

## Effect of Penile-Extender Device in Increasing Penile Size in Men with Shortened Penis: Preliminary Results

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### ABSTRACT

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**Introduction.** It has been suggested that the application of penile-extender devices increases penile length and circumference. However, there are a few scientific studies in this field.

**Aims.** The aim of this study was to assess the efficacy of a penile-extender (Golden Erect<sup>®</sup>, Ronas Tajhiz Teb, Tehran, Iran) in increasing penile size.

**Methods.** This prospective study was performed on subjects complaining about “short penis” who were presented to our clinic between September 15, 2008 and December 15, 2008. After measuring the penile length in flaccid and stretched forms and penile circumference, patients were instructed to wear Golden Erect<sup>®</sup>, 4–6 hours per day during the first 2 weeks and then 9 hours per day until the end of the third month. The subjects were also trained how to increase the force of the device during determined intervals. The patients were visited at the end of the first and third months, and penile length and circumference were measured and compared with baseline.

**Main Outcome Measures.** The primary end point of the study was changes in flaccid and stretched penile lengths compared with the baseline size during the 3 months follow-up.

**Results.** Twenty-three cases with a mean age of  $26.5 \pm 8.1$  years entered the study. The mean flaccid penile length increased from  $8.8 \pm 1.2$  cm to  $10.1 \pm 1.2$  cm and  $10.5 \pm 1.2$  cm, respectively, in the first and third months of follow-up, which was statistically significant ( $P < 0.05$ ). Mean stretched penile length also significantly increased from  $11.5 \pm 1.0$  cm to, respectively,  $12.4 \pm 1.3$  cm and  $13.2 \pm 1.4$  cm during the first and second follow-up ( $P < 0.05$ ). No significant difference was found regarding proximal penile girth. However, it was not the same regarding the circumference of the glans penis ( $9.3 \pm 0.86$  cm vs.  $8.8 \pm 0.66$  cm,  $P < 0.05$ ).

**Conclusion.** Our findings supported the efficacy of the device in increasing penile length. Our result also suggested the possibility of glans penis girth enhancement using penile extender. Performing more studies is recommended. **Nikoobakht M, Shahnazari A, Rezaeidanesh M, Mehraei A, and Pourmand G. Effect of penile-extender device in increasing penile size in men with shortened penis: Preliminary results. J Sex Med 2011;8:3188–3192.**

**Key Words.** Penile Extender; Penile Size; Penile Length; Penile Circumference; Short Penis; Stretched Penile Length

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### Introduction

Penile size is a considerable concern for male in all ages, and seeking penile size augmentation is not uncommon [1]. “Short penis” is defined as penile length of less than 4 cm and 7 cm, respectively, in flaccid and stretched situation [2,3]. However, penile length is normal in most of the cases in which subjects complain of “short penis” and seek penile lengthening procedures [4].

Surgical interventions called “lengthening phalloplasty” are one of the existing options for penile size augmentation. Cutting the penile suspensory ligament, V-Y or Z-plasty of the suprapubic skin, and suprapubic liposuction are the most frequent types of these procedures [4]. However, these procedures are associated with low rate of patients’ satisfaction [5,6]. Moreover, a study conducted by Wessells et al. [5] revealed that elective penile surgeries for lengthening and girth enhancement are

associated with considerable morbidity. Thus, finding less invasive and more efficient techniques for penile augmentation is preferable [7].

Penile extenders, which produce progressive mechanical traction to the penis, have been introduced as an efficient nonsurgical option for the treatment of "short penis" [7]. It has been suggested that application of these devices results in enhancement in both length and girth of the penis in erect and flaccid forms [6]. However, there are a few documented pieces of evidence that support this claim [7].

### Aim

In this study, we aimed to evaluate the efficacy of penile extender for the purpose of penile lengthening.

### Methods

This clinical trial was carried out between September 15, 2008 and December 15, 2008 at Sina Hospital. After approval of the Ethical Committee of Human Research of Tehran University of Medical Sciences and obtaining written informed consent, all patients who complained of short penis that presented to our clinic during the mentioned time period enrolled into the study. Patients seeking only penile girth enhancement were excluded. Also, history of major psychiatric disorders and conditions that might interfere with the correct use of the extender, such as anatomic penile deformity or diminished manual ability, were the other exclusion criteria [7]. None of the patients were on any phosphodiesterase type 5 inhibitors.

After taking medical history and physical examination, penile length was measured in both flaccid and maximal stretched forms by a physician. For this purpose, a tape ruler was used to obtain the distance between the pubic bone and the meatus [3]. Proximal penile circumference and glans girth were also measured.

Subjects were asked to wear the penile extender, the Golden Erect<sup>®</sup> (Ronas Tajhiz Teb, Tehran, Iran; Web site: <http://www.ronamed.com>). The device consisted of a plastic ring and two dynamic metallic rods. The penis is inserted in the plastic ring, and the glans is fixed by a silicon band in the superior section of the device [7]. The patients were requested to apply the device according to the following protocol:

1. During the first 2 weeks, daily wear the device for 4–6 hours and add a 0.5 cm every 5 days.

2. From beginning of the third week to end of the second month, daily wear the device for 9 hours and add 0.5 cm every 2 weeks.
3. During the third month, daily wear the device for 9 hours and add 0.5 cm every 2 weeks.

The patients were followed up at the end of the first and third months, and in each visit, the penile length and circumferences were measured by the same physician.

Statistical analysis was performed using SPSS version 16 (SPSS Inc., Chicago, IL, USA), and Wilcoxon signed-ranks test was used to compare the first and second measured penile lengths and circumferences with the baseline sizes. Quantitative data have been presented as mean  $\pm$  standard deviation. A *P* value of less than 0.05 was considered statistically significant.

### Main Outcome Measures

The primary end point of the study was changes in flaccid and stretched penile lengths compared with the baseline measured size [7] during the 3 months follow-up.

### Results

Twenty-three cases with a mean age of  $26.5 \pm 8.1$  years (ranged from 17 to 60) entered the study. The mean penile length (flaccid state) was  $8.8 \pm 1.2$  cm at the initiation of the study, while it increased to  $10.1 \pm 1.2$  cm and  $10.5 \pm 1.2$  cm, respectively, in the first and third months of follow-up, which was statistically significant (Table 1).

Moreover, significant differences were found between stretched length of penis in the first and third months compared with the base measured length (Table 1). The basal mean penile length was  $11.5 \pm 1.0$  cm, which increased to  $12.4 \pm 1.3$  cm and  $13.2 \pm 1.4$  cm successively during the first and second follow-up.

Our results failed to show significant differences in proximal penile girth (Table 1). However, it was not the same regarding the circumference of the glans penis, and our results showed significant difference between the first and third months ( $9.3 \pm 0.86$  cm vs.  $8.8 \pm 0.66$  cm). Table 1 shows the details.

### Discussion

Although there are several studies on the effect of penile-extender devices in the treatment of "short

**Table 1** Comparison of flaccid and stretched penile lengths plus penile proximal and glans penis circumferences with the baseline

Variable	Mean	Standard deviation
Flaccid penile length		
Baseline	8.8043	1.24990
First month	10.1739	1.20235
Third month	10.5000	1.22474
Stretched penile length		
Baseline	11.5652	1.05856
First month	12.4783	1.39380
Third month	13.2727	1.47783
Proximal penile circumference		
Baseline	10.5870	1.11449
First month	10.7174	0.76613
Third month	10.3636	0.69320
Glans penis circumference		
Baseline	9.1957	0.83583
First month	9.3696	0.86887
Third month	8.8409	0.66164

There were significant changes regarding the flaccid penile length between the baseline and both first and third months ( $P < 0.001$ ). Also, there was a significant difference in the flaccid penile length between the first and the third months ( $P = 0.026$ ). There were significant changes in the stretched penile length between the baseline and both the first and the third months (respectively  $P = 0.003$  and  $P < 0.001$ ) as well as the first and the third months ( $P < 0.001$ ).

No significant changes were found regarding the proximal penile circumference between different time intervals ( $P > 0.05$ ). There were significant changes regarding glans penis circumference between the first and the third months ( $P = 0.01$ ). However, it was not the same in the other time intervals.

penis" [8,9], most of the reports have been focused on using penile-extenders for the treatment of penile curvature in Peyronie's disease [10,11] and sexual rehabilitation after penile plastic surgery [12]. To our knowledge, there is just one peer-reviewed study in this field that has been recently published by Gontero et al. [7]. Thus, there is a shortage of knowledge about the efficacy of penile-extender devices for the treatment of "short penis." Our results revealed that penile-extender devices are useful and safe tools for the treatment of "short penis." By contrast, our findings failed to show enhancement in penile shaft circumference by application of these devices, however, it may result in glans penis circumference augmentation.

In a similar study, which was conducted by Gontero et al. [7], it has been shown that progressive penile traction exerted by a penile-extender device resulted in penile length enhancement following application of penile-extender device for a 6-month period in a daily manner for at least 4 hours per day. In the present study, although the patients were asked to wear the device at least for 4 hours per day during the first 2 weeks, they were asked to increase the application time to 9 hours per day at the beginning of the third week, and continue this instruction until the end of the study.

Our results indicated a relatively short duration (1 month) for increasing penile length using this protocol. It has suggested that penile extenders will increase penile length to approximately 0.5 cm per month in a linear and time-dependent fashion [7,13]. However, it was not confirmed in the study by Gontero and associates [7] and they found progressive decline in prolongation effect after the first month and concluded it may be related to the shorter daily use of the device compared to the previous studies [7,13]. In our study, we also observed prolongation after the first month, however, the difference was not statistically significant.

Regarding the effect of penile extenders on penile circumference, it has been claimed also that these devices can increase penile girth by 0.6–1 cm per month, however, a distinct mechanism for this phenomenon has not been suggested [7,13]. Penile girth augmentation by using penile-extender devices was not confirmed in the study conducted by Gontero et al. [7], and they did not find any significant change in midshaft penile girth. In the current study, we also did not find any significant changes in proximal penile girth, however, a significant difference was found in glans penis circumference between the first and second follow-up visits. Although we do not know the conclusive reason of this finding, it may be hypothesized that application of a penile extender results in the enhancement of glans penis circumference likely because of higher intensified force and/or traction exerted to the glans compared with the midshaft of proximal sites. However, prescription of these devices for patients seeking just penile shaft circumference is not recommended.

Although satisfactory results (2–4 cm penile length enhancement) with penile disassembly technique with interposition of rib cartilage between the glans cap and tips of the corpora cavernosa have been reported [14], it has been shown that elective penile surgeries for lengthening and girth enhancement are associated with considerable morbidity and high rate of dissatisfactions [5], and these invasive procedures should be considered just for those with a penile length shorter than 4 cm and 7.5 cm successively in flaccid and stretched states [3]. However, the application of penile-extender devices can be recommended in all patients regardless of the penile length because of the low possibility of development of complications. In brief, it seems that penile-extender devices are an effective treatment for patients with "short penis" complaint. Compared with

surgery, it is obviously less invasive and associated with lower rate of complications. However, application of these devices for a long time period may reduce patients' compliance. In our study, 100 patients who complained about short penis that presented to our clinic during the mentioned time period were offered the device, but only 23 of them accepted to utilize it and were included in the study.

Our study had some limitations that need to be considered by the readers. In the present study, we included all cases that presented to our clinic with "short penis" complaint, and we did not merely focused on cases with true "short penis." As a consequence, in our study we did not have any patient with true "short penis," which may affect our obtained results. Absence of long-term follow-up is another limitation of this study. Therefore, we cannot judge about persistency of obtained results in the long term. There is the same concern regarding the possible long-term complications. Maybe longer periods of follow-up will reveal some complications. Another limitation of the study is the lack of any data on the hormonal status of these patients and the correlation between the stretched penis lengths and that of the erect penis. Besides the lack of validated data from the sexual partners, the information shortages on relating the reported size increase to the improved sexual performance are the limitations of this study.

It is suggested that more studies with an increased number of patients and longer follow-up durations are to be performed to learn whether the maintenance application of the device is needed.

## Conclusions

Our findings supported the efficacy of penile-extender devices in increasing penile length. The findings also suggested the possibility of glans penis girth enhancement using penile-extender devices. However, it seems that application of these devices is not appropriate for patients just seeking penile shaft girth enhancement. Performing more studies with longer follow-up is recommended.

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*Conflict of Interest:* None.

## Statement of Authorship

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