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:

Dr. Julian Thumboo
Senior Consultant, Dept of Rheumatology and Immunology, Singapore General Hospital Adjunct Associate Professor, Yong Lo Lin School of Medicine, National University of Singapore

Mailing Address:
Dept of Rheumatology and Immunology, Singapore General Hospital
Outram Road
Singapore 169608
Phone/ Fax: 65-6326 6893 / 65-6220 7765
E-mail: julian.thumboo@sgh.com.sg

NM'402<"Qp"Lwn{"29"4243"vj g"Ej kpgug"*Ukpi cr qtg+"xgtukqp"qh"MQQU"y cu"wr f cvgf "vq"xgtukqp"402"Vj ku" wr f cvg"kpenwf gf "c"tgxkukqp"vq"vj g"gzr ncpkpi "vgzv, question text and answer options of almost all items of the Chinese questionnaire.

Information about the update can be requested from
Amy Lee
Research Specialist at The Clinician
e-mail: amy@theclinician.com
A full list of changes can be acquired through contacting the webmanager at: webmanager@koos.nu

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膝部调查问卷

问答日期:_____/____/_____出生日期:_____（日）/______（月）/_______（年）

姓名 ____

说明:

这是一份针对您膝部状况的问卷调查。您所提供的答案会帮助我们更好的了解您膝部问题以及您的日常行动能力。请在每项题目选择一个最符合您状况的答案，并在相应的方框内打勾。

症状

请根据您膝部上星期的状况回答以下问题：

S1. 膝部是否有肿胀的状况？

从不	很少	有时	经常	总是
❑	❑	❑	❑	❑

S2. 膝部活动时，是否有感到摩擦，听到喀嚓声或其他声音？

从不	很少	有时	经常	总是
❑	❑	❑	❑	❑

S3. 膝部活动时，是否有被卡住的感觉？

从不	很少	有时	经常	总是
❑	❑	❑	❑	❑

S4. 您能够完全伸直膝部吗？

总是	经常	有时	很少	从不
❑	❑	❑	❑	❑

S5. 您能够完全弯曲膝部吗？

总是	经常	有时	很少	从不
❑	❑	❑	❑	❑

膝关节僵硬

请根据您上星期膝关节僵硬的程度回答以下问题（僵硬是指膝关节活动时感到行动受限或迟钝的程度）：

S6. 早晨醒来时，膝关节僵硬程度？

没有	轻微	中等	严重	非常严重
❑	❑	❑	❑	❑

S7. 每天晚些时候，当您坐、躺或休息时，膝关节僵硬的程度?

没有	轻微	中等	严重	非常严重
❑	❑	❑	❑	❑

疼痛

P1. 您的膝部是否经常感到疼痛?

没有	每月	每周	每天	总是
❑	❑	❑	❑	❑

请根据您上星期在进行以下活动时，根据膝部感受的疼痛程度在相应的方框内打勾。

P2. 扭动/以膝盖为中心转动时

没有	轻微	中等	严重	非常严重
❑	❑	❑	❑	❑

P3. 膝部完全伸直时

没有	轻微	中等	严重	非常严重
❑	❑	❑	❑	❑

P4. 膝部完全弯曲时

没有	轻微	中等	严重	非常严重
❑	❑	❑	❑	❑

P5. 在平坦的路面行走时

没有	轻微	中等	严重	非常严重
❑	❑	❑	❑	❑

P6. 上下楼梯时

没有	轻微	中等	严重	非常严重
❑	❑	❑	❑	❑

P7. 夜晚在床上时

没有	轻微	中等	严重	非常严重
❑	❑	❑	❑	❑

P8. 坐着或躺着时

没有	轻微	中等	严重	非常严重
❑	❑	❑	❑	❑

P9. 直立时

没有	轻微	中等	严重	非常严重
❑	❑	❑	❑	❑

身体机能及日常生活

以下关于身体机能的问题是用来考量您的活动能力以及自我照顾能力。请根据您上星期膝部活动感觉的困难程度来进行回答。

A1. 下楼梯时

没有	轻微	中等	严重	非常严重
❑	❑	❑	❑	❑

A2. 上楼梯

没有	轻微	中等	严重	非常严重
❑	❑	❑	❑	❑

A3. 从坐姿起身时

没有	轻微	中等	严重	非常严重
❑	❑	❑	❑	❑

A4. 站立时

没有	轻微	中等	严重	非常严重
❑	❑	❑	❑	❑

A5. 弯身向地面/捡东西时

没有	轻微	中等	严重	非常严重
❑	❑	❑	❑	❑

A6. 在平坦的路面行走时

没有	轻微	中等	严重	非常严重
❑	❑	❑	❑	❑

A7. 上下车时

没有	轻微	中等	严重	非常严重
❑	❑	❑	❑	❑

A8. 出外购物时

没有	轻微	中等	严重	非常严重
❑	❑	❑	❑	❑

A9. 穿短袜/长袜时

没有	轻微	中等	严重	非常严重
❑	❑	❑	❑	❑

A10. 起床时

没有	轻微	中等	严重	非常严重
❑	❑	❑	❑	❑

A11. 脱去短袜/长袜时

没有	轻微	中等	严重	非常严重
❑	❑	❑	❑	❑

请根据您上星期膝部活动感觉的困难程度来进行回答。

A12. 躺在床上时（翻身，保持膝部姿势）

没有	轻微	中等	严重	非常严重
❑	❑	❑	❑	❑

A13. 洗澡时

没有	轻微	中等	严重	非常严重
❑	❑	❑	❑	❑

A14. 坐着时

没有	轻微	中等	严重	非常严重
❑	❑	❑	❑	❑

A15. 上厕所时

没有	轻微	中等	严重	非常严重
❑	❑	❑	❑	❑

A16. 做繁重的家务劳动时（搬重的箱子，擦地等）

没有	轻微	中等	严重	非常严重
❑	❑	❑	❑	❑

A17. 做轻微的家务劳动时（煮饭，除尘等）

没有	轻微	中等	严重	非常严重
❑	❑	❑	❑	❑

身体机能，体育及娱乐活动

以下问题是用于评估您身体进行较激烈活动时，身体机能的状况。请根据您上星期膝部活动感觉的困难程度来回答以下问题。

SP1. 下蹲时

没有	轻微	中等	严重	非常严重
❑	❑	❑	❑	❑

SP2. 跑步时

没有	轻微	中等	严重	非常严重
❑	❑	❑	❑	❑

SP3. 跳跃时

没有	轻微	中等	严重	非常严重
❑	❑	❑	❑	❑

SP4. 扭动/以受伤的膝盖为中心转动时

没有	轻微	中等	严重	非常严重
❑	❑	❑	❑	❑

SP5. 下跪时

没有	轻微	中等	严重	非常严重
❑	❑	❑	❑	❑

生活素质

Q1. 您会经常感觉到膝部问题吗？

从不	每月	每周	每天	时刻
❑	❑	❑	❑	❑

Q2. 为了避免损伤膝部，您有改变自己的生活方式吗？

完全没有	轻微	中等	严重	完全改变
❑	❑	❑	❑	❑

Q3. 您对膝部缺乏信心而造成困扰的程度

完全没有	轻微	中等	严重	极端严重
❑	❑	❑	❑	❑

Q4. 综上所述，膝部问题给您带来多大的困难？

没有	轻微	中等	严重	非常严重
❑	❑	❑	❑	❑

非常感谢您完成本调查问卷的全部问题