

# Patient and caretaker satisfaction with the UniSUC external catheter system

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## 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 and October 2024. Questions included demographic and clinical characteristics. Satisfaction and other aspects were scored on a five-point Likert Scale. Five indicated greatest satisfaction and one indicating no satisfaction. Patient and caregiver responses for UniSUC and PureWick were compared using the Mann-Whitney U test.

**Results:** Of the 50 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, Ease of Set Up, Ease of Use, Improved Dignity, and UTI reduction. The UniSUC system scored statistically higher ( $p < 0.05$ ) in all categories except nighttime frequency 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 the home setting were recruited between May and October 2024. 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 40 (80%) were caregivers and 7 (14%) were patients, 3 (6%) did not specify. The characteristics of the patients were as follows: the most frequent age group was greater than 80 years old at 24 (48%), there were 43 (86%) women, most of the user expressed limited mobility 33 (66%).

No data on ethnicity was collected. **Table 1 - Demographic characteristics of survey respondents**

The patient use characteristics showed that 26 (52%) continuous day/night users, 18 (36%) 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%) of patients expressed the highest level of satisfaction, a score of 5, with the UniSUC system versus 5 (14%) for PureWick. **Figure 1 – General Satisfaction.** Comfort was rated at 5, greatest satisfaction, by 32 (64%) of the respondents for UniSUC and 6 (17%) for PureWick. **Figure 2 – General Comfort.** Improved sleep was rated 5, greatest satisfaction, by 30 (62.5%) of the respondents for UniSUC and 26.47% 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 23 (46%) of the respondents for UniSUC and 5 (14%) for PureWick. Time saving was rated as 5, greatest satisfaction, by 34 (68%) of the respondents. **Table 4 - Patient satisfaction scores of devices clinical characteristics**

Cost Efficiency was rated 5, greatest satisfaction, by 22 (44%) of the respondents for UniSUC and 1 (3%) 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 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 except nighttime frequency 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**

Patient 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's use as a significant improvement in the treatment of urinary incontinence.

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

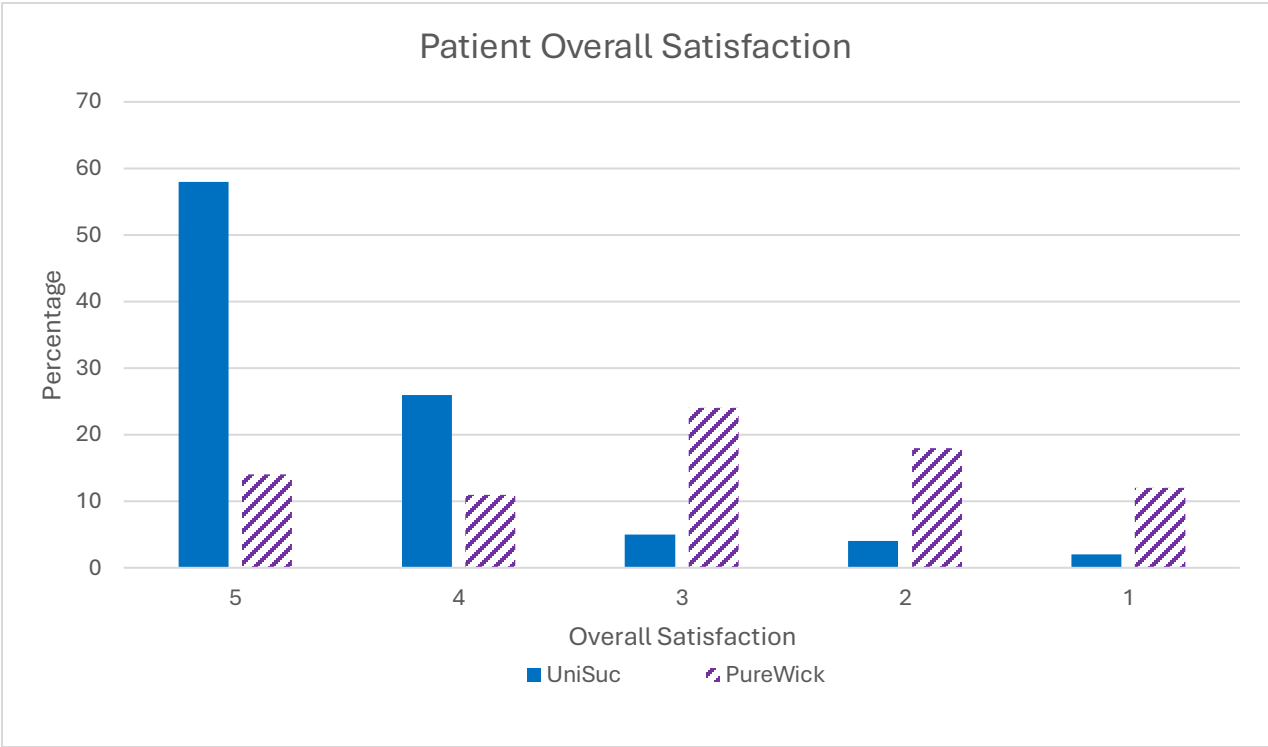
<b>Question</b>	<b>Characteristic</b>	<b>Frequency</b>	<b>%</b>
<i>Are you an End User or a Caregiver?</i>	Caregiver	52	79%
	End User	14	21%
<b>User Age Group</b>			
<i>User Age Group</i>	80+ years	31	44%
	71 - 80 years	22	31.5%
	61 - 70 years	9	13%
	<60 years	8	11.5%
<b>User Biological Gender</b>			
<i>User Biological Gender</i>	Female	61	87%
	Male	9	13%
<b>User Mobility Level</b>			
<i>User Mobility Level</i>	Limited mobility	49	70%
	Immobile	18	26%
	Full mobility	3	4%

**Table 2 – Patient use characteristics**

<b>Question</b>		<b>Frequency</b>	<b>%</b>
<i>Usage Needs</i>	Day, Night	26	52%
	Night	23	46%
	Day	1	2%
<i>Duration of use</i>	6 months +	26	37%
	3 to 6 months	15	21.5%
	1 to 3 months	14	20%
	< 1 month	15	21.5%

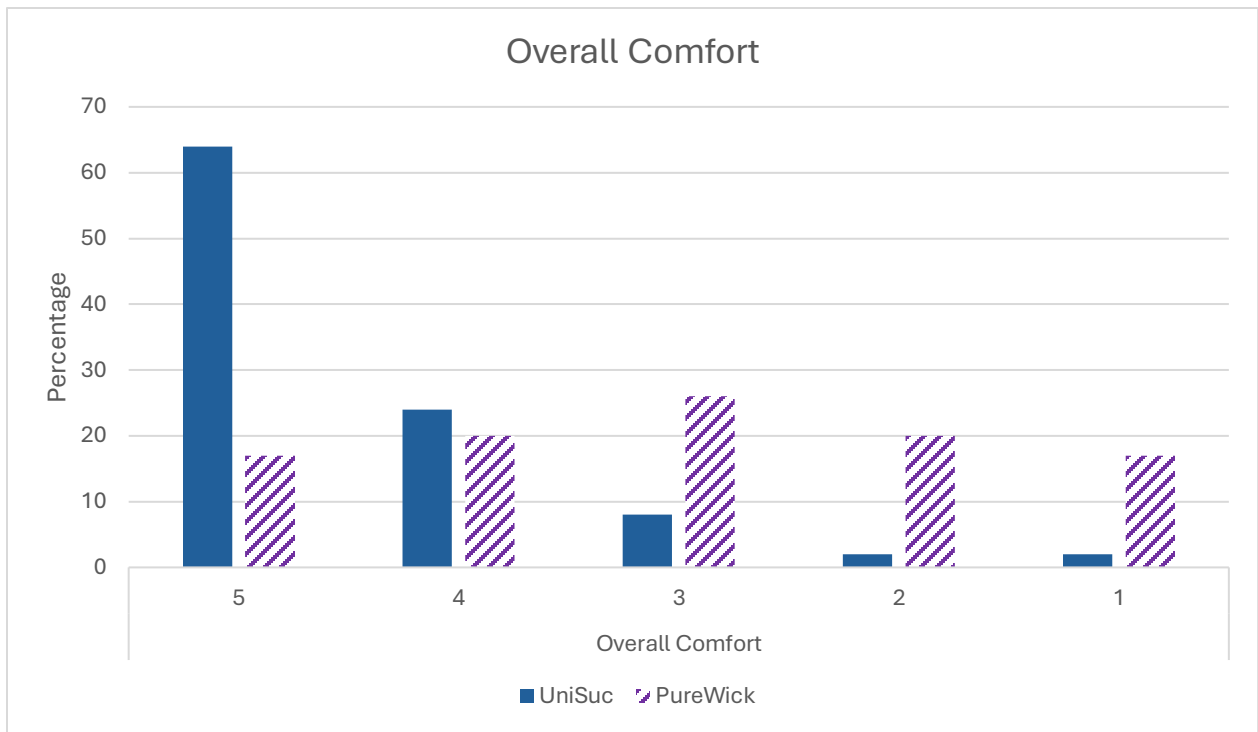


**Figure 1 – Overall patient satisfaction**



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**Figure 2 – Overall Patient Comfort**



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

Question	Rating (5 greatest satisfaction – 1 least satisfaction)					p value
	5 n (%)	4 n (%)	3 n (%)	2 n (%)	1 n (%)	
Satisfaction UniSUC	39 (55.5%)	22 (31.5%)	5 (7%)	2 (3%)	2 (3%)	<0.001
Satisfaction PureWick	6 (12%)	4 (8%)	18 (37%)	13 (26.5%)	8 (12.5%)	
Comfort UniSUC	44 (63%)	19 (27%)	4 (6%)	2 (3%)	1 (1%)	<0.001
Comfort PureWick	8 (16.5%)	8 (16.5%)	14 (29%)	10 (20%)	9 (18%)	
Improved Dignity UniSUC	43 (62%)	15 (21%)	6 (9%)	1 (1.5%)	5 (5.5%)	0.003
Improved Dignity PureWick	12 (26%)	8 (17%)	9 (20%)	9 (20%)	8 (17%)	

**Tabel 4 - Patient satisfaction scores of devices clinical characteristics (need better title)**

Question	Rating (5 greatest satisfaction – 1 least satisfaction)					p value
	5 n (%)	4 n (%)	3 n (%)	2 n (%)	1 n (%)	
Dryness UniSUC	30 (43%)	24 (35%)	11 (16%)	0 (0%)	4 (6%)	<0.001
Dryness PureWick	7 (14%)	8 (16%)	11 (22%)	17 (34%)	7 (14%)	
Improved Sleep UniSUC	42 (63%)	14 (21%)	7 (10%)	2 (3%)	2 (3%)	0.001
Improved Sleep PureWick	10 (21%)	9 (20%)	16 (34%)	4 (9%)	8 (17%)	
Perceived UTI reduction UniSUC	35 (55.5%)	16 (25.5%)	8 (13%)	3 (5%)	1 (2%)	0.001
Perceived UTI reduction PureWick	12 (30%)	8 (20%)	11 (27%)	7 (17%)	3 (7%)	
Fewer nighttime bathroom trips UniSUC	49 (83%)	3 (5%)	3 (5%)	2 (3%)	2 (3%)	0.024
Fewer nighttime bathroom trips PureWick	22 (56%)	5 (13%)	4 (10%)	3 (8%)	5 (13%)	

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

Question	Rating (5 greatest satisfaction – 1 least satisfaction)					p value
	5 n (%)	4 n (%)	3 n (%)	2 n (%)	1 n (%)	
Time Savings UniSUC	46 (66%)	12 (17%)	8 (11%)	2 (3%)	2 (3%)	0.001
Time savings PureWick	12 (26%)	11 (23%)	11 (23%)	8 (17%)	5 (11%)	
Cost Efficiency UniSUC	31 (44%)	20 (29%)	11 (16%)	4 (6%)	4 (6%)	<0.001
Cost Efficiency PureWick	3 (6%)	1 (2%)	7 (16%)	11 (23%)	26 (54%)	
Ease of setup UniSUC	46 (67%)	14 (20%)	5 (7%)	2 (3%)	2 (3%)	0.001
Ease of setup PureWick	11 (23%)	14 (30%)	8 (17%)	7 (14%)	7 (14%)	
Ease of use UniSUC	48 (71%)	13 (19%)	4 (6%)	1 (1%)	2 (2%)	<0.001
Ease of use PureWick	13 (27%)	11 (23%)	11 (23%)	6 (12.5%)	7 (14.5%)	

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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.

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