Microfracture technique – Patient Assessment and Progress Sheet

Patient Sticker

Thank you for taking the time to answer these questions which should only take a few minutes. The answers you give are very useful as they will help us assess your progress following your surgery. If you have any difficulties with the questions please feel free to ask a member of staff for help.

Once you have filled in the form please hand it to the nurse or doctor in clinic and they will file it in your notes

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Date Today			
Your Age			
Your Occupation			
Date of Injury			
Side of injury (left or right)			
If you smoke, how many a day?			
Your Weight		BMI	
Your Height		ASA	

The Tegner Activity Score

Please Tick the maximum activity level which best describes you…

	Pre Injury	Pre Surgery	Post Surgery	
10				*Competitive sports*- soccer, football, rugby (national elite)
9				*Competitive sports*- soccer, football, rugby (lower divisions), ice hockey, wrestling, gymnastics, basketball
8				*Competitive sports*- racquetball or bandy, squash or badminton, track and field athletics (jumping, etc.), down-hill skiing
7				*Competitive sports*- tennis, running, motorcars speedway, handball *Recreational sports*- soccer, football, rugby, bandy, ice hockey, basketball, squash, racquetball, running
6				*Recreational sports*- tennis and badminton, handball, racquetball, down-hill skiing, jogging at least 5 times per week
5				*Work*- heavy labour (construction, etc.) *Competitive sports*- cycling, cross-country skiing, *Recreational sports*- jogging on uneven ground at least twice weekly
4				*Work* - moderately heavy labour (e.g. truck driving, etc.)
3				*Work* - light labour (nursing, etc.)
2				*Work* - light labour Walking on uneven ground possible, but impossible to back pack or hike
1				*Work* - sedentary (secretarial, etc.)
0				Sick leave or disability pension because of knee problems

The Lysholm Knee Scoring Scale

During the past 4 weeks.....

Section 1 –Limp	Section 2 -Support
None	None
Slight or periodical	Stick or crutch
Severe and constant	Weight-bearing impossible

Section 3 – Pain	Section 4 - Instability
None	Never giving way
Inconstant and slight during severe exertion	Rarely during athletics or other severe exertion
Marked during severe exertion	Frequently during athletics or other severe exertion (or incapable of participation)
Marked on or after walking more than 2 km	Occasionally in daily activities
Marked on or after walking less than 2 km	Often in daily activities
Constant	Every step

Section 5 –Locking	Section 6 - Swelling
No locking and no catching sensations	None
Catching sensation but no locking	On severe exertion
Locking Occasionally	On ordinary exertion
Frequently	Constant
Locked joint on examination	

Section 7 - Stair-climbing	Section 8 - Squatting
No problems	No problems
Slightly impaired	Slightly impaired
One step at a time	Not beyond 90°
Impossible	Impossible

The IKDC Evaluation Form

SYMPTOMS*:

*Grade symptoms at the highest activity level at which you think you could function without significant symptoms, even if you are not actually performing activities at this level…

1. What is the highest level of activity that you can perform without significant knee pain?

   4❑Very strenuous activities like jumping or pivoting as in basketball or soccer
   3❑Strenuous activities like heavy physical work, skiing or tennis
   2❑Moderate activities like moderate physical work, running or jogging
   1❑Light activities like walking, housework or yard work
   0❑Unable to perform any of the above activities due to knee pain

2. During the past 4 weeks, or since your injury, how often have you had pain?

	10	9	8	7	6	5	4	3	2	1	0	
Never	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	Constant

3. If you have pain, how severe is it?

	10	9	8	7	6	5	4	3	2	1	0	
No pain	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	Worst pain imaginable

4. During the past 4 weeks, or since your injury, how stiff or swollen was your knee?

   4❑Not at all
   3❑Mildly
   2❑Moderately
   1❑Very
   0❑Extremely

5. What is the highest level of activity you can perform without significant swelling in your knee?

   4❑Very strenuous activities like jumping or pivoting as in basketball or soccer
   3❑Strenuous activities like heavy physical work, skiing or tennis
   2❑Moderate activities like moderate physical work, running or jogging
   1❑Light activities like walking, housework, or yard work
   0❑Unable to perform any of the above activities due to knee swelling

6. During the <u>past 4 weeks</u>, or since your injury, did your knee lock or catch?

   0❑Yes 1❑No

7. What is the highest level of activity you can perform without significant giving way in your knee?

   4❑Very strenuous activities like jumping or pivoting as in basketball or soccer
   3❑Strenuous activities like heavy physical work, skiing or tennis
   2❑Moderate activities like moderate physical work, running or jogging
   1❑Light activities like walking, housework or yard work
   0❑Unable to perform any of the above activities due to giving way of the knee

<u>SPORTS ACTIVITIES</u>:

8. What is the highest level of activity you can participate in on a regular basis?

   4❑Very strenuous activities like jumping or pivoting as in basketball or soccer
   3❑Strenuous activities like heavy physical work, skiing or tennis
   2❑Moderate activities like moderate physical work, running or jogging
   1❑Light activities like walking, housework or yard work
   0❑Unable to perform any of the above activities due to knee

9. How does your knee affect your ability to:

		Not difficult at all	Minimally difficult	Moderately Difficult	Extremely difficult	Unable to do
a.	Go up stairs	4❑	3❑	2❑	1❑	0❑
b.	Go down stairs	4❑	3❑	2❑	1❑	0❑
c.	Kneel on the front of your knee	4❑	3❑	2❑	1❑	0❑
d.	Squat	4❑	3❑	2❑	1❑	0❑
e.	Sit with your knee bent	4❑	3❑	2❑	1❑	0❑
f.	Rise from a chair	4❑	3❑	2❑	1❑	0❑
g.	Run straight ahead	4❑	3❑	2❑	1❑	0❑
h.	Jump and land on your involved leg	4❑	3❑	2❑	1❑	0❑
i.	Stop and start quickly	4❑	3❑	2❑	1❑	0❑

FUNCTION:

10. How would you rate the function of your knee on a scale of 0 to 10 with 10 being normal, excellent function and 0 being the inability to perform any of your usual daily activities which may include sports?

FUNCTION PRIOR TO YOUR KNEE INJURY:

Couldn't perform daily activities	0	1	2	3	4	5	6	7	8	9	10	No limit in daily activities
	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	

CURRENT FUNCTION OF YOUR KNEE:

Can't perform daily activities	0	1	2	3	4	5	6	7	8	9	10	No limit in daily activities
	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	

Thank you for taking the time to answer all the above questions which will prove very useful in helping us to assess your progress following surgery. If you have any comments which you feel we should know about then please write them in the box below or discuss with your surgeon in the clinic….

Comments…

The following pages will be filled in by your surgeon, you do **not** need to answer these questions…

2000

IKDC KNEE EXAMINATION FORM

Generalized Laxity:	q tight	q normal	q lax	
Alignment:	q obvious varus	q normal	q obvious valgus	
Patella Position:	q obvious baja	q normal	q obvious alta	
Patella Subluxation/Dislocation:	q centered	q subluxable	q subluxed	q dislocated
Range of Motion (Ext/Flex):	Index Side:	passive_____/_____/_____	active_____/_____/_____	
	Opposite Side:	passive_____/_____/_____	active_____/_____/_____	

SEVEN GROUPS ***FOUR GRADES*** ****Group***

		A Normal	B Nearly Normal	C Abnormal	D Severely Abnormal	Grade A	B	C	D
1.	**Effusion**	q None	q Mild	q Moderate	q Severe	q	q	q	q
2.	**Passive Motion Deficit**								
	ΔLack of extension	q <3°	q 3 to 5°	q 6 to 10°	q >10°				
	ΔLack of flexion	q 0 to 5°	q 6 to 15°	q 16 to 25°	q >25°	q	q	q	q
3.	**Ligament Examination**								
	(manual, instrumented, x-ray)								
	ΔLachman (25° flex) (134N)	q -1 to 2mm	q 3 to 5mm(1^+)	q 6 to 10mm(2^+)	q >10mm(3^+)				
			q <-1 to –3	q <-3 stiff					
	ΔLachman (25° flex) manual max	q -1 to 2mm	q 3 to 5mm	q 6 to 10mm	q >10mm				
	Anterior endpoint:	q firm		q soft					
	ΔTotal AP Translation (25° flex)	q 0 to 2mm	q 3 to 5mm	q 6 to 10mm	q >10mm				
	ΔTotal AP Translation (70° flex)	q 0 to 2mm	q 3 to 5mm	q 6 to 10mm	q >10mm				
	ΔPosterior Drawer Test (70° flex)	q 0 to 2mm	q 3 to 5mm	q 6 to 10mm	q >10mm				
	ΔMed Joint Opening (20° flex/valgus rot)	q 0 to 2mm	q 3 to 5mm	q 6 to 10mm	q >10mm				
	ΔLat Joint Opening (20° flex/varus rot)	q 0 to 2mm	q 3 to 5mm	q 6 to 10mm	q >10mm				
	ΔExternal Rotation Test (30° flex prone)	q <5°	q 6 to 10°	q 11 to 19°	q >20°				
	ΔExternal Rotation Test (90° flex prone)	q <5°	q 6 to 10°	q 11 to 19°	q >20°				
	ΔPivot Shift	q equal	q +glide	q ++(clunk)	q +++(gross)				
	ΔReverse Pivot Shift	q equal	q glide	q gross	q marked				
						q	q	q	q
4.	**Compartment Findings**			crepitation with					
	ΔCrepitus Ant. Compartment	q none	q moderate	q mild pain	q >mild pain				
	ΔCrepitus Med. Compartment	q none	q moderate	q mild pain	q >mild pain				
	ΔCrepitus Lat. Compartment	q none	q moderate	q mild pain	q >mild pain				
5.	**Harvest Site Pathology**	q none	q mild	q moderate	q severe				
6.	**X-ray Findings**								
	Med. Joint Space	q none	q mild	q moderate	q severe				
	Lat. Joint Space	q none	q mild	q moderate	q severe				
	Patellofemoral	q none	q mild	q moderate	q severe				
	Ant. Joint Space (sagittal)	q none	q mild	q moderate	q severe				
	Post. Joint Space (sagittal)	q none	q mild	q moderate	q severe				
7.	**Functional Test**								
	One Leg Hop (% of opposite side)	q ≥ 90%	q 89 to 76%	q 75 to 50%	q <50%				

****Final Evaluation** q q q q

* Group grade: The lowest grade within a group determines the group grade

** Final evaluation: the worst group grade determines the final evaluation for acute and subacute patients. For chronic patients compare preoperative and postoperative evaluations. In a final evaluation only the first 3 groups are evaluated but all groups must be documented. Δ Difference in involved knee compared to normal or what is assumed to be normal.

INSTRUCTIONS FOR THE 2000 IKDC KNEE EXAMINATION FORM

The Knee Examination Form contains items that fall into one of seven measurement domains. However, only the first three of these domains are graded. The seven domains assessed by the Knee Examination Form are:

1. *Effusion*
   An effusion is assessed by ballotting the knee. A fluid wave (less than 25 cc) is graded mild, easily ballotteable fluid – moderate (25-60 cc), and a tense knee secondary to effusion (greater than 60 cc) is rated severe.

2. *Passive Motion Deficit*
   Passive range of motion is measured with a gonimeter and recorded on the form for the index side and opposite or normal side. Record values for zero point/hyperextension/flexion (e.g. 10 degrees of hyperextension, 150 degrees of flexion = 10/0/150; 10 degrees of flexion to 150 degrees of flexion = 0/10/150). Extension is compared to that of the normal knee.

3. *Ligament Examination*
   The Lachman test, total AP translation at 70 degrees, and medial and lateral joint opening may be assessed with manual, instrumented or stress x-ray examination. Only one should be graded, preferably a "measured displacement". A force of 134 N (30 lbs) and the maximum manual are recorded in instrumented examination of both knees. Only the measured displacement at the standard force of 134 N is used for grading. The numerical values for the side to side difference are rounded off, and the appropriate box is marked.

   The end point is assessed in the Lachman test. The end point affects the grading when the index knee has 3-5 mm more anterior laxity than the normal knee. In this case, a soft end point results in an abnormal grade rather than a nearly normal grade.

   The 70-degree posterior sag is estimated by comparing the profile of the injured knee to the normal knee and palpating the medial femoral tibial stepoff. It may be confirmed by noting that contraction of the quadriceps pulls the tibia anteriorly.

   The external rotation tests are performed with the patient prone and the knee flexed 30° and 70°.
   Equal external rotational torque is applied to both feet and the degree of external rotation is recorded.

   The pivot shift and reverse pivot shift are performed with the patient supine, with the hip in 10-20 degrees of abduction and the tibia in neutral rotation using either the Losee, Noyes, or Jakob techniques. The greatest subluxation, compared to the normal knee, should be recorded.

4. *Compartment Findings*
   Patellofemoral crepitation is elicited by extension against slight resistance. Medial and lateral compartment crepitation is elicited by extending the knee from a flexed position with a varus stress and then a valgus stress (i.e., McMurray test). Grading is based on intensity and pain.

5. *Harvest Site Pathology*
   Note tenderness, irritation or numbness at the autograft harvest site.

6. *X-ray Findings*
   A bilateral, double leg PA weight bearing roentgenogram at 35-45 degrees of flexion (tunnel view) is used to evaluate narrowing of the medial and lateral joint spaces. The Merchant view at 45 degrees is used to document patellofemoral narrowing. A mild grade indicates minimal changes (i.e., small osteophytes, slight sclerosis or flattening of the femoral condyle) and narrowing of the joint space which is just detectable. A moderate grade may have those changes and joint space narrowing (e.g., a joint space of 2-4 mm side or up to 50% joint space narrowing). Severe changes include a joint space of less than 2 mm or greater than 50% joint space narrowing.

7. *Functional Test*
   The patient is asked to perform a one leg hop for distance on the index and normal side. Three trials for each leg are recorded and averaged. A ratio of the index to normal knee is calculated.