080: MULTIDISCIPLINARY TEAMWORK LEADS TO BETTER CLINICAL OUTCOMES IN THE TOTAL KNEE ARTHROPLASTY PATHWAY IN THE UNIVERSITY HOSPITALS LEUVEN, BELGIUM.

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Objective:
The development, implementation and re-evaluation of a clinical pathway for Total Knee Arthroplasty.

Methods:
Design: A quasi-experimental design was used to evaluate and re-evaluate the outcomes after implementation of the first and second version of a clinical pathway for Total Knee Arthroplasty (TKA).
Process: The pathway was developed and implemented using the 30-step scenario of the Belgian Dutch Clinical Pathway Network. The multidisciplinary team was lead by the orthopedic surgeon. Other team members were the nurse manager, the physiotherapist, the social worker and the clinical pathway facilitators. After the implementation and evaluation of the first version, a second updated and improved version of the pathway was developed and tested. Next to the pathway, an information leaflet and a telephone help line were introduced.
Variables: Outcome indicators were: mobility, pain, patient satisfaction and length of stay.
Sample: 80 patients were included in this study.
Statistical Analysis: descriptive and survival analysis were used to evaluate the outcome indicators, qualitative methods were used to analyze the teamwork.

Results:
After implementation of the first version of the pathway, the length of stay decreased with 20 % and clinical outcome improved significantly. Pain scores increased due to more intensive mobility training. Based on these findings, the pathway was revised. Length of stay decreased another 2 days, mobility scores improved and patient satisfaction stayed very high. The pain scores decreased to the level before the first implementation. A new pain protocol is implemented and the team will follow up the scores twice a day, on the pathway.

Indicator	Baseline (n=26) Median day (CI)	Version 1 (n=28) Median day (CI)	Version 2 (n=26) Median day (CI)
Straight leg raise	7 (CI: 6.8-7.2)	5 (CI: 4.4-5.6)	4 (CI: 2.6-5.4)
Start active training	8 (CI: 7.3-8.6)	7 (CI: 6.5-7.5)	5 (CI: 4.5-5.5)
90° knee flexion	9 (CI: 7.8-10.2)	9 (CI: 8.1-9.9)	8 (CI: 7.0-9.0)
30 m walking	7 (CI: 6.4-7.6)	5 (CI: 4.4-5.6)	5 (CI: 4.4-5.6)
60 m walking	8 (CI: 7.2-8.8)	6 (CI: 5.5-6.5)	6 (CI: 6.0-6.0)
100 m walking	10 (CI: 9.1-10.9)	8 (CI: 7.4-8.6)	6 (CI: 5.6-6.4)
200 m walking	11 (CI: 10.1-11.9)	8 (CI: 7.3-8.7)	7 (CI: 6.5-7.5)
Pain < 3	5 (CI: 3.6-6.4)	10 (CI: 7.6-12.4)	5 (CI: 3.8-6.2)
Length of stay	15 (CI: 14.2-16.4)	12 (CI: 9.9-14.1)	10 (CI: 8.8-11.2)
Statistics: Survival analysis		Kaplan Meier Test	

Table 1: Clinical indicators (median day outcomes were obtained)

The multidisciplinary team didn't change the content of their work by introducing the first version of the pathway. The pathway led to better teamwork because of the transparency of the workflow and coordination of the multidisciplinary team. The second version of the pathway linked the pathway with the patient record. This improved lay out led to less work and better communication within the multidisciplinary team. Based on the outcomes of the first version, a task force was formed to further improve the indicators. Outcome and process indicators are daily followed up by the multidisciplinary team.
This pilot study on a TKA pathway in Belgium was the start of a multi center trial, which includes 16 hospitals from Belgium and The Netherlands. These hospitals will benchmark outcomes and develop an evidence-based pathway for this patient population.

Conclusions:
The first and second version of the TKA pathway improved patient outcomes and length of stay because the team worked more efficiently and focussed on patient outcomes. The development, implementation and evaluation of the TKA pathway, is a continuous quality improvement process. These results can only be obtained when the pathway project is owned and supported by the whole multidisciplinary team and the management. Benchmarking with 15 other hospitals will guide the team to further improve the process and outcome of the team and the patient population.