Yes	NO
2. Is the symphysis dislocated?	Yes	NO
3. Does the patient have a Zone 3 sacral fracture?	Yes	NO
4. Is the patient unable to or unwilling to follow-up for 2 years?	Yes	NO
5. Does the patient have a poor propensity to follow up (i.e. drug	gs, alcohol, etc.)? Yes	NO
6. Is the patient currently or pending incarceration in prison?	Yes	NO
7. Does the patient have a displaced acetabular fracture?	Yes	NO
8. Was the patient non-ambulatory prior to injury?	Yes	NO

If you answered YES to any of the above exclusion questions, then the patient is EXCLUDED.

#### Eligibility: Is the patient eligible for the study based on the above criteria? OYES ONO

- ➤ If <u>yes</u>, please obtain informed consent and complete the pre-op evaluation forms per the requirements of the initial evaluation. Please have the patient complete the outcome assessment forms (SMFA, VAS) as though it was the day PRIOR TO injury.
- ➤ If <u>no</u>, the patient is not eligible; then STOP. Please retain form for study records.

# Sacral Fracture Study

# **Patient Information Form**

Patient Study ID =						
Today's Date (MM/DD/YY) =		<u></u>	Complete	d By:		
<b>Directions:</b> Answer every question. If in the correct information.	you need to change an	answer, c	ompletely erc	ise or cros	s out the incorrect	mark, initial, and fill
Last Name	First Name			MI	(For Internal Use Physician's Nan	
Street Address 1					Medical Record	Number
Street Address 2				-		
City		State	Zip Coo	- le		
Home Phone (or primary contact) (	Work Phor	ne			Date of Birth	n (MM/DD/YYYY)
Sex M/F E-r	mail (example: johno					
Alternate Contact Information 1				<del></del>		
Relationship to patient	Last Name			Firs	t Name	MI
Street Address 1	-			Hor	me Phone (or prin	nary contact)
Street Address 2				\ <u></u>		
City		State	Zip Code			
Alternate Contact Information 2						
Relationship to patient	Last Name			Firs	t Name	MI
Street Address 1	-			— Hoi	me Phone (or prin	nary contact)
Street Address 2				\ <u></u>		<del></del>
City		State	Zip Code			

Sucrui I ruco		uay					_	acient m	ary rolling
Patient Study ID =									
Injury Date (MM/D	D/YY) :	=				Comp	pleted By:_		
Directions: Answer completely erase or unless otherwise inst	cross out								
01a. Date of Injury _	/	/	'	(MM/DD/YY)	08. Moto	or function at tim	-		
b. Time of Injury						Location	Normal	Diminished	Absent
c. Date of Birth						e dorsiflexion	0	0	0
d. Gender (check of						e eversion	0	0	0
<b>02. Ethnicity</b>	one) O	Maie	O Fema	ie	c. Ankl	e plantarflexion	0	0	0
O American India	an					1 170			(1 -
O Asian or Asian		an				the AIS scoring stregions). Where it			
O Black or Africa	an Ameri	ican				e highest scoring			ic region,
O Hispanic or La	itino								
O Native Hawaii	an or Pac	ific Islan	der		Region	AIS Score			
O White or Cauc	asian				09.	Head & Ne	ock		
O Other (Specify)	):				02.	neau & Ne		AIS Sco	<u>ore</u>
03a. Side of sacral fr					10.	Face		Minor (	
	Right				11.	Chest		Modera Serious	te (AIS 2)
04. Additional upper	extremi None	ity fractu <u>Right</u>	i <b>res</b> <u>Left</u>	<u>Bilateral</u>				Severe	
a. Clavicle	O	O	O	O	12.	Abdomen		Critical	
b. Scapula	0	0	0	0	13.	Extremity		– Unsurvi	(vable (AIS 6)
c. Humerus	0	0	0	0	14.	External			
d. Radius	0	0	0	0	14.	External		_	
e. Ulna	0	0	0	0	4.5.50	_		_	
f. Wrist	0	0	0	0	15. If kn	own, please reco	rd the ISS s	core below	
g. Hand	0	0	0	0		ISS Score			
						155 50016			
05. Additional <u>lower</u>	None None	ty fractu <u>Right</u>	res <u>Left</u>	<u>Bilateral</u>	16. Prim	ary cause of inju	ıry		
a. Pelvis	O	O	O	O	Ом	lotor vehicle accid	lent		
b. Acetabulum	0	0	0	0	Ом	lotorcycle acciden	nt		
c. Femur	0	0	0	0		icycle accident			
d. Tibia	0	0	0	0		edestrian accident			
e. Ankle	0	0	0	0	_	ecreational activit			
f. Foot	0	0	0	0			•	l foot	
						all from a height g	•		
06. Additional spinal	I fracture None	es <u>Right</u>	<u>Left</u>	Bilateral		all from a height l		et	
a. Cervical	O	O	O	O	_	irect trauma (blun	,		
b. Thoracic	0	0	0	0	OD	irect trauma (pene	etrating)		
c. Lumbar	0	0	0	0	O C:	rush			
				_	O T	wist			
07. Additional injuri		Diaht	Loft	Rilataral	00	ther (Specify):			
a. Upper extremity	None O	Right	<u>Left</u>	Bilateral O		. 1 557			
b. Lower extremity	0	0	0	0					
C. 201101 OAUGIIILY					Please c	continue on nex	t page		

Patient Study ID =					
Injury Date (MM/DD/YY) =		Co	ompleted By:	:	
17. High energy injury	Curr	ent Medications (M	ark all that ap	oply)	
O Yes O No	29a.	<b>Type</b>		b. <u>Dose</u>	c. <u>Duration</u>
10 Work related in items	O	Steroids			
18. Work related injury  O Yes  O No (Skip to question 20)		(examples: Corton		mø/dav	yrsmos
O Tes O No (Skip to question 20)		Deltasone, Medrol	Prelone)	mg, au	J1511105
19. If "Yes", is patient currently seeking or receiving	О	Anticoagulants (examples: Couma	din		
Workers' Compensation?		Miradon)	uiii,	mg/day	yrsmos
O Yes O No	О	Anticonvulsants			
20. Patient has been or is currently involved in litigation		(examples: Phenyte	oin,		
O Yes O No		Carbamazepine,		mg/day	yrsmos
	0	Phenobarbital, diaz	zepam)		
21. History of smoking or tobacco use		(examples: Lipitor,	Lescol.		
O No (Skip to question 25)		Pravachol, Zocor)		mg/day	yrsmos
O Yes, quit smoking (Continue to question 22)	O	Anti-inflammator	ies		
O Yes, current smoker (Skip to question 23)		(examples: Anapro		mg/dav	yrsmos
22. If "Yes, quit smoking", specify years tobacco free		Celebrex, Motrin, Biophosphonates	Naprosyn)		
years (Skip to question 25)	О	(examples: Actone	l Roniva		
		Fosamax)	i, Domva,	mg/day	yrsmos
23. If "Yes, current smoker", specify packs	О	Antibiotics			
smoked per day		(examples: Amoxi		mg/day	yrsmos
packs per day		Cydomycin, Vibra		nig/day	yrsmos
24. If "Yes, current smoker", specify years smoked	O	Calcium channel			
years smoked		(examples: Adalat, Cardizem, Dilacor	mg/day	yrsmos	
·		Norvasc)	MIX,	ing/day	yrsmos
25. History of drug or alcohol use	О	Calcium or Vitam	in D		
O Yes O No (Skip to question 28)		(examples: Cal-Cit		mø/dav	yrsmos
26a. If "Yes", is there a history of drug or alcohol abuse?		Citracal, Os-Cal, V			J1511105
O Yes (Specify below)	О	Parathyroid horn			
O No (Skip to question 28)		(examples: Forteo)		mg/day	yrsmos
	Histo	ory of surgery			
b. If "Yes", specify type of drug or alcohol abuse	111500	ry or surgery			<u>Date</u>
O Alcohol O Drugs O Both		<u>Procedure</u>	<b>Systemic</b>	<b>Extremity</b>	(MM/DD/YY)
C fileonol C Blugs C Boul	30		0	0	/
27a. If "History of drug or alcohol abuse", is the patient	31.		0	0	/ /
recovered?	32.		0	0	/ /
O Yes (Specify below) O No (Skip to question 28)					/
O NO (Skip to question 20)	33		0	0	//
b. If "Yes", specify years recovered	_34		0	0	/
years	35		0	0	/
All Districts and the second	36		0	0	/ /
28a. Patient's height inches		se continue on nex			

Saciai riaciule Siuuv	Sacral	<b>Fracture</b>	Stud	lv
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Patient Injury Form
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Patient Study ID =	-
Injury Date (MM/DD/YY) =	Completed By:

#### Patient's Current Medical History (Mark all that apply)

In question 37, please indicate the patient's personal medical history of the following conditions. In question 38, please indicate if the patient is receiving treatment or medication for the condition.

In question 39, please indicate if the condition limits the patient's activities.

	37. <u>History</u>	38. Receiving treatment / Medication	39. <u>Limits activity</u>
Anemia or other blood disease	0	0	0
Back pain	0	0	0
Cancer – metastatic	0	0	0
Cancer – not metastatic	0	0	0
Circulatory disorder including ankle or leg swelling, blood clots, peripheral vascular disease, aneurysm	0	0	0
Depression	0	0	0
Diabetes – diet controlled	0	0	0
Diabetes – medication controlled	0	0	0
Diabetes – insulin controlled	0	0	0
Heart disease	0	0	0
High blood pressure	0	0	0
History of stroke	0	0	0
Kidney disease	0	0	0
Leg pain	0	0	0
Liver disease	0	0	0
Lung disease or asthma	0	0	0
Nervous system disorder including Parkinson's disease, multiple sclerosis, cerebral palsy	0	0	0
Obesity	0	0	0
Osteoarthritis/degenerative arthritis	0	0	0
Osteoporosis	0	0	0
Rheumatoid arthritis/lupus/ankylosing spondylitis	0	0	0
Thyroid disease	0	0	0
Ulcer or stomach disease	0	0	0
Other history (Specify below)	0	0	0

Patient Study ID =	
Today's Date (MM/DD/YY) =	Completed By:
01. Mechanism (check one)  □ LC □ VS □ CMI □ Unknown	
<b>02. Anterior</b> (check all that apply)	i of a
$\begin{array}{c cccc} & \underline{L} & \underline{R} \\ \hline \text{High Ramus} & \Box & \Box \\ \hline \text{Mid Ramus} & \Box & \Box \\ \hline \text{Medial Ramus} & \Box & \Box \\ \hline \text{Parasymphyseal} & \Box & \Box \\ \hline \text{Body Disruption} & \end{array}$	
03. Posterior	High Mid Body
a. Side  □ Right □ Left	Medial
b. Sacral Fracture (check one)  ☐ Zone 1 (ala) ☐ Zone 2 ☐ Comminuted	
c. Other (check all that apply)  ☐ Posterior iliac fracture ☐ Foraminal free fragments	
<b>d. Soft Tissue Injury</b> (check all that apply)  ☐ Open - Air ☐ Degloving	

Patient Study ID = Today's Date (MM					Completed	Ву:	
Radiograph Colle	aation Saha	edula (Chaak t	the annron	viata ha	ras for aurr	ant visit)	
Films	Injury	Post-op	ne approp <b>6 wks</b>	3 mo	6 mo	12 mo	
AP							
Outlet			NR		R*	NR	
Inlet			NR		R*	NR	
CT		Optional —				<b></b>	
NR = Not Require $R^* = Required or$		e in reduction					
Plain films Measu  01. AP  a. Vertical dis b. Ischial heig c. Injured side d. Uninjured	splacement ght differen e ring width	ce		_ mm _ mm			
<ul><li><b>02. Outlet</b></li><li><b>a.</b> Superior di</li><li><b>b.</b> Ischial height</li></ul>	-						
03. Inlet							
a. Zone (chec	k one)		$\Box \mathbf{I}$				
<ul><li>b. Posterior d</li><li>d. Injured wid</li><li>e. Uninjured w</li></ul>	lth (sacrum	)		_ mm			
<u>CT scan:</u> <b>04. S1 level</b>							
a. Zone (chec	k one)		$\Box I$				
<b>b.</b> Injured wid <b>c.</b> Uninjured with the contract of the contr	*	-maximum)					
<b>d.</b> Anterior co	ortex (check	cone)	□compi	ressed	□distracted	□commin	uted □non-displaced
e. Posterior co f. Translation	`	k one)	1. Displ	lacement	complete in the complete in th	nm	□complete displaced
05. Quadrilatera	l level						
a. Angulation	injured sid	e from spine	°	$\Box$ IR	□ER		
<ul><li>b. Angulation</li><li>c. Quadrilater</li><li>d. Quadrilater</li></ul>	al surface r	elative to mid	line injure	d side	□ER n		

Patient Study ID = \_\_\_\_\_

Follow Up Visit Date (MM/DD/YY) = \_\_\_\_\_ Completed By: \_\_\_\_\_

#### **Visual Analog Scale - ANTERIOR**

Circle the number at the bottom to indicate your pain level <u>24hrs before your injury</u> in your <u>anterior (front) side</u> of your pelvis.



#### **Visual Analog Scale - POSTERIOR**

Circle the number at the bottom to indicate your pain level <u>24hrs before your injury</u> in your <u>posterior (back)</u> <u>side</u> of your pelvis.



Patient Study ID =			
Follow Up Visit Date (	MM/DD/YY) =	 Completed	By:
Follow-up Interval:	☐ Post-Tx(24hrs) ☐ 3 months		

#### **Visual Analog Scale - ANTERIOR**

<u>Instructions</u>: Circle the number at the bottom to indicate your pain level <u>over the last day</u> in your <u>anterior</u> (<u>front</u>) <u>side</u> of your pelvis.



### **Visual Analog Scale - POSTERIOR**

<u>Instructions</u>: Circle the number at the bottom to indicate your pain level <u>over the last day</u> in your <u>posterior</u> (<u>back</u>) <u>side</u> of your pelvis.



Patie	ent Study ID =							
Follo	ow Up Visit Date (MM	/DD/YY) =	=		_ Completed By:			
<u>Foll</u>	ow-up Interval: □	6 week 12 montl	☐ 3 mor		6 month			
01.	Motor function at tir	me of pre	sentation		03. Recommended w	veight bear	ring	
	Location	Normal	Diminished	Absent		None	<u>Partial</u>	<u>Full</u>
a. /	Ankle dorsiflexion	O	O	O	<b>a.</b> Previous Visit ( <i>check one</i> )			
	Ankle eversion  Ankle plantarflexion	0	0	0	<b>b.</b> Current Visit (check one)			
02.	Check all that apply				04.Ambulatory statu	ıs at disch	arge	
	Bowel Incontinence Bladder Incontinence Difficulty Urinating Erectile Dysfunction Neurologic Pain	ce g			☐ TT ☐ PWB ☐ FWB			

	•	D/YY) =	Completed By:
Follov	v-up Interval:	re-Injury	
		Majeed Pelv	vic Score
0 0 0 0	Intense, continuous par Intense pain experience Pain is tolerable, but 1 Pain with moderate ac Mild pain that is internal	ed with activity	
0 0 0	No regular work Light work Change of job Same job, reduced per Same job, same perfor		nis section)
0	vel of pain when <u>sitting</u> Painful Painful if prolonged o Uncomfortable Free	g before your injury r if in awkward position	
0	vel of pain during sext Painful Painful if prolonged o Uncomfortable Free	a <b>al intercourse before your inju</b> r awkward	ry
05. Le	vel of pain when <u>stand</u>	<u>ing</u> before your injury	
	Redridden or almost Wheelchair Two crutches Two sticks One stick No sticks	B. Gait (unaided)  Cannot walk or almost Shuffling small steps Gross limp Moderate limp Slight limp Normal	<ul> <li>C. Walking distance</li> <li>Bedridden or few meters</li> <li>Very limited time and distance</li> <li>Limited with sticks, difficult without prolonged standing possible</li> <li>One hour with a stick, limited without</li> <li>One hour without sticks, slight pain or limp</li> <li>Normal for age and general condition</li> </ul>

Patient	Study ID =			
Follow	Up Visit Date (MM/D)	D/YY) =		Completed By:
<u>Follov</u>	v-up Interval: 3	month	☐ 12 month	☐ 24 month
		Maje	eed Pelvic Sc	ore
0 0 0	Mild pain that is intern	even when at rest ced with activity	erfere with norma	al activity
0 0 0	No regular work Light work Change of job Same job, reduced per Same job, same perfor		y, skip this secti	on)
0	vel of pain when sitting Painful Painful if prolonged o Uncomfortable Free	<b>g</b> r if in awkward position		
0	vel of pain during sexu Painful Painful if prolonged o Uncomfortable Free			
05. Le	vel of pain when <u>stand</u>	ling		
	king aids  Bedridden or almost Wheelchair Two crutches Two sticks One stick No sticks	B. Gait (unaided)  Cannot walk of Shuffling sma Gross limp Moderate limp Slight limp Normal	or almost Il steps	Valking distance  Bedridden or few meters  Very limited time and distance  Limited with sticks, difficult without prolonged standing possible  One hour with a stick, limited without  One hour without sticks, slight pain or limp  Normal for age and general condition

Patient Study ID =				
Follow Up Visit Date (MM/DD/YY) =				
<b>Follow-up Interval:</b> □ 3 month	☐ 6 month	☐ 12 month	☐ 24 month	
SMFA				

Directions: We are interested in finding out how you are managing with your injury or arthritis this week. We would like to know about any problems you may be having with your daily activities because of your injury or arthritis. Please answer each question by shading in the circle corresponding to the choice that best describes you. Mark only one answer for each question unless otherwise instructed. Shade circles like this:

	se questions are about how much difficulty you may be having a reacral injury.	this week w	ith your d	laily activitie	s because	e of
		Not at all difficult	A little difficult	Moderately difficult	Very difficult	Unable to do
01.	How difficult is it for you to get in or out of a low chair?	0	0	0	0	0
02.	How difficult is it for you to open medicine bottles or jars?	0	0	0	0	0
03.	How difficult is it for you to shop for groceries or other things?	0	0	0	0	0
04.	How difficult is it for you to climb stairs?	0	0	0	0	0
05.	How difficult is it for you to make a tight fist?	0	0	0	0	0
06.	How difficult is it for you to get in or out of the bathtub or shower?	0	0	0	0	0
07.	How difficult is it for you to get comfortable to sleep?	0	0	0	0	0
08.	How difficult is it for you to bend or kneel down?	0	0	0	0	0
09.	How difficult is it for you to use buttons, snaps, hooks, or zippers?	0	0	0	0	0
10.	How difficult is it for you to cut your own fingernails?	0	0	0	0	0
11.	How difficult is it for you to dress yourself?	0	0	0	0	0
12.	How difficult is it for you to walk?	0	0	0	0	0
13.	How difficult is it for you to get moving after you have been sitting or lying down?	0	0	0	0	0
14.	How difficult is it for you to go out by yourself?	0	0	0	0	0
15.	How difficult is it for you to drive?	0	0	0	0	0
16.	How difficult is it for you to clean yourself after going to the bathroom?	0	0	0	0	0
17.	How difficult is it for you turn knobs or levers, for example, open doors, roll down car windows?	0	0	0	0	0
18.	How difficult is it for you to write or type?	0	0	0	0	0
19.	How difficult is it for you to pivot?	0	0	0	0	0
20.	How difficult is it for you to do your usual physical recreational activities, such as bicycling, jogging, or walking?	0	0	0	0	0
21.	How difficult is it for you to do your usual leisure activities, such as hobbies, crafts, gardening, card playing, going out with friends?	0	0	0	0	0
22.	How much difficulty are you having with sexual activity?	0	0	0	0	0
23.	How difficult is it for you to do <u>light</u> housework <u>or</u> yardwork, such as dusting, washing dishes, or watering plants?	0	0	0	0	0
24.	How difficult is it for you to do <u>heavy</u> housework <u>or</u> yardwork, such as washing floors, vacuuming, or mowing lawns?	0	0	0	0	0
25.	How difficult is it for you to do your usual work, such as a paid job, housework, volunteer activities?	0	0	0	0	0

Patient Study ID =	
Follow Up Visit Date (MM/DD/YY) =	 

The	se next questions ask how often you are experiencing	problems <u>th</u>	is week be	cause of your	sacral inju	ıry.
		None of the time	A little of the time	Some of the time	Most of the time	All of the time
26.	How often do you walk with a limp?	0	0	0	0	0
27.	How often do you avoid using your painful limb(s) or back?	0	0	0	0	0
28.	How often does your leg lock or give-way?	0	0	0	0	0
29.	How often do you have problems with concentration?	0	0	0	0	0
30.	How often does doing too much in one day affect what you do the next day?	0	0	0	0	0
31.	How often do you act irritable toward those around you, for example, snap at people, give sharp answers, or criticize easily?	0	0	0	0	0
32.	How often are you tired?	0	0	0	0	0
33.	How often do you feel disabled?	0	0	0	0	0
34.	How often do you feel angry or frustrated that you have this injury or arthritis?	0	0	0	0	0
	se next questions are about how much you are bother cal injury.	ed by proble	ems you ar	e having <u>this</u>	week due t	o your
						•
How	much are you bothered by:	Not bothered <u>at all</u>	A little bothered	Moderately bothered	Very bothered	Extremely bothered
	·	bothered <u>at all</u>	bothered	<u>bothered</u>	<u>bothered</u>	bothered
How 35.	Problems using your hands?	bothered at all	bothered O	<u>bothered</u>	<u>bothered</u>	bothered O
35.	·	bothered <u>at all</u>	bothered	<u>bothered</u>	<u>bothered</u>	bothered
35. 36.	Problems using your hands? Problems using your back?	bothered at all	bothered O	bothered O	bothered  O	bothered O
35. 36. 37.	Problems using your hands? Problems using your back? Problems doing work around your home? Problems with bathing, dressing, toileting or other	bothered at all  O	O O	bothered O O O	bothered  O O O	O O
35. 36. 37. 38.	Problems using your hands? Problems using your back? Problems doing work around your home? Problems with bathing, dressing, toileting or other personal care?	bothered at all	o o	O O O	bothered  O O O O	O O O
35. 36. 37. 38.	Problems using your hands? Problems using your back? Problems doing work around your home? Problems with bathing, dressing, toileting or other personal care? Problems with sleep and rest?	bothered at all	o o o o o o o o o o o o o o o o o o o	bothered  O O O O O O O	bothered O O O O O O	bothered O O O O O O
35. 36. 37. 38. 39. 40.	Problems using your hands? Problems using your back? Problems doing work around your home? Problems with bathing, dressing, toileting or other personal care? Problems with sleep and rest? Problems with leisure or recreational activities? Problems with your friends, family or other important	bothered at all	o o o o o o o o o o o o o o o o o o o	o o o o o o o o o o o o o o o o o o o	O O O O O O	bothered O O O O O O O O O O O O O O O O O O O
35. 36. 37. 38. 39. 40.	Problems using your hands? Problems using your back? Problems doing work around your home? Problems with bathing, dressing, toileting or other personal care? Problems with sleep and rest? Problems with leisure or recreational activities? Problems with your friends, family or other important people in your life?	bothered at all	O O O O O O O O O O O O O O O O O O O	bothered O O O O O O O O O O O O O O O O O O O	bothered O O O O O O O O O O O O O O O O O O O	bothered O O O O O O O O O O O O O O O O O O O
35. 36. 37. 38. 39. 40. 41.	Problems using your hands? Problems using your back? Problems doing work around your home? Problems with bathing, dressing, toileting or other personal care? Problems with sleep and rest? Problems with leisure or recreational activities? Problems with your friends, family or other important people in your life? Problems with thinking, concentrating or remembering?	bothered at all	O O O O O O O O O O O O O O O O O O O	bothered  O O O O O O O O O O O O O O O O O O	bothered O O O O O O O O O O O O O O O O O O O	bothered O O O O O O O O O O O O O O O O O O O
35. 36. 37. 38. 39. 40. 41.	Problems using your hands? Problems using your back? Problems doing work around your home? Problems with bathing, dressing, toileting or other personal care? Problems with sleep and rest? Problems with leisure or recreational activities? Problems with your friends, family or other important people in your life? Problems with thinking, concentrating or remembering? Problems adjusting or coping with your injury or arthritis?	bothered at all	o o o o o o o o o o o o o o o o o o o	bothered O O O O O O O O O O O O O O O O O O O	bothered O O O O O O O O O O O O O O O O O O O	bothered O O O O O O O O O O O O O O O O O O O

Reproduced from: Marc F. Swiontkowski, M.D.; Ruth Engelberg, Ph.D.; Diane P. Martin, Ph.D.; and Julie Agel, M.A. Short Musculoskeletal Function Assessment Questionnaire: Validity, Reliability, Responsiveness. J Bone Joint Surg AM 81:1245-60, 1999

Patient Study ID =	
Follow Up Visit Date (MM/DD/YY) =	
Follow-up Interval:   Pre-injury	

## **SMFA**

**Directions:** We are interested in finding out how you were managing before your injury or arthritis. We would like to know about any problems you may have had with your daily activities because of your injury or arthritis. Please answer each question by shading in the circle corresponding to the choice that best describes you. **Mark only one answer for each question unless otherwise instructed. Shade circles like this:** •

The inju	se questions are about how much difficulty you may have had vry.	vith your d	aily activit	ties <u>before</u> yo	ur sacra	
		Not at all difficult	A little difficult	Moderately difficult	Very <u>difficult</u>	Unable to do
01.	How difficult is it for you to get in or out of a low chair?	0	0	0	0	0
02.	How difficult is it for you to open medicine bottles or jars?	0	0	0	0	0
03.	How difficult is it for you to shop for groceries or other things?	0	0	0	0	0
04.	How difficult is it for you to climb stairs?	0	0	0	0	0
05.	How difficult is it for you to make a tight fist?	0	0	0	0	0
06.	How difficult is it for you to get in or out of the bathtub or shower?	0	0	0	0	0
07.	How difficult is it for you to get comfortable to sleep?	0	0	0	0	0
08.	How difficult is it for you to bend or kneel down?	0	0	0	0	0
09.	How difficult is it for you to use buttons, snaps, hooks, or zippers?	0	0	0	0	0
10.	How difficult is it for you to cut your own fingernails?	0	0	0	0	0
11.	How difficult is it for you to dress yourself?	0	0	0	0	0
12.	How difficult is it for you to walk?	0	0	0	0	0
13.	How difficult is it for you to get moving after you have been sitting or lying down?	0	0	0	0	0
14.	How difficult is it for you to go out by yourself?	0	0	0	0	0
15.	How difficult is it for you to drive?	0	0	0	0	0
16.	How difficult is it for you to clean yourself after going to the bathroom?	0	0	0	0	0
17.	How difficult is it for you turn knobs or levers, for example, open doors, roll down car windows?	0	0	0	0	0
18.	How difficult is it for you to write or type?	0	0	0	0	0
19.	How difficult is it for you to pivot?	0	0	0	0	0
20.	How difficult is it for you to do your usual physical recreational activities, such as bicycling, jogging, or walking?	0	0	0	0	0
21.	How difficult is it for you to do your usual leisure activities, such as hobbies, crafts, gardening, card playing, going out with friends?	0	0	0	0	0
22.	How much difficulty are you having with sexual activity?	0	0	0	0	0
23.	How difficult is it for you to do <u>light</u> housework <u>or</u> yardwork, such as dusting, washing dishes, or watering plants?	0	0	0	0	0
24.	How difficult is it for you to do <u>heavy</u> housework <u>or</u> yardwork, such as washing floors, vacuuming, or mowing lawns?	0	0	0	0	0
25.	How difficult is it for you to do your usual work, such as a paid job, housework, volunteer activities?	0	0	0	0	0

Patient Study ID =	_	
Follow Up Visit Date (MM/DD/YY) =		

1116	These next questions ask how often you experienced problems <u>before</u> your sacral injury.							
		None of the time	A little of the time	Some of the time	Most of the time	All of the time		
26.	How often do you walk with a limp?	0	0	0	0	0		
27.	How often do you avoid using your painful limb(s) or back?	0	0	0	0	0		
28.	How often does your leg lock or give-way?	0	0	0	0	0		
29.	How often do you have problems with concentration?	0	0	0	0	0		
30.	How often does doing too much in one day affect what you do the next day?	0	0	0	0	0		
31.	How often do you act irritable toward those around you, for example, snap at people, give sharp answers, or criticize easily?	0	0	0	0	0		
32.	How often are you tired?	0	0	0	0	0		
33.	How often do you feel disabled?	0	0	0	0	0		
34.	How often do you feel angry or frustrated that you have this injury or arthritis?	0	0	0	0	0		
The	These next questions are about how much you are bothered by problems you had <u>before</u> your sacral injury.							
	ese next questions are about now much you are bother	ea by proble	ems you ha	d <u>before</u> you	ır sacral inj	ury.		
	much are you bothered by:	Not bothered <u>at all</u>		d <u>before</u> you Moderately <u>bothered</u>	ır sacral inj Very bothered	Extremely bothered		
		Not bothered	A little	Moderately	Very	Extremely		
How	much are you bothered by:	Not bothered <u>at all</u>	A little bothered	Moderately bothered	Very bothered	Extremely bothered		
How 35.	much are you bothered by:  Problems using your hands?	Not bothered at all	A little bothered	Moderately bothered	Very bothered	Extremely bothered		
How 35. 36.	much are you bothered by:  Problems using your hands?  Problems using your back?	Not bothered at all	A little bothered	Moderately bothered	Very bothered	Extremely bothered		
How 35. 36. 37.	much are you bothered by:  Problems using your hands?  Problems using your back?  Problems doing work around your home?  Problems with bathing, dressing, toileting or other personal care?  Problems with sleep and rest?	Not bothered at all	A little bothered	Moderately bothered	Very bothered	Extremely bothered		
How 35. 36. 37. 38.	much are you bothered by:  Problems using your hands?  Problems using your back?  Problems doing work around your home?  Problems with bathing, dressing, toileting or other personal care?  Problems with sleep and rest?  Problems with leisure or recreational activities?	Not bothered at all	A little bothered	Moderately bothered	Very bothered	Extremely bothered  O O O		
How 35. 36. 37. 38.	much are you bothered by:  Problems using your hands?  Problems using your back?  Problems doing work around your home?  Problems with bathing, dressing, toileting or other personal care?  Problems with sleep and rest?  Problems with leisure or recreational activities?  Problems with your friends, family or other important people in your life?	Not bothered at all	A little bothered	Moderately bothered	Very bothered	Extremely bothered		
How 35. 36. 37. 38.	much are you bothered by:  Problems using your hands?  Problems using your back?  Problems doing work around your home?  Problems with bathing, dressing, toileting or other personal care?  Problems with sleep and rest?  Problems with leisure or recreational activities?  Problems with your friends, family or other important	Not bothered at all	A little bothered	Moderately bothered	Very bothered	Extremely bothered		
How 35. 36. 37. 38. 39. 40.	much are you bothered by:  Problems using your hands?  Problems using your back?  Problems doing work around your home?  Problems with bathing, dressing, toileting or other personal care?  Problems with sleep and rest?  Problems with leisure or recreational activities?  Problems with your friends, family or other important people in your life?	Not bothered at all	A little bothered	Moderately bothered  O O O O O O O O O O O O O O O O O O	Very bothered	Extremely bothered  O O O O O O O O O O O O O O O O O O		
How 35. 36. 37. 38. 39. 40. 41. 42.	much are you bothered by:  Problems using your hands?  Problems using your back?  Problems doing work around your home?  Problems with bathing, dressing, toileting or other personal care?  Problems with sleep and rest?  Problems with leisure or recreational activities?  Problems with your friends, family or other important people in your life?  Problems with thinking, concentrating or remembering?  Problems adjusting or coping with your injury or arthritis?  Problems doing your usual work?	Not bothered at all	A little bothered	Moderately bothered  O O O O O O O O O O O O O O O O O O	Very bothered	Extremely bothered  O O O O O O O O O O O O O O O O O O		
How 35. 36. 37. 38. 39. 40. 41. 42.	much are you bothered by:  Problems using your hands?  Problems using your back?  Problems doing work around your home?  Problems with bathing, dressing, toileting or other personal care?  Problems with sleep and rest?  Problems with leisure or recreational activities?  Problems with your friends, family or other important people in your life?  Problems with thinking, concentrating or remembering?  Problems adjusting or coping with your injury or arthritis?	Not bothered at all	A little bothered	Moderately bothered  O O O O O O O O O O O O O O O O O O	Very bothered	Extremely bothered  O O O O O O O O O O O O O O O O O O		

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Patie	Patient Study ID =	
Date	Date Completed (MM/DD/YY) =	ompleted By:
01.	SACRAL FRACT  ○ Non-operative → If yes, form is complete.  ○ Operative → If yes, complete next section.	URES
	Complete questions 01-13 for sacral frac	tures treated operatively
<u>Pati</u> 01.	Patient Positioning and Exposure  1. Patient positioning  Supine Prone Lateral	
02.		tion 4
03.	O3. If "open reduction", what was the surgical approach?  O Vertical paramedian  O Midline exposure  O Transverse	
Red	Reduction	
If cla <b>04.</b>	f closed reduction, answer 04.  4. Closed Reduction achieved via  Patient positioning only (i.e., in situ fixation)  Supine positioning with weights via distal femoral traction  Supine positioning with contralateral pelvic stabilization to Prone positioning with contralateral pelvic stabilization to Prone positioning with contralateral pelvic stabilization to	o a fracture table (eg Pro-FX or similar)
If op <b>05.</b>	f open reduction, answer 05.  Open Reduction achieved via (mark all that apply)  Contralateral pelvic stabilization to a fracture table (eg Property Schantz pin (or similar) placed into the PSIS for manipular Jungbluth clamp (with 3.5 or 4.5)  Clamp(s) from the ilium to the sacrum  Clamp(s) from the ilium to the ilium	

Please continue on next page

Patient Study ID =	
Date Completed (MM/DD/YY) =	Completed By:

### 06. Fill in the chart below with the implants used

	DIAMETER	LENGTH	THREADS	THREAD SIZE
<b>S1</b>	mm	mm	O Full O Partial	mm
S1	mm	mm	O Full O Partial	mm
S1	mm	mm	O Full O Partial	mm
<b>S2</b>	mm	mm	O Full O Partial	mm
S2	mm	mm	O Full O Partial	mm

S1	mm	mm	O Full O I	Partial	mm				
<b>S2</b>	mm	mm	O Full O I	Partial	mm				
<b>S2</b>	mm	mm	O Full O I	Partial	mm				
•		•		•	•				
07. If te	nsion band plate use	ed, what type?							
0	3.5 mm recon plate								
0	4.5 mm recon plate								
0	3.5 mm DCP, LCD	CP (or similar)							
0	4.5 mm DCP, LCD	CP (or similar)							
_		w(s) used, what type							
O		e diameter pin (Skip to							
0	Transiliac partially	or fully threaded scre	w(s)						
O TC//	4. 11 . 6.11 . 1	1 14 11	•• • •		1 11				
_		aded transiliac screw	", specify numb	er, length	i, and diameter				
		#							
<b>b. Length</b> mm									
c. Diameter mm									
c. D	iameter	=							
		-	to what laval?						
10. For	lumbopelvic fixation	n, proximal extension	to what level?						
10. For	lumbopelvic fixation L5	-	to what level?						
10. For	lumbopelvic fixation L5 L4	-	to what level?						
10. For	lumbopelvic fixation L5	-	to what level?						
10. For O	lumbopelvic fixation L5 L4 L3	n, proximal extension	to what level?						
10. For O	lumbopelvic fixation L5 L4 L3 sacral decompression	n, proximal extension	to what level?						
10. For O O O O O O O O O O O O O O O O O O O	lumbopelvic fixation L5 L4 L3 sacral decompression	n, proximal extension on performed?	to what level?						
10. For	lumbopelvic fixation L5 L4 L3 sacral decompression	n, proximal extension on performed?	to what level?						
10. For	lumbopelvic fixation L5 L4 L3 sacral decompression Yes No (Skip to question	n, proximal extension on performed?		s? (Mark o	all that apply)				
10. For	lumbopelvic fixation L5 L4 L3 sacral decompression Yes No (Skip to question	on performed?		s? (Mark d	all that apply)				
10. For	lumbopelvic fixation L5 L4 L3 sacral decompression Yes No (Skip to question	on performed?		s? (Mark d	all that apply)				

Please continue on next page

Ο

S2 S3

Completed By:

Patient S	Study ID =					
Date Co	mpleted (MM/DD/YY) =	Completed By:				
	ANTEDIOD	DING INHIDY				
		R RING INJURY				
	Complete questions 13-19 for anterior ring injury treated operatively					
	Positioning and Exposure					
_	fixation performed?					
0	Yes No					
O	NO					
14. Tecl	nnique for reduction					
0	Open (anterior surgical exposure)					
0	Closed (no surgical exposure for reduction)					
15. If "c	pen reduction", what was the surgical approac	h?				
0	Pfannenstiehl or Stoppa					
0	Illoinguinal (e.g. middle window)					
0	Iliac					
0	Other					
Doducti	on.					
Reducti	on l Reduction, answer 16.					
U	ed reduction achieved via:					
0	Patient positioning only (i.e. in situ fixation)					
Ö	External fixation					
Ö	Percutaneous bone hook or schantz pin					
0	Femoral distraction					
0	Limb skeletal traction					
If Open	reduction, answer 17					
	n reduction achieved via:					
0	Direct visual reduction with clamp application					
0	Indirect manipulation with external fixation					
0	Other					
Implant	s Usad					
	s Oseu l Reduction, answer 18.					
U	lants used after Closed Reduction					
O	3.5 mm cortical screws (e.g. retrograde ramus so	crews)				
$\circ$	4.5 mm cortical screws (e.g. retrograde ramus so					
$\circ$	External fixation	,				
If Onan	Reduction, answer 19.					
	lants used after Open Reduction (Mark all that a	apply)				
$\bigcirc$	3.5 mm reconstruction plate	··rr ·//				
Ö	3.5 mm locking plate					
$\circ$	3.5 mm DCP or LCDCP (or similar)					
0	3.5mm cortical ramus screw					
$\circ$	4.5 mm cortical ramus screw					
0	External fixation					

Please continue on next page

Pat	tient S	tudy ID =					
Date Completed (MM/DD/YY) =					Completed By:		
			Co	mplete qu	estions 2	0-29 for ALI	<u>C</u>
21.	a. Da b. Ti Date a. Da b. Ti	ate/AN ime:AN and time of definitive fix ate// ime:AN ath of surgery (skin to skin	(MN / PM (cire ation / M / PM (cire ation / M / PM (cire at / PM (cire at / PM / P	M/DD/YY) rcle one)  M/DD/YY) rcle one)	or), date	and time or i	irrigation and debridement
23.	Fluo	roscopy time	seconds				
Ad	<u>lditior</u>	nal surgical procedures	None	Right	Left	Bilateral	
24.	Fixa fract	tion of upper extremity ure	0	0	0	0	
25.	Fixat fract	tion of lower extremity ure	0	0	0	0	
26.	Fixa	tion of spine fracture	0	0	0	0	
28.	OY Did (	the patient have abdoming fes O No  the patient have any other Yes (Specify):	r surgical	procedure 	s?		
<i>2</i> ),		None	(Wark an	інаі арріу)			
	$\circ$	Irrigation and debriden	nent				
	0	VAC placement					
	0	Additional fixation Other (Specify below)					

Please continue on next page

Patient Study ID =								
Date Completed (MM/DD/YY) =	Completed By:	Completed By:						
POSTOPE	RATIVE EVALUATION							
<b>01. If iliosacral screw(s) used,</b> (Mark all that apply	y for each screw)							
Complete a. – e. for each screw used	_		acral Sc		_			
	$\frac{1}{\circ}$		$\frac{3}{\bigcirc}$	<u>4</u>	5			
<ul><li>a. Screw Position Safe (complete intraosseus)</li><li>b. Screw juxtaforaminal at S1, S2, or S3</li></ul>	0	0	0	0	0			
c. Screw violates the neuroforaminal tunnel	O	0	0	0	$\overline{}$			
d. Screw violates the neurologammar tunner	0	0	0	0	<del></del>			
e. Screw violates the anterior sacral cortex	0	0	0	0	0			
<b>O2. If tension band plate used,</b> Hardware is well-positioned and without of Hardware error (describe):	error							
03. If transiliac bars or plates used, O Hardware is well-positioned and without of Hardware error (describe):	error							
04. If lumbopelvic fixation used,  O Hardware is well-positioned and without of the Hardware error (describe):	error							

Patient S	Study ID =	
Date Completed (MM/DD/YY) =		
	TREAT	MENT DECISION
1. If the	e patient was treated operatively, what was	the <u>primary</u> reason you chose this treatment? (Please check one)
0000000000	Deformity unacceptable upon presentation Prevention of potential deformity (presume Acute Pain relief Avoidance of future pain Unable to mobilize without fixation Instability as assessed on a push pull radio Multiple trauma patient Neurologic deficit For stabilization due to soft tissue injury Other:	
	ne patient was treated operatively, what nent? (Please circle one)	was the <u>second</u> most important reason you chose this
0000000000	Deformity unacceptable upon presentation Prevention of potential deformity (presume Acute Pain relief Avoidance of future pain Unable to mobilize without fixation Instability as assessed on a push pull radiog Multiple trauma patient Neurologic deficit For stabilization due to soft tissue injury Other:	

# **Sacral Fracture Study**

#### **Data Collection Grid**

Case Report Form	Completed By	Pre- Injury	Day of Surgery	Post-Tx (24hrs)	1 <sup>2</sup> week	3 <sup>2</sup> weeks	6 weeks	3 то	6 то	12 mo	24 mo
Inclusion/Exclusion Criteria	Physician	X									
Patient Information Form	Physician	X									
Patient Injury Form	Physician	X									
Fracture Characteristics Form	Physician	X									
Radiographic Evaluation Form	Physician	X (inc. CT)		X <sup>1</sup> (3 Views)			X (AP only)	X (3 Views)	X (AP <sup>4</sup> )	X (AP only)	
Majeed Pelvic Score	Patient	X						X	X	X	X
SMFA	Patient	X						X	X	X	X
VAS	Patient	X		$X^3$	X	X	X	X	X	X	X
Treatment Summary	Physician		$X^3$								
Follow-up Clinical Evaluation	Physician						X	X	X	X	X
Adverse Event	Physician				_	As	Needed				

- 1 Operative patients only
- 2 Can be done by mail
- 3 For all patients regrardless of treatment
- 4 Inlet and Outlet required only if change in reduction