Singapore English and Chinese versions of the KOOS

Singapore English and Chinese versions of the KOOS were culturally adapted from the source English version (version LK 1.0) following recommended cross-cultural translation and adaptation guidelines (1), and with input from the instrument developer (Dr Ewa Roos).

Both versions were well accepted by patients in pilot testing and were subsequently administered to a consecutive sample of 127 English and 131 Chinese-speaking Singaporeans with knee osteoarthritis. Cronbach's alpha exceeded 0.7 for all domains except for Chinese pain and symptoms domains. Intra-class correlations exceeded 0.7 for all domains except English sport and recreation and Chinese knee-related QoL domains. Hypothesized item-to-domain correlations (Spearman's $\rho \geq 0.4$) were observed for 38 items in English and 29 in Chinese versions respectively. Convergent construct validity was supported by the presence of hypothesized moderate/strong correlations (ρ=0.37-0.65) for 13 and 11 *a-priori* hypotheses in the English and Chinese versions, respectively. Divergent construct validity was supported by the presence of weak correlations (ρ=0.02-0.34) for 12 and 11 *a-priori* hypotheses in the English and Chinese versions respectively (2).

For further information about Singapore English and Chinese versions of the KOOS, please contact:

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References:

1. Guillemin F, Bombardier C, Beaton D. Cross cultural adaptations of health related quality of life measures: literature review and proposed guidelines. J Clin Epidemiol 1993;46:1417-32.
2. Xie F, Li SC, Roos E, Fong KY, Lo NN, Yeo SJ, Yang KY, Yeo W, Chong HC, Thumboo J. Cross-Cultural Adaptation and Validation of Singapore English and Chinese Versions of the Knee Injury and Osteoarthritis Outcome Score (KOOS) in Asians with Knee Osteoarthritis in Singapore. *Osteoarthritis Cartilage*, In press, 2006.

KOOS KNEE SURVEY

Today's date:_____/_____/_____ Date of birth: _____/_____/_____

Name: _____

INSTRUCTIONS: This survey asks for your view about your knee. This information will help us keep track of how you feel about your knee and how well you are able to do your usual activities.
Answer every question by ticking the appropriate box, only one box for each question. If you are unsure about how to answer a question, please give the best answer you can.

Symptoms

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

S1. Do you have swelling in your knee?

Never	Rarely	Sometimes	Often	Always
❑	❑	❑	❑	❑

S2. Do you feel grinding/friction, hear clicking/cracking or any other type of noise when your knee moves?

Never	Rarely	Sometimes	Often	Always
❑	❑	❑	❑	❑

S3. Does your knee jam or lock when moving?

Never	Rarely	Sometimes	Often	Always
❑	❑	❑	❑	❑

S4. Can you straighten your knee fully?

Always	Often	Sometimes	Rarely	Never
❑	❑	❑	❑	❑

S5. Can you bend your knee fully?

Always	Often	Sometimes	Rarely	Never
❑	❑	❑	❑	❑

Stiffness

The following questions concern the amount of joint stiffness you have experienced during the **last week** in your knee. Stiffness is a sensation of restriction or slowness in the ease with which you move your knee joint.

S6. How severe is your knee joint stiffness after first wakening in the morning?

None	Mild	Moderate	Severe	Extreme
❑	❑	❑	❑	❑

S7. How severe is your knee stiffness after sitting, lying or resting **later in the day**?

None	Mild	Moderate	Severe	Extreme
❑	❑	❑	❑	❑

Pain

P1. How often do you experience knee pain?

Never	Monthly	Weekly	Daily	Always
❑	❑	❑	❑	❑

What amount of knee pain have you experienced in the **last week** during the following activities?

P2. Twisting/pivoting on your knee

None	Mild	Moderate	Severe	Extreme
❑	❑	❑	❑	❑

P3. Straightening knee fully

None	Mild	Moderate	Severe	Extreme
❑	❑	❑	❑	❑

P4. Bending knee fully

None	Mild	Moderate	Severe	Extreme
❑	❑	❑	❑	❑

P5. Walking on flat surface

None	Mild	Moderate	Severe	Extreme
❑	❑	❑	❑	❑

P6. Going up or down stairs

None	Mild	Moderate	Severe	Extreme
❑	❑	❑	❑	❑

P7. At night while in bed

None	Mild	Moderate	Severe	Extreme
❑	❑	❑	❑	❑

P8. Sitting or lying

None	Mild	Moderate	Severe	Extreme
❑	❑	❑	❑	❑

P9. Standing upright

None	Mild	Moderate	Severe	Extreme
❑	❑	❑	❑	❑

Function, daily living

The following questions concern your physical function. By this we mean your ability to move around and to look after yourself. For each of the following activities please indicate the degree of difficulty you have experienced in the **last week** due to your knee.

A1. Descending stairs

None	Mild	Moderate	Severe	Extreme
❑	❑	❑	❑	❑

A2. Ascending stairs

None	Mild	Moderate	Severe	Extreme
❑	❑	❑	❑	❑

For each of the following activities please indicate the degree of difficulty you have experienced in the **last week** due to your knee.

A3. Rising from sitting

None	Mild	Moderate	Severe	Extreme
❑	❑	❑	❑	❑

A4. Standing

None	Mild	Moderate	Severe	Extreme
❑	❑	❑	❑	❑

A5. Bending to floor/pick up an object

None	Mild	Moderate	Severe	Extreme
❑	❑	❑	❑	❑

A6. Walking on flat surface

None	Mild	Moderate	Severe	Extreme
❑	❑	❑	❑	❑

A7. Getting in/out of car

None	Mild	Moderate	Severe	Extreme
❑	❑	❑	❑	❑

A8. Going shopping

None	Mild	Moderate	Severe	Extreme
❑	❑	❑	❑	❑

A9. Putting on socks/stockings

None	Mild	Moderate	Severe	Extreme
❑	❑	❑	❑	❑

A10. Rising from bed

None	Mild	Moderate	Severe	Extreme
❑	❑	❑	❑	❑

A11. Taking off socks/stockings

None	Mild	Moderate	Severe	Extreme
❑	❑	❑	❑	❑

A12. Lying in bed (turning over, maintaining knee position)

None	Mild	Moderate	Severe	Extreme
❑	❑	❑	❑	❑

A13. Getting in/out of bath

None	Mild	Moderate	Severe	Extreme
❑	❑	❑	❑	❑

A14. Sitting

None	Mild	Moderate	Severe	Extreme
❑	❑	❑	❑	❑

For each of the following activities please indicate the degree of difficulty you have experienced in the **last week** due to your knee.

A15. Getting on/off toilet

None	Mild	Moderate	Severe	Extreme
❑	❑	❑	❑	❑

A16. Heavy domestic duties (moving heavy boxes, scrubbing floors, etc)

None	Mild	Moderate	Severe	Extreme
❑	❑	❑	❑	❑

A17. Light domestic duties (cooking, dusting, etc)

None	Mild	Moderate	Severe	Extreme
❑	❑	❑	❑	❑

Function, sports and recreational activities

The following questions concern your physical function when being active on a higher level. The questions should be answered thinking of what degree of difficulty you have experienced during the **last week** due to your knee.

SP1. Squatting

None	Mild	Moderate	Severe	Extreme
❑	❑	❑	❑	❑

SP2. Running

None	Mild	Moderate	Severe	Extreme
❑	❑	❑	❑	❑

SP3. Jumping

None	Mild	Moderate	Severe	Extreme
❑	❑	❑	❑	❑

SP4. Twisting/pivoting on your injured knee

None	Mild	Moderate	Severe	Extreme
❑	❑	❑	❑	❑

SP5. Kneeling

None	Mild	Moderate	Severe	Extreme
❑	❑	❑	❑	❑

Quality of Life

Q1. How often are you aware of your knee problem?

Never	Monthly	Weekly	Daily	Constantly
❑	❑	❑	❑	❑

Q2. Have you modified your life style to avoid potentially damaging activities to your knee?

Not at all	Mildly	Moderately	Severely	Extremely
❑	❑	❑	❑	❑

Q3. How much are you troubled with lack of confidence in your knee?

Not at all	Mildly	Moderately	Severely	Extremely
❑	❑	❑	❑	❑

Q4. In general, how much difficulty do you have with your knee?

None	Mild	Moderate	Severe	Extreme
❑	❑	❑	❑	❑

Thank you very much for completing all the questions in this questionnaire

KOOS KNEE SURVEY

今天的日期:____/____/_____ 您的出生日期: __（日）/____（月）/_____（年）

姓名 _____

说明:

这个调查会询问一些关于您的膝盖的问题。这些信息将会帮助我们了解您对膝盖的感觉以及您进行日常活动的能力。在回答每个问题时，请在合适的方框内打勾，每题只能选一个答案。如果您不是很确定怎样回答一个问题，请尽量选择一个您认为最好的答案。

症状

请想一下您<u>上个星期</u>膝盖的症状，然后回答这些问题。

S1. 您的膝盖有肿胀吗？

没有	很少有	有时有	经常有	总是有
❑	❑	❑	❑	❑

S2. 在活动您的膝盖时，您有没有感到摩擦，听到喀嚓声或是其他的声音？

没有	很少有	有时有	经常有	总是有
❑	❑	❑	❑	❑

S3. 在您的膝盖活动时，有被卡住或锁住的感觉吗？

没有	很少有	有时有	经常有	总是有
❑	❑	❑	❑	❑

S4. 您能够完全伸直您的膝盖吗？

总是能	经常能	有时能	很少能	从不能
❑	❑	❑	❑	❑

S5. 您能够完全弯曲您的膝盖吗？

总是能	经常能	有时能	很少能	从不能
❑	❑	❑	❑	❑

僵硬

以下的问题是关于<u>上个星期</u>您所感受到膝关节僵硬的程度。僵硬是指在活动膝关节的时候，您感受到行动受到限制或者缓慢。

S6. 早晨当您醒来的时候，您的膝关节僵硬得有多严重？

没有	轻微的	中等的	严重的	非常严重的
❑	❑	❑	❑	❑

S7. 在一天当中的晚些时候,
当您坐下，躺下或休息时，您膝关节僵硬的有多严重？

没有	轻微的	中等的	严重的	非常严重的
❑	❑	❑	❑	❑

疼痛

P1. 您有多经常会感觉到膝盖的疼痛？

没有	每个月	每个星期	每天	总是
❑	❑	❑	❑	❑

上个星期，在以下活动中，您膝盖的疼痛达到何种程度？

P2. 扭动/以膝盖为中心转动

没有	轻微的	中等的	严重的	非常严重的
❑	❑	❑	❑	❑

P3. 完全伸直膝盖

没有	轻微的	中等的	严重的	非常严重的
❑	❑	❑	❑	❑

P4. 完全弯曲膝盖

没有	轻微的	中等的	严重的	非常严重的
❑	❑	❑	❑	❑

P5. 在平坦的路面行走

没有	轻微的	中等的	严重的	非常严重的
❑	❑	❑	❑	❑

P6. 上楼梯或下楼梯

没有	轻微的	中等的	严重的	非常严重的
❑	❑	❑	❑	❑

P7. 晚上在床上的时候

没有	轻微的	中等的	严重的	非常严重的
❑	❑	❑	❑	❑

P8. 坐着或躺着

没有	轻微的	中等的	严重的	非常严重的
❑	❑	❑	❑	❑

P9. 站直

没有	轻微的	中等的	严重的	非常严重的
❑	❑	❑	❑	❑

功能，日常生活

以下的问题是关于您的身体功能的。这些是指您行动和照顾自己的能力。对以下的每项活动，请指出在**上个星期**您因为您的膝盖而感受到的**困难**程度。

A1.下楼梯

没有困难	轻微的困难	中等的困难	非常困难	极其困难
❑	❑	❑	❑	❑

A2.上楼梯

没有困难	轻微的困难	中等的困难	非常困难	极其困难
❑	❑	❑	❑	❑

A3.从坐的姿势起身

没有困难	轻微的困难	中等的困难	非常困难	极其困难
❑	❑	❑	❑	❑

A4.站着

没有困难	轻微的困难	中等的困难	非常困难	极其困难
❑	❑	❑	❑	❑

A5.弯向地面/捡起东西

没有困难	轻微的困难	中等的困难	非常困难	极其困难
❑	❑	❑	❑	❑

A6.在平坦的表面行走

没有困难	轻微的困难	中等的困难	非常困难	极其困难
❑	❑	❑	❑	❑

A7.进/出汽车

没有困难	轻微的困难	中等的困难	非常困难	极其困难
❑	❑	❑	❑	❑

A8.上街购物

没有困难	轻微的困难	中等的困难	非常困难	极其困难
❑	❑	❑	❑	❑

A9.穿短袜/长袜

没有困难	轻微的困难	中等的困难	非常困难	极其困难
❑	❑	❑	❑	❑

A10. 起床

没有困难	轻微的困难	中等的困难	非常困难	极其困难
❑	❑	❑	❑	❑

A11. 脱去短袜/长袜

没有困难	轻微的困难	中等的困难	非常困难	极其困难
❑	❑	❑	❑	❑

对以下的每项活动，请指出在**上个星期**您因为您的膝盖而感受到的**困难**程度。

A12. 躺在床上（翻身，保持膝盖位置）

没有困难	轻微的困难	中等的困难	非常困难	极其困难
❑	❑	❑	❑	❑

A13. 洗澡

没有困难	轻微的困难	中等的困难	非常困难	极其困难
❑	❑	❑	❑	❑

A14. 坐着

没有困难	轻微的困难	中等的困难	非常困难	极其困难
❑	❑	❑	❑	❑

A15. 上厕所

没有困难	轻微的困难	中等的困难	非常困难	极其困难
❑	❑	❑	❑	❑

A16. 重的家务（搬很重的箱子，擦地板，等等）

没有困难	轻微的困难	中等的困难	非常困难	极其困难
❑	❑	❑	❑	❑

A17. 轻的家务（做饭，除尘，等等）

没有困难	轻微的困难	中等的困难	非常困难	极其困难
❑	❑	❑	❑	❑

功能, 体育及娱乐活动

以下这些问题是关于您的身体处在较高活动水准时的功能。请根据**上个星期**您因为膝盖的问题而感受到的**困难**程度来回答这些问题。

SP1. 蹲着

没有困难	轻微的困难	中等的困难	非常困难	极其困难
❑	❑	❑	❑	❑

SP2. 跑步

没有困难	轻微的困难	中等的困难	非常困难	极其困难
❑	❑	❑	❑	❑

SP3. 跳跃

没有困难	轻微的困难	中等的困难	非常困难	极其困难
❑	❑	❑	❑	❑

SP4. 扭动/ 以膝盖为中心转动

没有困难	轻微的困难	中等的困难	非常困难	极其困难
❑	❑	❑	❑	❑

SP5. 跪下

没有困难	轻微的困难	中等的困难	非常困难	极其困难
❑	❑	❑	❑	❑

生活质量

Q1.您有多经常会意识到您的膝盖问题？

从不	每月	每周	每天	一直
❑	❑	❑	❑	❑

Q2.为了避免可能伤害到膝盖的活动，您有改过您的生活方式吗？

从没有	稍许有	中度的	很大的	完全改了
❑	❑	❑	❑	❑

Q3.您因为对自己的膝盖缺乏信心而受到的困扰程度有多大？

没有	轻微的	中度的	严重的	极端的
❑	❑	❑	❑	❑

Q4.总的来说，您的膝盖会给您带来多大的困难？

没有困难	轻微的困难	中等的困难	非常困难	极其困难
❑	❑	❑	❑	❑

非常感谢您完成了这份调查中所有的问题