

References:

Wessells H, Lue TF, McAninch JW. Penile length in the flaccid and erect states: guidelines for penile augmentation. J Urol 1996 Sep;156(3):995-7

We provide guidelines of penile length and circumference to assist in counseling patients considering penile augmentation. We measured flaccid and erect penile dimensions in 80 physically Normal men before and after pharmacological erection. Mean flaccid length was 8.8 cm (3.3"). stretched length 12.4 cm.(5") and erect length 12.9 cm.(5.3") Neither patient age nor size of the flaccid penis accurately predicted erectile length. Stretched length most closely correlated with erect length. CONCLUSIONS: Only men with a flaccid length of less than 4 cm., or a stretched or erect length of less than 7.5 cm. (3") should be considered candidates for penile lengthening.

[Mondaini N](#), [Ponchiatti R](#), et al. Penile length is normal in most men seeking penile lengthening procedures. Int J Impot Res. 2002 Aug;14(4):283-6.

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Concerns over penile size and a desire for a longer penis are common in the male population. The number of male patients seeking an andrological consultation for the problem of 'short penis' is increasing. We looked at the numbers of patients presenting to a University andrology clinic over a 2-y period and correlated their perceived penis size with the accepted norms. Sixty-seven patients were evaluated with a median age of 27 (range 16-55) complaining of 'short penis' and requesting surgical correction. Clinical history, including the IIEF-5 questionnaire and an accurate physical examination were obtained. Data concerning measures of penile length and circumference were recorded in both the flaccid and fully stretched states and compared to the normal reference range as previously described in the nomogram we recently published (Eur Urol 2001; 39: 183-186.). All patients were also asked to estimate the length of a normal sized penis. Forty-four (65.7%) complained of a short penis only while flaccid, 22 patients (32.8%) while both flaccid and erect, and only one patient (1.5%) was worried only by the erect length of the penis. Fifteen (22.4%) also complained about their penile circumference. Fifty-seven (85%) patients thought a 'normal' penile length should range from 10 to 17 cm (median value of 12 cm). Ten patients (15%) were not able to estimate 'normal' penile size. No patient was found to have a penile length under the 2.5 percentile according to our nomogram. Forty-two (62.7%) subjects recalled the problem starting in childhood, when they felt that their penis was smaller than their friends'. In 25 patients (37.3%) the problem started in the teenage years after seeing erotic images. Our data show that most men who seek penile lengthening surgery overestimate 'normal' penile length. In our series, none of the patients could be classified as having a severely short penis according to our nomogram and none had any anatomical penile abnormality. Most found the use of a nomogram to show them how they compared with other men helpful. We

suggest that documentation of such a demonstration should be made for any man seeking an opinion on penile lengthening surgery.

Klugo RC, Cerny JC . Response of micropenis to topical testosterone and gonadotropin. J Urol 1978 May;119(5):667-8

Five patients were treated with gonadotropin and topical testosterone for micropenis associated with hypothalamic hypogonadotropic hypogonadism. All patients received 1,000 units of gonadotropin weekly for 3 weeks, with a 6-week interval followed by 10% topical testosterone cream twice daily for 3 weeks. Serum testosterone levels were measured and remained equivalent for both modes of therapy. Average penile growth response with gonadotropin was 14.3% increase in length and 5.0% increase of girth. Topical testosterone produced an average increase of 60% in penile length and 52.9% in girth. The greatest growth response occurred in prepubertal male subjects with a minimal response in postpubertal male subjects. This study suggests that 10% topical testosterone cream twice daily will produce effective penile growth. The response appears to be greater in younger children, which is consistent with previously published studies of age-related 5 reductase activity.

Shabsigh R. The effects of testosterone on the cavernous tissue and erectile function. World J Urol 1997;15(1):21-6.

A review of the current literature is conducted to explore the developmental aspects; animal and human experiences and the effects of pharmacological manipulation to explain the role androgens play in sexual function with special emphasis on erectile function and the erectile tissue. This review reveals that androgens are necessary for normal development of the penis and their deficiency results in significant structural abnormalities. Although androgen receptors in the penis decrease after puberty, they usually do not disappear completely. Animal data show that androgens support erectile function through a direct effect on the erectile tissue.

Experimental castration results in impaired erectile response to central and peripheral stimulation and decrease in penile tissue concentration of nitric oxide synthase-containing nerves. Testosterone replacement reverses these abnormalities. In the rat penis, apoptosis is induced by castration and new DNA synthesis is induced by testosterone replenishment. Human data are less clear than animal data. Castration results in loss of libido and in erectile dysfunction. However, these effects are not universal. Testosterone enhances libido, frequency of sexual acts and sleep-related erections. Its effects on erotic erections are not clear.

Baskin LS, et al. The effect of testosterone on androgen receptors and human penile growth. J Urol 1997 Sep;158(3 Pt 2):1113-8

CONCLUSIONS: Testosterone influences penile growth, possibly as a result of extracellular stromal expansion. The number of androgen receptor positive cells in the human fetal penis did not change among the castrate, normal and super testosterone hosts. These experiments support the hypothesis that penile growth

cessation is mediated by mechanisms other than down regulation of the androgen receptor. Furthermore, these data support the hypothesis that early administration of androgen to prepubertal male individuals does not result in a shorter phallus in adulthood. The study has basis in research which shows that androgen receptors remain sensitive to T stimulation and might respond to expansion and stimulation.

Laron Z, Mimouni F, Pertzalan A. Effect of human growth hormone therapy on penile and testicular size in boys with isolated growth hormone deficiency: first year of treatment. *Isr J Med Sci* 1983 Apr;19(4):338-44

The response of genital and gonadal growth during the first year of treatment with human growth hormone (hGH) was studied in 20 boys with isolated growth hormone deficiency (IGHD) (11 of hereditary origin and 9 sporadic cases). Prior to hGH treatment, 13 of the 15 prepubertal boys had a penis length below the normal mean, 3 of which were more than 2 SDS below the mean. The boys with hereditary IGHD had a greater deficit in penile size than did the sporadic cases. hGH treatment improved the penile length in all but two boys aged 14 and 15 yr, and led to growth up to normal size in the three boys with very small penises. Three of the hereditary IGHD patients had subnormal testes and all of the other prepubertal boys had a testicular volume in the normal range. hGH treatment increased testicular size, particularly in the prepubertal boys. Of three additional untreated adults with IGHD, one had a subnormal-size penis and two had penises of low-normal size. Our findings constitute further evidence that hGH deficiency is associated with decreased penile growth and, to some extent, decreased testicular size, and that hGH treatment improves the growth of the genitalia and gonads. Since these effects were also observed in prepuberty, it seems that not all the hGH or, rather, somatomedin effect on sex organs is androgen mediated.

Parker S. Experience with transdermal testosterone replacement therapy for hypogonadal men. *Clin Endocrinol (Oxf)* 1999 Jan;50(1):57-62

In its present form transdermal therapy remains an expensive option for those who cannot tolerate depot testosterone replacement.

[Shamloul R](#). Treatment of men complaining of short penis. *Urology*. 2005 Jun; 65(6):1183-5. rannone74@hotmail.com

To report the outcome of a sex education-integrated treatment program of men complaining of a short-sized penis. **CONCLUSIONS:** Men complaining of short penis could be treated using basic principles of sex education with objective methods of penile size evaluation. This combination can correct any previous sexual misconceptions, relieve unnecessary anxiety concerning penile size, and decrease the desire to undertake still-to-be verified lengthening procedures.