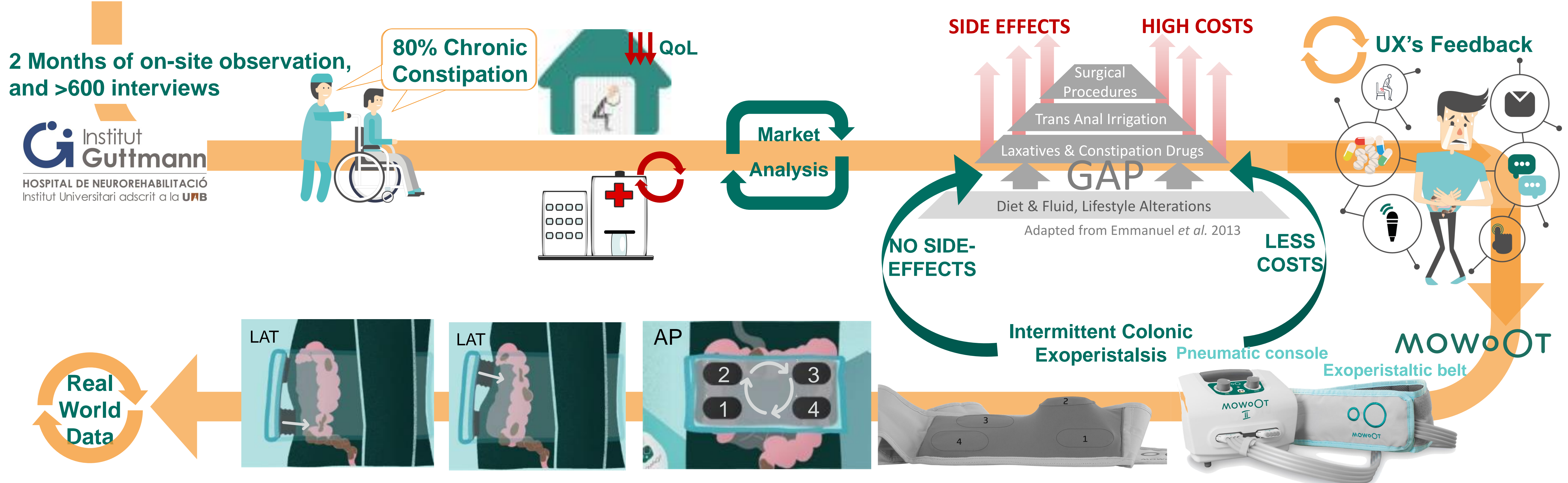


Empowering chronically constipated spinal cord injured patients by allowing them to take control over their bowel management.

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CONTEXT & RELEVANCE. Putting the SCI patients and their feedback in the center of the process, USMIMA (Barcelona, Spain) developed and continuously evolved the MOWOOT system by applying design-thinking methodologies. MOWOOT is the first non-invasive, non-pharmacological solution (medical device) that solves chronic constipation via a novel **intermittent colonic exoperistalsis treatment (I.C.E.)** to the colon.



The belt is placed on the patient's abdominal area to administer the exoperistaltic treatment on the ascending and descending colon, emulating natural peristaltic contractions and colon massage techniques. **The ICE device had already been proven to be safe and effective in a multicentric clinical trial [1].**

AIM. In-use-evaluation at home was performed to obtain real world data on the efficacy, tolerability, and quality of life with the ICE device from the patient's perspective. Patients were recruited in SCI units from 4 German centres [2].

N = 28 (10♀, 18♂) Spinal cord injured (SCI) patients with severe constipation.
 Age: **60,71(2,79)** yr. (min 35; max 75).



10-20 min daily at home
 from **2 weeks to 24 months**

FINDINGS:

All the assessed variables ameliorated with the treatment and got better over time. The **significant reduction in time spent per evacuation** together with the **increase in bowel movements**, improved the **satisfaction** of patients with **their bowel function and management** with MOWOOT.

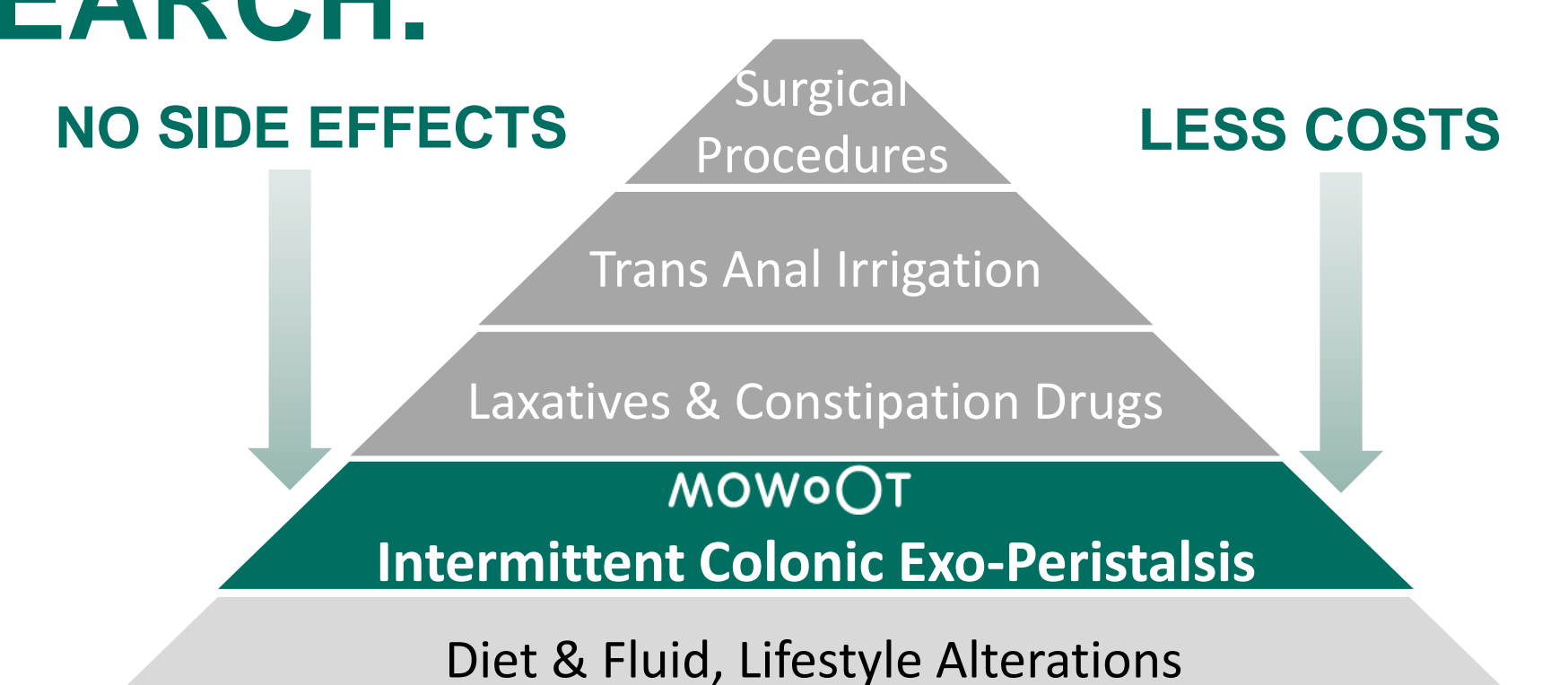
The data results from anonymous, structured feedbacks. The results are shown according to time under treatment, as:

- **Short-term** treatment: **3.69 (2.35) months**; n= 17
- **Long-term** treatment: **13,27 (4,03) months**; n=11
- **All** (short+long-term): **7,46 (1,07) months**; n= 28

SCI	Time of treat.	N (pairs)	Treat vs Baseline	P
Bowel movements (times/week)	short-term	15	1,49	0,0614
	long-term	10	1,50	0,0848
	ALL	25	1,50	0,0090
Failed Attempts to evacuate (times/week)	short-term	15	-0,97	0,1072
	long-term	10	-1,05	0,0354
	ALL	25	-1,00	0,0126
Incomplete Bow. Mov. (times/week)	short-term	16	-0,81	0,1544
	long-term	9	-1,44	0,1346
	ALL	25	-1,04	0,0331
Time per evacuation (min/evac)	short-term	16	-18,53	0,0002
	long-term	10	-24,50	0,0076
	ALL	26	-20,83	<0,0001
Fecal consistency (mean Bristol, 1: hard pellet, to 7: liquid)	short-term	14	0,93	0,1748
	long-term	9	1,44	0,0890
	ALL	23	1,13	0,0265
Satisfaction w(bowel function & management) (1: very high, to 6: very low)	short-term	16	-3,43	0,0004
	long-term	11	-2,18	0,0053
	ALL	27	-2,82	<0,0001

INNOVATIVE CONTRIBUTION TO POLICY, PRACTICE AND/OR RESEARCH.

- The **I.C.E. treatment** with MOWOOT improves the patient's health and quality of life.
- The medical **benefit of MOWOOT improves over time.**
- The patients can easily keep using MOWOOT after their hospital stay, **reducing the workload** for healthcare professionals **in hospital settings.**



REFERENCES

1. McClurg, D., L. Booth, and I. Herrero-Fresneda, Safety and Efficacy of Intermittent Colonic Exoperistalsis Device to Treat Chronic Constipation: A Prospective Multicentric Clinical Trial. *Clin Transl Gastroenterol*, 2020. 11(12): p. e00267.
2. Special SCI units involved in recruitment: BDH Klinik, Greifswald, GE; Werner-Wicker-Klinik, Bad Wildungen, GE; Zentralklinik, Bad Berka, GE; Klinken Beelitz, Beelitz-Heilstätten, GE

DISCLOSURE

IHF works as Chief Scientific Officer at USMIMA S.L., the manufacturer of MOWOOT, the ICE device.
 The author would like to thank Dr J. Bremer, Dr. P. Kossmehl, Dr. I. Kurze and Dr. H. Lienhard for their support in the above-mentioned SCI hospitals, and R. Müller for his support regarding the logistics of the study.