

# **Patient and caretaker satisfaction with the UniSUC external catheter system**

**Maciej Witkos, Maya Caldow, Allan Pepito, Alvin Pepito**

## **Abstract**

**Introduction:** The UniSUC external catheter system is a non-invasive management system for urinary incontinence (UI) that utilizes a reusable frame with disposable moisture wicking liners and low-pressure suction to siphon urine from the patient. This patient and caregiver survey was conducted to evaluate patient and caregiver satisfaction with using UniSUC in comparison to other available external catheters and treatment modalities.

**Materials and methods:** An invitation for an online survey was emailed to patients and caregivers who utilized UniSUC. It was completed between May 2024 and January 2025. Questions included demographic and clinical characteristics. Satisfaction and other aspects were scored on a five-point Likert Scale. Five indicated greatest satisfaction and one indicated no satisfaction. Patient and caregiver responses for UniSUC and PureWick were compared using the Mann-Whitney U test.

**Results:** Of the 101 patients and caregivers completing the questionnaire, over 80% of UniSUC users were Very Satisfied (score of five) and Satisfied (score of four) for General Satisfaction, Comfort, Time Savings, Improved Sleep, Improved Dignity, Fewer nighttime trips, Ease of Set Up, Ease of Use, Improved Dignity, reduced nighttime frequency and UTI reduction. The UniSUC system scored statistically higher ( $p < 0.05$ ) in all categories compared to PureWick for urinary incontinence.

**Discussion:** This study indicates that UniSUC has a higher patient and caregiver satisfaction for patients who suffer from urinary incontinence and utilize external catheter systems than currently commercially available systems. Further studies to validate these results are needed.

## **Introduction**

With the aging population, urinary incontinence is becoming a great healthcare burden. Urinary incontinence (UI) is already the most common lower tract symptom affecting up to 50% of women (1-3). It adversely affects quality of life (4) and can lead to clinically significant morbidities such as urinary tract infections (UTIs) or urinary incontinence dermatitis.

Clinical interventions include surgery and medications; behavioral changes such as timed voiding and reduced oral intake to reduce nocturia; containment devices such as pads and external catheters. However, these interventions are not effective for all patients. (5, 6) One of the most notable advances was the introduction of the Pure Wick device developed by Dr. Camille Newton. (5) The UniSUC system developed by Mr. Alvin Pepito RN was designed to improve patient safety and satisfaction by providing an improved urine catchment area with a shapeable frame for various body types.

The purpose of this study was to measure caregiver and patient satisfaction with the UniSUC external catheter system in relation to other modalities tried by the patients and caregivers.

## **Materials and methods**

Patients and caregivers who used the UniSUC system in a home setting were recruited between May 2024 and January 2025. An email invitation to voluntarily fill out an online survey was sent by the manufacturer. Informed consent was obtained from survey participants, and they were offered 15% off one future purchase for taking the survey. All

responses were included in this cross-sectional study. Only one online survey per patient / caregiver was allowed utilizing email address as a unique identifier. The questions were designed to assess the user experience and identify user issues or benefits.

A copy of the survey can be found <https://alpepllc.com/UniSUC-customer-survey/> .

The first six questions requested demographic and clinical information about the user, such as user age, gender, mobility level, usage period, duration of use and other devices utilized. The following questions related to the patient's satisfaction were asked on a 5-point scale to rate the following external catheters: UniSUC, Pure Wick, Condom Catheter, Prima Fit. Questions about general satisfaction, comfort, dryness level, time savings, cost efficiency, sleep improvement, ease of set up, improve dignity, decrease in urine infections, number of bathroom trips, likelihood of continuing using UniSUC, and recommending UniSUC to friends. A field was also included to allow the respondents to free text comments.

To evaluate the data, we utilized fundamental statistics such as frequencies and percentages, illustrating the results and aggregates. We utilized the Mann-Whitney U test to calculate statistical differences.

## **Results**

The survey was open to all verified customers. Of the responses 70 (75%) were caregivers and 24 (25%) were patients. The characteristics of the patients were as follows: the largest age group 47 (47%) was greater than 80 years old, there were 43 (86%) women,

and most of the users expressed limited mobility 33 (66%). No data on ethnicity was collected. **Table 1** - *Demographic characteristics of survey respondents*

The patient use characteristics showed 60 (59%) continuous night users. A total of 38 (38%) of users have used an external catheter for 6+ months. **Table 2** – *Patient use characteristics*

Most of our patients used diapers and the PureWick external catheter prior to using the UniSUC external catheter. No patients indicated using the PrimaFit and an insignificant number of patients reported using a condom catheter. A comparison with diapers and the PureWick external catheter was previously explored (8) and we did not pursue such a comparison in our study. Our study showed that 29 (58%) patients expressed the highest level of satisfaction, a score of 5, with the UniSUC system versus 5 (14%) for PureWick.

**Figure 1** – *General Satisfaction*. General satisfaction was rated at 5, greatest satisfaction, by 53 (54%) of the respondents for UniSUC and 10 (15%) for PureWick. **Figure 2** – *General Comfort*. Improved sleep was rated 5, greatest satisfaction, by 59 (60%) of the respondents for UniSUC and 12 (19%) for PureWick. The rest of the satisfaction scores are detailed in

**Table 3** - *Patient satisfaction scores of devices clinical characteristics utility scores*

Dryness was rated 5, greatest satisfaction, by 40 (41%) of the respondents for UniSUC and 10 (15%) for PureWick. Time saving was rated as 5, greatest satisfaction, by 66 (67%) of the respondents for UniSUC and 19 (31%) for PureWick.. **Table 4** - *Patient satisfaction scores of devices clinical characteristics*

Cost Efficiency was rated 5, greatest satisfaction, by 39 (39%) of the respondents for UniSUC and 5 (8%) for PureWick. **Table 5** - *Patient satisfaction scores of device usability*

## **Limitations**

This study has a very small sample size and short period of use of UniSUC by the patients. This is being addressed by continuing the study for 1 more year to improve duration and until a sample size of 200 is reached. This is also a pilot home user study and not a formal clinical evaluation in a health care setting, however, it is similar to previous patient use evaluations (8). Skin integrity and clinical UTI reduction were not evaluated in this study, but have been previously addressed in other external catheter evaluations. (9, 10)

## **Discussion**

This study's goal was to evaluate the experience of users and caregivers with the UniSUC external catheter. Previous studies have shown that external catheters are superior to diapers and other traditional modalities to treat urinary incontinence (6 K). The UniSUC system scored statistically higher in all categories compared to PureWick for urinary incontinence. Most patients had limited mobility, which shows that UniSUC is a viable modality for both at home and facility care treatment of urinary incontinence. More patients in facilities have limited mobility versus those who are treated at home. Improved dryness, comfort, sleep, UTI reduction and fewer nighttime bathroom trips all aggregate to improve patients' health. These factors all contribute to an improvement in health

outcomes, from reduction in incontinence associated dermatitis, reduction of nighttime falls and reduction of UTIs.

## **Conclusion**

Patients and caregivers using the UniSUC external catheter at home reported improved dignity, UTI reduction, and fewer nighttime bathroom trips. Overall greater satisfaction was reported with UniSUC as compared to PureWick. Further studies are indicated to verify UniSUC use leads to a significant improvement in the treatment of urinary incontinence.

**Table 1 – Demographic characteristics of survey respondents**

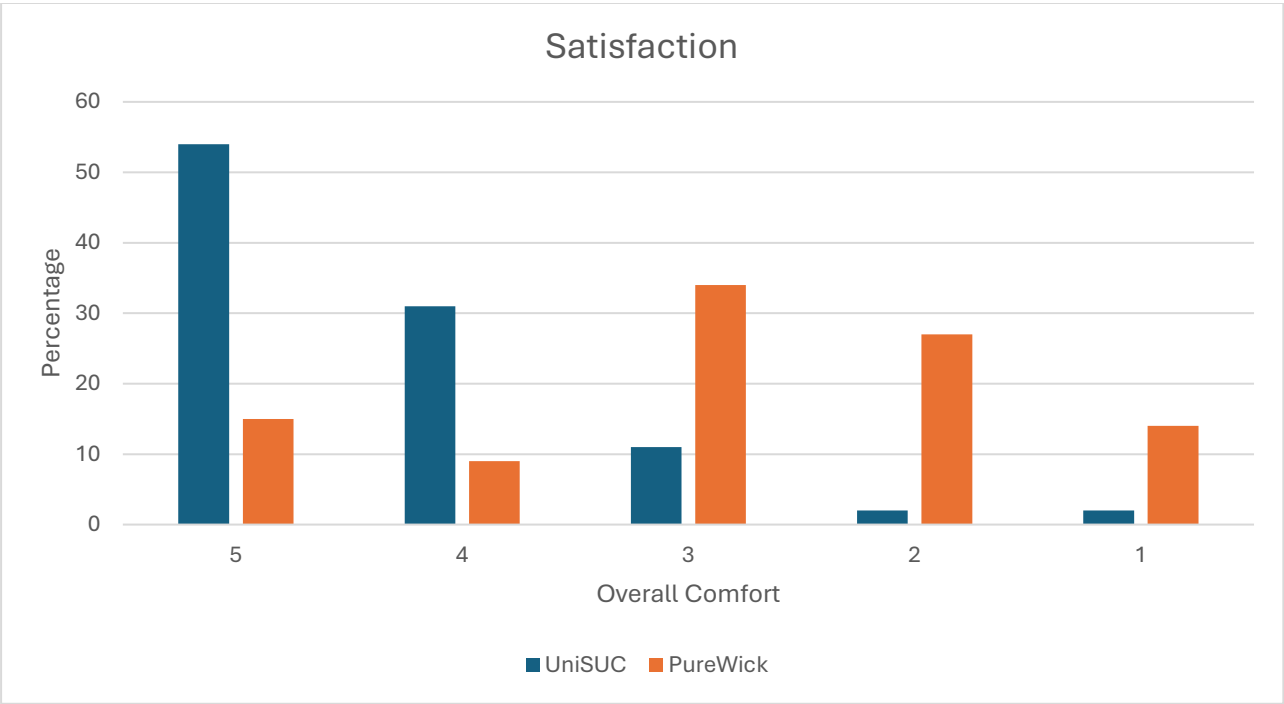
<b>Question</b>	<b>Characteristic</b>	<b>Frequency</b>	<b>%</b>
<i>Are you an End User or a Caregiver?</i>	Caregiver	70	75%
	End User	24	25%
<i>User Age Group</i>	80+ years	47	47%
	71 - 80 years	27	27%
	61 - 70 years	13	13%
	<60 years	14	13%
<i>User Biological Gender</i>	Female	86	88%
	Male	12	12%
<i>User Mobility Level</i>	Limited mobility	74	74%
	Immobile	22	22%
	Full mobility	5	5%

**Table 2 – Patient use characteristics**

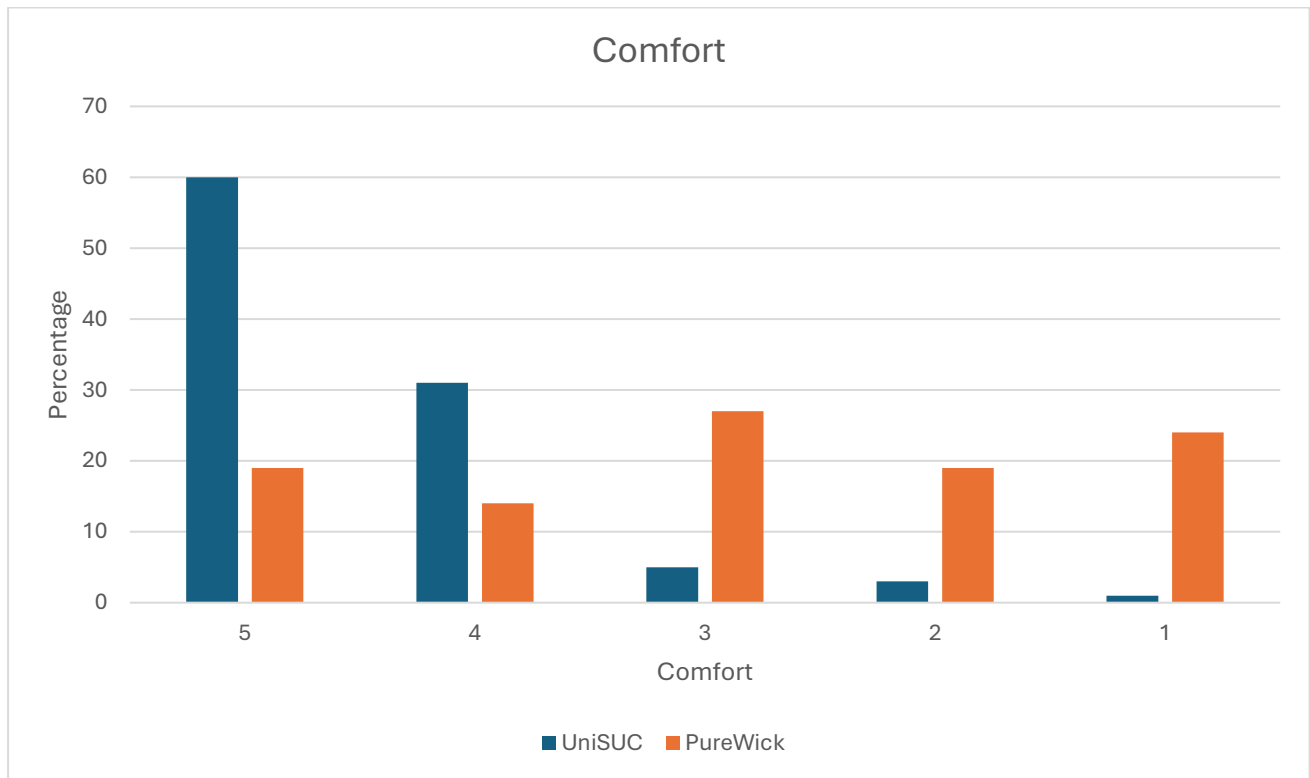
<b>Question</b>		<b>Frequency</b>	<b>%</b>
<i>Usage Needs</i>	Night	60	59%
	Day, Night	39	39%
	Day	2	2%
<i>Duration of use</i>	6 months +	38	38%
	3 to 6 months	17	16%
	1 to 3 months	23	23%
	< 1 month	23	23%



Figure 1 – Overall patient satisfaction



**Figure 2 – Overall Patient Comfort**



**Table 3 – Patient satisfaction scores of the device overall characteristics (need better title)**

	<b>Rating (5 greatest satisfaction – 1 least satisfaction)</b>					
<b>Question</b>	<b>5 n (%)</b>	<b>4 n (%)</b>	<b>3 n (%)</b>	<b>2 n (%)</b>	<b>1 n (%)</b>	<b>p value</b>
Satisfaction UniSUC	53 (54%)	31 (31%)	11 (11%)	2 (2%)	2 (2%)	<0.001
Satisfaction PureWick	10 (15%)	6 (9%)	22 (34%)	17 (27%)	9 (14%)	
Comfort UniSUC	59 (60%)	30 (31%)	5 (5%)	3 (3%)	1 (1%)	<0.001
Comfort PureWick	12 (19%)	9 (14%)	17 (27%)	12 (19%)	13 (21%)	
Improved Dignity UniSUC	59 (61%)	22 (23%)	9 (9%)	2 (2%)	4 (4%)	0.003
Improved Dignity PureWick	16 (27%)	10 (17%)	13 (22%)	11 (18%)	10 (17%)	

**Tabel 4 - Patient satisfaction scores of the devices' clinical characteristics**

	<b>Rating (5 greatest satisfaction – 1 least satisfaction)</b>					
<b>Question</b>	<b>5 n (%)</b>	<b>4 n (%)</b>	<b>3 n (%)</b>	<b>2 n (%)</b>	<b>1 n (%)</b>	<b>p value</b>
Dryness UniSUC	40 (41%)	35 (36%)	18 (18%)	1 (1%)	4 (4%)	<0.001
Dryness PureWick	10 (15%)	14 (22%)	13 (20%)	19 (29%)	9 (14%)	
Improved Sleep UniSUC	56 (60%)	24 (25%)	10 (11%)	2 (2%)	2 (2%)	0.001
Improved Sleep PureWick	13 (22%)	14 (23%)	19 (32%)	5 (8%)	9 (15%)	
Perceived UTI reduction UniSUC	46 (54%)	22 (26%)	14 (16%)	3 (3%)	1 (1%)	0.001
Perceived UTI reduction PureWick	16 (30%)	12 (23%)	12 (23%)	8 (15%)	5 (9%)	
Fewer nighttime bathroom trips UniSUC	72 (86%)	4 (4%)	3 (4%)	2 (2%)	3 (4%)	0.024
Fewer nighttime bathroom trips PureWick	31 (60%)	6 (12%)	5 (10%)	3 (6%)	6 (12%)	

**Table 5 - Patient satisfaction scores about the device usability (need better title)**

	<b>Rating (5 greatest satisfaction – 1 least satisfaction)</b>					
<b>Question</b>	<b>5 n (%)</b>	<b>4 n (%)</b>	<b>3 n (%)</b>	<b>2 n (%)</b>	<b>1 n (%)</b>	<b>p value</b>
Time Savings UniSUC	66 (67%)	16 (16%)	13 (13%)	2 (2%)	2 (2%)	0.001
Time savings PureWick	19 (31%)	15 (24%)	12 (19%)	10 (16%)	6 (10%)	
Cost Efficiency UniSUC	39 (39%)	34 (34%)	17 (18%)	5 (5%)	4 (4%)	<0.001
Cost Efficiency PureWick	5 (8%)	2 (3%)	8 (13%)	14 (22%)	34 (54%)	
Ease of setup UniSUC	635 (67%)	19 (20%)	8 (8%)	3 (3%)	2 (2%)	0.001
Ease of setup PureWick	17 (27%)	16 (26%)	12 (19%)	9 (15%)	8 (13%)	
Ease of use UniSUC	65 (68%)	22 (23%)	5 (5%)	2 (2%)	2 (2%)	<0.001
Ease of use PureWick	17 (27%)	12 (19%)	17 (27%)	9 (14%)	8 (13%)	

## References

1. Dooley Y, Kenton K, Cao G, et al. Urinary incontinence prevalence: results from the National Health and Nutrition Examination Survey. *J Urol*. 2008;179(2):656-661. doi:10.1016/j.juro.2007.09.081
2. Markland AD, Richter HE, Fwu CW, Eggers P, Kusek JW. Prevalence and trends of urinary incontinence in adults in the United States, 2001 to 2008. *J Urol* 2011;186(2):589-593.
3. Daugirdas SP, Markossian T, Mueller ER, Durazo-Arvizu R, Cao G, Kramer H. Urinary incontinence and chronic conditions in the US population age 50 years and older. *Int Urogynecol J* 2020;31(5):1013-1020.
4. Agarwal A, Eryuzlu LN, Cartwright R et al. What is the most bothersome lower urinary tract symptom? Individual- and population-level perspectives for both men and women. *Eur Urol* 2014;65(6):1211-1217.
5. Rose G, Pyle-Eilola AL. The effect of urine collection with a novel external catheter device on common urine chemistry and urinalysis results. *J Appl Lab Med* 2021;6(6):1618-1622.
6. Sussman RD, Syan R, Brucker BM. Guideline of guidelines: urinary incontinence in women. *BJU Int* 2020;125(5):638-655.
7. Demaagd GA, Davenport TC. Management of urinary incontinence. *P T* 2012;37(6):345-361.
8. Khosla L, Sani JM, Chughtai B. Patient and caretaker satisfaction with the PureWick system. *Can J Urol*. 2022 Aug;29(4):11216-11223. PMID: 35969725.
9. Uhr A, Glick L, Barron S et al. How I Do It: PureWick female external catheter: a non-invasive urine management system for incontinent women. *Can J Urol* 2021;28(3):10669-10672.
10. Vanleerberghe P, De Witte N, Claes C, Schalock RL, Verté D. The quality of life of older people aging in place: a literature review. *Qual Life Res* 2017;26(11):2899-2907.

Other articles of interest

### **Addressing CAUTIs with an External Female Catheter**

<https://pubmed.ncbi.nlm.nih.gov/36546390/>

In 2019-20, external female catheters were used in 1,195 unique patients. Approximately 90% of external female catheter use was to avoid using an indwelling urinary catheter. With a cost avoidance of \$13,786 per patient, \$16,473,912 in costs to the organization were avoided. CAUTI rates in bedbound female patients decreased after implementation of the external female catheters.

### **Staff and patient perceptions of a community urinary catheter service**

<https://pubmed.ncbi.nlm.nih.gov/32793298/>

76% of patients but only 49% of staff suggested improvement in design (Of indwelling catheters)

### **Long-term bladder drainage: Suprapubic catheter versus other methods: a scoping review**

<https://pubmed.ncbi.nlm.nih.gov/23192860/>

Users report being generally satisfied with suprapubic catheters

### **Catheter valves for indwelling urinary catheters: a systematic review**

<https://pubmed.ncbi.nlm.nih.gov/16607246/>

No statistically difference in the incidence of bladder spasm or UTI was demonstrated but patients showed a clear preference for the valve.

DRAFT