

In Endocrinology

PUBERTY – TIMING IS EVERYTHING

PUBERTY IS THE TRANSITIONAL PERIOD OF DEVELOPMENT DURING WHICH AN INDIVIDUAL MATURE FROM CHILDHOOD TO SEXUAL & REPRODUCTIVE MATURITY

THE MAJOR CHARACTERISTICS OF PUBERTY ARE

1. MATURATION OF PRIMARY SEXUAL CHARACTERS
 - a. HYPOTHALAMIC PITUITARY OVARIAN AXIS
2. DEVELOPMENT OF SECONDARY SEXUAL CHARACTERS
 - a. SEXUAL HAIR
 - b. BREASTS
 - c. GENITALIA
3. GROWTH SPURT
4. PSYCHOLOGICAL CHANGES
 - a. MENTAL DEVELOPMENT
 - b. EMOTIONAL MATURITY

NORMAL AGE OF ONSET OF PUBERTY IS

- A. FOR GIRLS – 8 Y - 13 Y
- B. FOR BOYS - 9 Y – 14 Y

NORMAL PUBERTAL DEVELOPMENT FROM ONSET TO COMPLETION TAKES ON AN AVERAGE 4.2 YEARS.

PRECOCIOUS PUBERTY IN GIRLS IS DEFINED AS BREAST DEVELOPMENT < 8 Y OR MENARCHE < 9 YEARS. FOR BOYS IT IS TESTICULAR ENLARGEMENT < 9 YEARS OF AGE

PRECOCITY CAN BE CENTRAL OR PERIPHERAL DEPENDING ON THE PRIMARY SOURCE OF SEX STEROIDS.

CENTRAL PRECOCITY IS GONADOTROPIN DEPENDENT AND IS CAUSED BY EARLY MATURATION OF HPG AXIS.

PERIPHERAL PRECOCITY IS GONADOTROPIN INDEPENDENT AND IS CAUSED BY EXCESS



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SECRETIONS OF SEX STEROIDS DERIVED EITHER FROM THE GONADS OR ADRENAL GLANDS.

DELAYED PUBERTY IS ABSENCE OF INCREASE IN TESTICULAR VOLUME < 4 ML AT 14 YEARS IN BOYS AND ABSENCE OF BREAST DEVELOPMENT AT 13 YEARS IN GIRLS.

DEPENDING UPON THE DIRECTION OF SEXUAL DEVELOPMENT, PRECOCIOUS PUBERTY IS ISOSEXUAL WHEN FENINIZATION OCCURS IN GIRLS AND MASCULINIZATION IN BOYS. HETEROSEXUAL PRECOCIOUS PUBERTY CAUSES SIGNS OF MASCULINE CHARACTERISTICS IN GIRLS AND FEMINIZATION IN BOYS.

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