

Supplementary Table 1. Surgeon characteristics and survey responses.

Characteristic	n=23
Age, years, mean (SD)	42.1 (8.4)
Training grade, no. (%)	
Consultant	15 (65)
Trainee	8 (35)
Gender, no. (%)	
Female	5 (22)
Male	18 (78)
Comfort level, median (IQR)	
With tourniquet	10.0 (8.0-10.0)
Without tourniquet	7.0 (4.0-10.0)
Preferred technique, no. (%)	
Tourniquet	8 (35)
No tourniquet	10 (43)
Mixed	5 (22)

Supplementary Table 2. Pairwise comparison weights for each SURG-TLX domain by tourniquet use.

Domain	No tourniquet (n=43) median (IQR)	Tourniquet (n=41) median (IQR)	P Value
Mental Demands	3.0 (2.0–4.0)	4 (3–4)	0.153
Physical Demands	3.0 (1.0–4.0)	1 (0–3)	0.002
Temporal Demands	2.0 (0.0–2.0)	2.0 (1.0–3.0)	0.195
Task Complexity	4.0 (3.0–4.0)	4.0 (3.0–4.0)	0.837
Situational Stress	3.0 (2.0–4.0)	3.0 (1.0–4.0)	0.949
Distractions	1.0 (0.0–3.0)	1.0 (0.5–3.0)	0.264

Values represent the pairwise comparison weight assigned to each SURG-TLX domain (range 0–5), derived from 15 pairwise comparisons per case, where a higher weight indicates the domain was more frequently judged the more demanding/relevant of each pair.

IQR = interquartile range. All comparisons performed using the Mann-Whitney U test.

Bonferroni-corrected significance threshold for six comparisons: $p < 0.0083$. Only Physical Demands (bold) remained significant after correction.

Supplementary Table 3. Correlations between surgical workload (SURG-TLX), field visibility and secondary outcomes, by tourniquet use.

	Outcome	No Tourniquet (n=43)		Tourniquet (n=41)		All (n=84)	
		<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
SURG-TLX	Mental Demand	0.076	0.630	-0.201	0.207	-0.069	0.530
	Physical Demand	0.333	0.029	0.003	0.985	0.173	0.115
	Temporal Demand	0.098	0.533	-0.029	0.859	0.038	0.730
	Task Complexity	0.171	0.274	0.046	0.774	0.077	0.488
	Situational Stress	0.134	0.392	-0.069	0.667	-0.007	0.948
	Distractions	0.123	0.434	-0.115	0.474	0.003	0.978
	Total workload, weighted	0.129	0.409	0.119	0.458	0.113	0.307
	Total workload, unweighted	0.218	0.159	-0.038	0.811	0.074	0.506
	Field visibility	-0.570	<.001	-0.127	0.430	-0.395	<.001
Secondary outcomes	Length of Stay	-0.144	0.356	0.006	0.968	-0.131	0.235
	Surgery Duration*	0.111	0.317	0.039	0.802	0.127	0.428
	Blood loss	0.190	0.227	0.243	0.127	0.278	0.011
	Hb change, absolute*	0.321	0.036	0.214	0.178	0.198	0.071
	Hb change, relative*	0.360	0.018	0.260	0.100	0.242	0.027
	Hct change, absolute*	0.339	0.026	0.340	0.030	0.267	0.014
	Hct change, relative*	0.414	0.006	0.391	0.012	0.325	0.003

*Pearson's correlation

All other correlations performed with Spearman's correlation

A prospective comparison of surgeons' perspectives on tourniquetless surgery in knee replacement, knee osteotomy, and knee trauma surgery – intraoperative experience questionnaire

COMPLETED BY THE **RESEARCHER**

Name of surgeon (first name and surname)

Date of surgery (DD/MM/YYYY) ____/____/____

Time of surgery (HH:MM) ____:____

Hospital:

Type of surgery

☐ Total Knee Replacement

☐ Partial Knee Replacement

☐ High Tibial Knee Osteotomy

☐ Patellofemoral Joint Replacement

☐ Knee Trauma

Laterality

☐ Left

☐ Right

☐ Bilateral

Surgery indication:

Tourniquet Use: Was an above knee tourniquet used during this surgery?

☐ Yes ☐ No

Local adrenaline-based anaesthesia use: Was local adrenaline-based anaesthetic used?

☐ Yes ☐ No

COMPLETED BY THE **SURGEON**

I agree with the information above

☐ Yes

☐ No

Signed _____

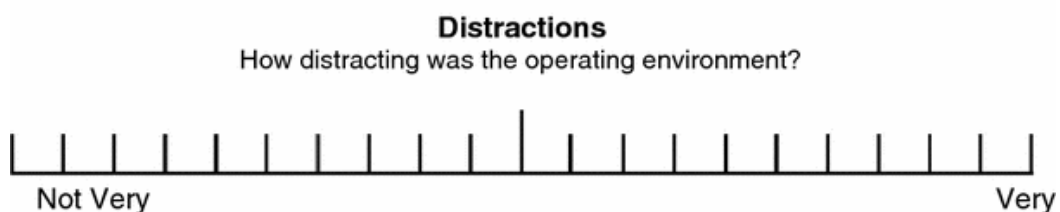
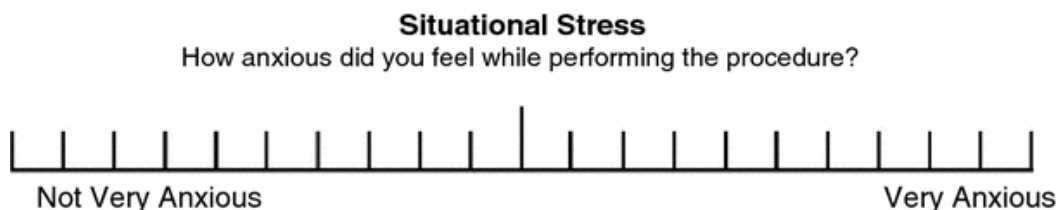
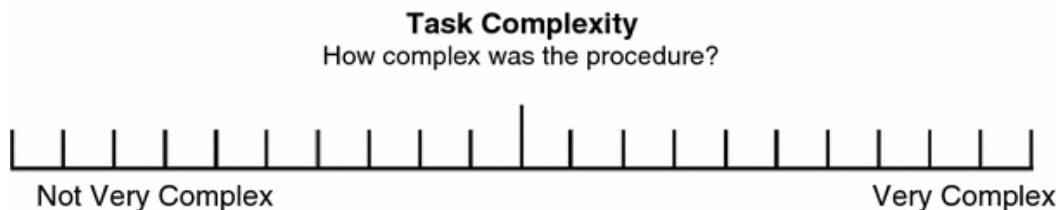
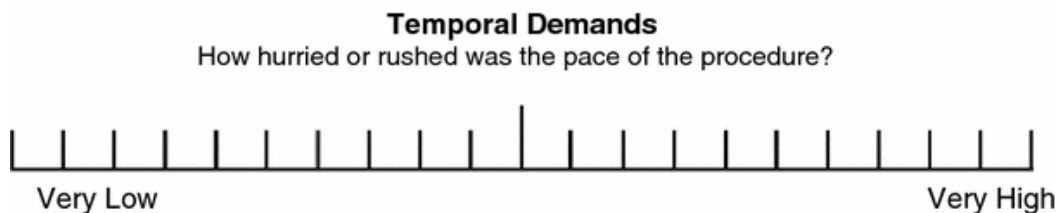
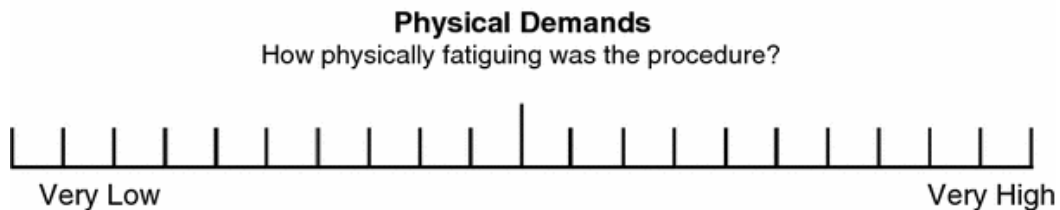
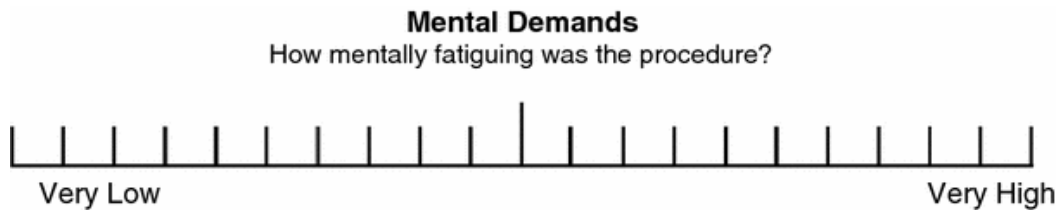
SURG-TLX and Quality of Vision:

Workload Rating

Below are six scales designed to measure the workload experienced during this surgery.

For each scale, please place an 'X' at the line that best reflects your experience (0-20).

Please review each scale's range carefully before marking your response:



Pairwise comparisons

Below are pairs of SURG-TLX domains listed into boxes.

Please circle which domain out of the two in each box you deem most influential to your workload in this procedure.

Task Complexity Or Mental Demand	Distractions Or Situational Stress	Task Complexity Or Distractions
Task Complexity Or Temporal demand	Mental demand Or Situational Stress	Physical Demand Or Distractions
Mental demand Or Physical demand	Situational Stress Or Physical demand	Situational Stress Or Task Complexity
Temporal demand Or Mental demand	Distractions Or Mental demand	Temporal demand Or Distractions
Physical demand Or Temporal demand	Physical demand Or Task Complexity	Temporal demand Or Situational Stress

Likert Scale for Overall Surgical Field Visibility

On the scale below, please circle which visual descriptor best matches the **level of visibility of the surgical field**:



Surgical Challenges:

- Were there any significant challenges you encountered in terms of managing blood loss, maintaining visibility, or handling tissues during the surgery? **Yes / No**
- If yes, please describe the challenges below briefly.

Patient characteristics *(completed by the RESEARCHER)*

Age: _____ Sex: _____ BMI: _____

Pre-op Hb: _____ Pre-op Hc: _____

Surgery start: _____ finish: _____

ASA category: _____

Anaesthesia type: _____

Intraoperative blood loss: _____

Tourniquet cuff pressure and duration: _____

A prospective comparison of surgeons' perspectives on tourniquetless surgery in knee replacement, knee osteotomy, and knee trauma surgery – surgeon background information

1. Name of surgeon (first name and surname) and current training level

2. Age ____

3. Gender _____

4. Dominant hand ☐ Right ☐ Left ☐ Ambidextrous

5. Years of orthopaedic experience since completion of CCT ____

6. Previous experience with tourniquetless surgery

a. Have you performed knee surgeries without the use of a tourniquet before this study?

☐ Yes

☐ No

b. If yes, how many tourniquetless surgeries have you performed?

☐ < 20

☐ >20

7. Comfort level

a. On the scale below please circle how comfortable are you performing knee surgery **without** a tourniquet? (1 = not comfortable at all, 10 = extremely comfortable)

1	2	3	4	5	6	7	8	9	10
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b. On the scale below please circle how comfortable are you performing knee surgery **with** a tourniquet? (1 = not comfortable at all, 10 = extremely comfortable)

1	2	3	4	5	6	7	8	9	10
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