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ADOLESCENCE

A CONTINUUM:

FROM CHILDHOOD TO ADULTHOOD

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FOREWORD

This manual has been developed and produced with federal funds made available by the U.S. Department of Health and Human Services, Office of Population Affairs, Office of Family Planning under a national priority for parental involvement. The Iowa Family Planning Program of the Iowa State Department of Health has been fortunate to secure Dr. Donald E. Greydanus as the author.

Approximately a third of the parents receiving services in a family planning agency are aged 19 or less. Many times, this is the only encounter adolescents will have with a medical provider.

The purpose of this manual is multiple:

- 1) Provide important information regarding adolescence to family planning staff.
- 2) Improve the basis for referral of adolescents to other health providers for problems identified.
- 3) Increase the understanding among family planning staff of the value of parental involvement with adolescents.

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I wish to thank Carolyn Adams (Director of the Family/Adolescent Health Section of the Iowa Health Department, Des Moines, Iowa) for her encouragement and professional assistance in this project. I would like to dedicate this manual to my four daughters: Marissa, Elizabeth, Suzanne and Megan. They have taught me much about childhood and they now stand on the threshold of their own adolescence. I look forward with gratitude and humility to the lessons of adolescence they are about to teach me.

Donald E. Greydanus
January, 1986

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ADOLESCENCE: A CONTINUUM FROM CHILDHOOD TO ADULTHOOD

I. Introduction

Adolescence is the critical process in which the individual leaves the dependency of childhood and enters a period in which dramatic changes occur, eventually resulting in what society calls adulthood. It is a complex developmental time which involves sociological, psychological and physiological issues. It is a unique bridge which accepts the achievements of childhood and sets in motion the changes necessary to establish adulthood. Anyone interested in children or adults should be interested in adolescents, since the goal of this period is to develop an adult who is autonomous and capable of functioning at intellectual, sexual and vocational levels which are acceptable to society. We all have a stake in our adolescents, for they have profoundly affected our past, and will continue to affect our present and future.

The teenager has historically been seen in different, but more often than not, negative perspectives by different individuals. The Greek poet, Hesiod (8th Century B.C.) notes: "I see no hope for the future of our people if they are dependent on the frivolous youth of today, for certainly all youth are reckless beyond words.....When I was a boy, we were taught to be discrete and respectful of elders, but the present youth are exceedingly wise and impatient of restraint." Aristotle was also concerned, especially about youth's development of sexuality: "The Young are in character prone to desire and ready to carry any desire they may have into action. Of bodily desires it is the sexual to which they are most disposed to give way and in regard to sexual desire they exercise no restraint." Shakespeare also remained pessimistic about youth: "I would that there were no age between ten and three and twenty or that youth would simply sleep out the rest; for there is nothing in the between but getting wenches with child, wronging the ancestry, stealing and fighting." (A Winter's Tale)

More recent scholars have not emphasized the dangers of adolescence but do clearly establish the importance this phase has for youth. Landis (1945) calls it a time of transfer from the dependent, irresponsible age of childhood to the self-reliant, responsible age of adulthood. Erickson (1963) defines adolescence as a period of rapid changes - physical, physiological, psychological and social; a time when all sameness and continuity relied on earlier, are more or less questioned again. Piaget (1969) calls adolescence an age of great ideals and the beginning of theories, as well as the time of simple present adaptation to reality. Blos (1962), a psychoanalyst, calls adolescence the terminal stage of the fourth phase of psychosexual development, the genital phase (after oral, anal and latency), which has been intercepted by the latency period.....Adolescence denotes the psychological prothesis of adaptation to the condition of pubescence; it is the sum total of all attempts at adjustment to the stage of adolescence. Finally, Eisenberg, (1969) defines adolescence in a manner reflective of how this manual views this important process: it is the critical period of human development manifested at biological, psychological and social levels of interaction; of valuable onset and duration, but marking the end of childhood and setting the foundation for maturity.

Before proceeding to review some of the medical or behavioral problems of the American teenager in the 1980s, it is necessary to present a basic review of the various developmental stages that sojourners of this time period must encounter. Youth go through psychological, cognitive, pubertal and sexual stages while traversing this often unpredictable road from childhood to adulthood. It is the premise of this manual that understanding these stages is essential for any health care professional who seeks to effectively work with youth. Thus a painting or portrait of the adolescent will now be given in which the first brush stroke is a description of the youth as a psychological being; the second brush stroke identifies the youth as a cognitive individual; subsequent "verbal" strokes discuss pubertal and sexual aspects of youth. The result will be a portrait of the modern American teenager. From this picture, the manual will add a few further thoughts before proceeding on into disease description.

As we start with these stages, one needs to remember that further refinement and clarification of the presented data is necessary. The reader may have other outlines which he or she uses. It is emphasized that such ideas are offered as a starting point for understanding adolescence. It is also critically important to have a firm grasp of childhood development when seeking to relate to youth. Adolescence becomes the template for positive or negative experiences learned during childhood. Thus these stages do not start in a vacuum, but are based on earlier childhood stages. Space does not allow a detailed review of such earlier periods. Comments will be provided when felt to be necessary. A constant theme of this manual is that the time to prevent or deal with adolescent problems is often in childhood, not adolescence itself. A stable childhood exemplified by essentially positive experiences is the cornerstone for allowing the youth to successfully negotiate the various developmental stages we now review.

II. Stages of Adolescence

A. Psychological Stages of Adolescence

Traditionally, adolescence comprises ages 10-21 and is divided into early (ages 10-14), middle (14-18) and late (18-21) adolescent periods. Though many adolescents can be chronologically placed into these stages, the variability of a youth is that age is not the critical determinant in placing a youth into "early", "mid" or "late" labels. Some individuals are precocious or delayed while others become "fixed" at a particular level. Problems of earlier childhood and family dynamics may significantly contribute to such problems. However, the health care professional can learn the basis of such stages and see how these principles apply to the specific youth being encountered. The more you know of previous functioning, the better such labels can assist one.

The psychological state of early adolescence is dominated by the rapid physiologic changes of puberty, which usually occur between 10-14 years of age. Puberty itself is discussed in another section. Thus the rapidly changing individual becomes very preoccupied or concerned about his/her everchanging and seemingly unpredictable body. Some go through

a hypochondrical stage when concern is expressed with every ache or pain. It is the rare youth who is pleased with this given body and thus comparisons are inevitable. Unhappiness with body contours is the rule, not the exception. Thus a careful medical history and physical examination is recommended for youth at this stage, to provide needed information about the body, to provide assurance of normalcy when appropriate and institute medical plans at an early stage of adolescence when needed. The acquisition of health knowledge, hopefully started in earlier school years, can be markedly improved by a careful history and physical examination process at this time.

Physiology has now set the wheels in motion for adolescence. This early adolescent now begins to symbolically move away from the home environment and rely on friendships to supply concepts of self-worth. This movement is not as dramatic as seen in mid-adolescence and in some cases, is difficult to distinguish from latency. However, the parents may notice that their child is "different" and often the difference is a shift in emphasis of the youth from total reliance on parents to more reliance on friends and environmental supports beyond the home. Such a psychological shift can be greeted by youth and/or parents with joy or sadness; however it is inevitable, necessary and fully normal. Friendships are usually with those of the same sex. Boys become involved with groups of boys (gangs) and girls, though often seeking many friends, usually have one or two very close girlfriends. (See Table 1). They compare themselves freely, hoping to be equal or even superior to their friends in all methods of comparison. They often discover a new growing ability for abstract thinking - see the next section. (See Table 1 for an outline of early adolescence characteristics.)

TABLE 1

CHARACTERISTICS OF EARLY ADOLESCENCE

1. Preoccupation With Rapidly Changing Events of Puberty
2. Beginning of Symbolic Movement Away From the Home Environment
3. Comparison With Peers and Worry Over Perceived Abnormalities
4. Establishment and Maintenance of Same-Sex Friendships
5. Initial Abstract Thought Development

Early adolescence is normally a relatively quiet time, providing a transition from childhood into adolescence itself. Once early adolescence arrives, middle adolescence or the "essence of adolescence" soon ensues. (See Table 2.) This is generally the time of major adolescent problems, if they are at all to occur. Though the psychological elements of mid-adolescence can occur at any time from ages 10-21, they normally are observed to a varying extent, between ages 14-18, after much of the pubertal changes have occurred. There is a marked, even dramatic shift in the need to explore physical capabilities, become increasing independent of parents and develop more reliance on peers setting personal as well as behavioral standards.

The improvement in cognitive ability (see next section) greatly improves their own and thus conflicts with parents become almost inevitable. They question rules of home and school and seek constant change. Parents often seem not so intelligent as before while the advice of peers is often accepted over that of parents. Elements of childhood and early adolescence can be seen, as there may be occasions when sudden dependency on parents occurs; such ambivalence over dependency-independency issues is common-especially if the youth must contend with over-protective parents and/or chronic illness issues. Thus parents often complain about the unpredictableness of their teenagers. Such is not surprising, since the teenager often can't predict their actions either.

TABLE 2

CHARACTERISTICS OF MIDDLE ADOLESCENCE

1. Significant Symbolic Movement Away From the Home Environment
 - a. Considerable need for independence
 - b. Strong reliance on peers setting personal rules
2. Major Change in Cognitive Abilities and Fantasy Life
3. Heterosexual Experimentation Predominates
4. Altruistic Nature Emerges
5. Identification with Non-Parental Adult Role Models

Parents may mourn the loss of their "child" as she or he may be away from home as much as possible. During this potentially difficult time, moodiness and irritability become commonplace. Some youths experience wide mood swings, suicidal thoughts, and transient school problems - as they adjust to the changes of mid-adolescence. Many become concerned about their environment and develop altruistic tendencies to help others (apart from the parents, of course!). Youth question previously taught moral, ethical and religious views - seeking to understand concepts and perform tasks "their way."

School and family do not seem as important as "broader issues", such as the meaning of existence and the origin of life. A very rich fantasy life can develop with dreams of glory and conquest - often for the purpose of bettering themselves and society. Though parents are often "devalued", there can be other adults in teenagers' lives whom they admire and who can serve as role models or even "heros." These models are helpful in allowing the youth to learn how to set personal limits and develop a stable self-image. The nature of these models has important implications for youth.

Probably no issue is more sensitive to youth and parents as the concepts of friendships. Peers become very influential in their lives and the type of friends they develop says much about the youth. As one leaves parents, peers are used to fill this void and help one develop a sense of self-worth. The choice of friends is a critical one, for peers who choose negative coping skills encourage the individual along

similar negative lines. Parents are correctly worried if their child picks negative peers - for this implies the child has a similar self-image and may become influenced to develop or worsen poor behavioral patterns. Heterosexual experimentation (as discussed later) is also a key element of mid-adolescence. If a youth is into negative behavior, pregnancy and sexually transmitted diseases may unfortunately result. Such action, along with challenged moral, societal and parental rules often leave many parents concluding that they have lost control of their son or daughter.

Again, one must remember variations on such themes do occur. Some mid-adolescents exhibit minimal outward difficulty, while others present with major difficulties during mid-adolescence. A key element is that the psychological aspects of mid-adolescence occur during an appropriate time - preferably between ages 14 to 18. For someone to spend a "quiet" adolescence and then seek major eruption characteristic of mid-adolescence when late adolescence or adulthood is chronologically expected - this can be even more distressful to parents and society! Also, though parents feel they have lost control, such is not usually the case. Most youth emerge from mid-adolescence with relatively few scars, probably because the ideas they learned during childhood still prevail, even during those times when it appears that the peers have the only influence. Thus how parents treat and teach their youth as children is actually a bigger influence than peers during adolescence. The individual who enters adolescence with a good self-image and who has been treated consistently well by parents, generally has a more tranquil adolescence and better adulthood adjustment, then if the opposite were true.

Late adolescence (Table 3) sooner or later emerges from the unpredictability of mid-adolescence. Generally this occurs between ages 18 through 21 when final pubertal fine tuning occurs (as regulation of menses in female or further muscular strength increase in males - for example; see Puberty Section). The key to tranquility in this stage is that most of the turbulent issues of mid-adolescence are becoming resolved. Parents and youth should be comfortable with the inevitable process of emancipation, in which the youth gives up childhood dependency ties and acquires autonomous functioning of adulthood. The individual is now more comfortable in going from and returning to the home if still at home or in leaving for good. Economic necessity and/or expensive vocational (professional) training, characteristic of American life in the 1980s, may force the youth to keep closer ties to home than otherwise would be the case. If parents give up their "child" to adulthood and the youth accepts this, then considerable tranquility usually returns to the home. Parent-youth conflicts resolve and parent-youth relationships take on a special "adult to adult" characteristic. The bond of parent-child remains, but now in a very special manner. The youth should now be concentrating on job investments and acquisition of adult sexual roles - this is essentially the purpose of late adolescence, which then allows adulthood to successfully occur. Hopefully the individual has acquired a good self-image as a moral, sexual and spiritual human being. Some will also continue the altruis-

tic tendency of mid-adolescence. However, such idealism usually becomes tempered by the experience of late adolescence and early adulthood. The "realism" of adulthood life can then set in! Again it is stressed that the experiences of childhood determine much of the individual's reaction to adolescence and his/her eventual successful or failed adjustment as an adult. Adolescence is the template for childhood which becomes translated into adulthood. As this manual proceeds, various examples of this concept will be presented to you.

TABLE 3

CHARACTERISTICS OF LATE ADOLESCENCE

1. Issues of Emancipation From Parents Essentially Resolved
2. Final Pubertal Changes (Physiologic Fine Tuning) Occurs
3. Finalization of Secure, Acceptable Body Image and Gender Role
4. Establishment of "Adult" Versus Narcissistic Sexual Relationships; Acquisition of Adult Lifestyle (Marriage, Singlehoodness, See Table 7)
5. Considerable Energy Spent in Establishment of Vocational Skills or Training

Psychological Stages: Summary

When the health care professional is charged with evaluation of an adolescent, the key element is to see how the individual measures up to obtaining these goals which have been presented. Is he or she acting appropriately at a particular stage? Is he or she precocious? Is he or she proceeding through these stages in a normal manner? Don't listen to the age but listen to what psychological stage the individual seems to be in - then see if the age matches. Erickson refers to this as the tasks of adolescence (Table 4). The goals of adolescence is to allow the "finished" product to emancipate (or leave childhood dependency for adulthood autonomy) and to establish an acceptable identity as an intellectual, sexual and functional being. Variations in this complex process are to be expected. It is not the day to day experiences which are important but the overall trend which takes years to go from early adolescence to mid-adolescence to late adolescence to adulthood. There are many factors affecting this journey, as we shall see. The more we understand about this complex process, the more we can help parents and youth during this potentially difficult time. Finally, we must remember that becoming a young adult is not the final phase of life but the continuation of this process of seeking ones real identity. Thus adulthood is really a continuation of processes started in childhood and then passed on into adolescence and eventually various stages of adulthood.

TABLE 4

ERICKSON'S TASKS OF ADOLESCENCE

1. Emancipation
2. Acquisition of Identity (Sense of Uniqueness and of Self-Separateness)
 - a. Intellectual: "Who am I in relation to the Universe?"
 - b. Sexual: "Who am I as a male or female in relation to other males and females?"
 - c. Functional: "What role do I assume in adult lifestyle and work?"

B. Cognitive Stages of Development

In addition to psychological stages, adolescents also go through important stages in maturation of their thinking or cognitive skills, as outlined by Piaget (Table 5). According to classic Piagetian theory, individuals are in the Sensorimotor Stages during the first two years of life. This is the time skill is acquired in using the complex sensory system (as hearing or vision) while motor skills are also developed. Presumably thinking skills are quite limited, though important principles of parent-child bonding occur, in which the toddler should learn to feel secure and loved in a consistent manner.

TABLE 5

PIAGET'S COGNITIVE STAGES

1. Sensorimotor Stage (Birth to 2 Years)
2. Preoperational Stage (2-7 Years)
3. Concrete Operational Stage (7-11 Years)
4. Formal Operational Stage (12-16 Years of Age and/or to Adulthood)

From ages 2 through 7 many enter the Preoperational Stage in which acquisition of language skills becomes a key element. There is an increase in thinking skills but minimal logic is noted and the child is usually unable to utilize reverse thinking skills. For example, the average 5 year old has a difficult time realizing that the larger nickel is worth less than the smaller dime or that an individual who is taller than another is not necessarily older in years. Many individuals at this age struggle with concepts of theology or science - who is God, where is Heaven, what is Death, why can't I see grandmother who has died, does God wear clothes, why don't the stars fall down, where is the sun at night, and so forth. For example, if death is explained as "falling asleep", then it is not surprising to see 5 year olds upset when given general anesthesia for surgery. It is common for individuals in the preoperational stage to surprise parents with complicated questions, and then find that the parents are unable to explain the

questioned phenomenon using "adult" logic. Children often have a difficult time with language idioms or expressions. If the parent calls home to inform the child that mother/father is "tied-up at the office" and will be home late - the child may become quite alarmed at such a thought! This is usually a delightful stage for parents and any health care professional who has the privilege caring for or teaching such children. It is also a time of great responsibility, for children continue to need consistent warmth and love during this period. Though children are well-known to rebel and find their limits - parents must respond out of love and use consistent, reasonable discipline. The seeds to many problems of youth and adults stem from abnormal parenting practices at this very important stage of child development. An important job parents have is to carefully help their children deal with the inevitable frustrations of being in the preoperational stage while seeking to go beyond.

Most individuals enter the concrete operational stage from late childhood through early adolescence (ages 7-11). However, as often noted in childhood and adolescent development, variations are often seen, depending on the developmental timing of the particular child. During this time there is markedly increased capacity for logical thinking. Parents notice the growing child understands more, and can handle even more complicated tasks in school, church (Synagogue) and other learning situations. The individual can better understand symmetrical relationships and how to appreciate concepts involving various serializations.

If the child is developing a healthy self-image, if he or she feels secure within a stable home environment, and if the school works with individual abilities - this child learns to enjoy learning and can take pride in increasingly complex educational accomplishments. Some children develop cognitive skills at rates different from the average and if their schools or parents do not appreciate this fact - frustration in school tasks occurs which can result in school failure in late childhood or adolescence. Even a year or two in chronological age can make a marked difference in cognitive skills being equal or below the class average. A major task of this period is to begin to enjoy learning at a level commensurate with personal cognitive abilities; many parents and schools do not appreciate this concept, much to the later dismay of students, parents and teachers when severe school dysfunction emerges.

A major limitation in this stage is noted by the term "concrete" which implies an individual has considerable difficulty with futuristic thinking. Their thinking skills are concrete, as if placed in a block of stone and they tend to deal mainly with the here and now issues. What is of major importance to the early adolescence is today, but certainly not anything in months or years in the future. For example, how do you counsel a 13 year old youth who smokes cigarettes and is unable to listen to logic discussing the considerable cigarette related morbidity as well as mortality which awaits the chronic smoker in the future? This individual simply does not understand or appreciate such advice. How do you provide effective contraception to a 12 year old

sexually active girl who really does not understand that pregnancy can result, with delivery of a real human being 9 months after conception occurs? Logic with most concrete thinking youth must be rooted in practical, present day terminology. If you only use futuristic logic, the argument may be lost! Many youth remain at this level well into mid or even late adolescence. Thus dealing with youth necessitates the ability to see "where they're at" in terms of psychological and cognitive stages, regardless of their specific or stated chronological age.

A final difficulty with young (or older) teenagers who are at the concrete thinking level is their tendency to be "magical thinkers." This is a concept seen in early and mid-adolescents, which can cause considerable difficulty for youth, parents and society. It implies that the individual feels unique and that harm will not come to one because you are somehow special and immune to danger. Thus the young girl can be sexually active, refuse contraceptives and really be personally convinced that, though others may get pregnant, she will escape such a fate. Thus the teenage boy can drink heavily at a peer's party, and then drive home with friends - never worrying about a car accident. If you combine the concrete thinking skills with magical thinking, you have a very dangerous combination which justifiably can worry any parent! Youth are inclined to be impulsive and mistakes do indeed occur. If you tell a young concrete youth with magical thinking skills not to see a girlfriend or boyfriend with whom they have formed a close relationship, you may find extreme impulsive reaction in some. They may not appreciate that this interruption of their relationship is not forever or that an impulsive reaction (as drug overdose) may be harmful as well as failing to solve the presented problem. Unfortunately, one can expect to make mistakes - the parents reaction to such behavior can improve or worsen the entire situation. Parents often forget that they may have overcome their concrete/magical thinking stages, but that their youth may still be in the middle of such struggles. Often patience and time will allow the youth to move on into the next Piagetian cognitive stage - the Formal Operational Stage.

Formal operational thinking is the stage involving maturation of formal cognitive skills, in which improvement in inductive and deductive reasoning ability occurs. During this time the youth combines an ability to develop theories along with a rich fantasy life. He/she develops prepositional logic, in which the individual can think about the thought process itself. Normally this develops after age 12, starting with early adolescence and finalizing in mid (or even late) adolescence. However, as noted, many teenagers and even adults never fully shift cognitive gears from the concrete phase to the formal operational phase. Yet, many youth do enter this improved phase of reasoning ability, just as they reach a point when they want to argue, to disagree with parents, to determine their own views and set their own course. Thus, such thinking skills mature as the process of emancipation and identity formation races forward. In fact, mid-adolescence is considerably aided with entrance into formal operational thinking. Also, moral thinking and altruistic concerns now can

partly due to this new thinking skill. The individual looks like an adult, wishes to be one and now "sounds" like one. As an argumentative machine, he/she may present a formidable challenge to the parents!

Though thinking skills are changing, the individual can still possess magical thinking concepts and still lacks a very important element - experience. As noted by Shakespeare, adolescence represents the "salad days - when one is green in judgment and cold in blood". (From Anthony and Cleopatra). Combine this with the need for peer approval, (many of whom are under similar developmental concepts), and one sees the many difficulties mid-adolescents can create for themselves, for parents and for society. Mistakes are not uncommon at this time. Despite warnings, the sixteen-year old may drink heavily at a party and end up killing himself as well as several peers in a tragic car accident. Fortunately, most teenagers survive this potentially difficult time and emerge into adulthood seeking vocational skills as well as adult sexual life styles. The best way to reduce the potential problems of adolescence, as noted previously, is by careful parental preparation during childhood. Another key is how parents react to their changing youth and how they accept the inevitable process of change marvelously unfolding before them.

C. Sexual Development of Adolescence: Adolescent Sexuality

1. Introduction

A key component to the healthy development of the teenager is how he/she proceeds with their stages of adolescent sexuality. As noted, adolescence is the critical period of growth from puberty to maturation. During this time the individual must develop healthy self-esteem and also sexual comfortness - learning to deal with those in his/her "sexual" universe. Sexuality is a complex phenomenon which involves interaction between ones biologic sex, core gender identity (sense of maleness or femaleness), gender identity (sense of masculinity and femininity) and gender role behavior (nonsexual as well as sexual). It is also a basic yet profound recognition that humans need other humans and this human capacity to give and receive love represents a continuum from birth to death. The success or failure experienced by the child and teenager as their sexual system is developed has much to do with their eventual success or failure as an adult.

The biologic sex (XX or XY) is determined at conception, but post-natal sexual sex hormones. Between the 6th and 12th fetal week, androgens program the XY fetus to develop biologically and to some extent behaviorally into a male. The presence of female hormones along with the absence of fetal androgens (at a critical level), allows the XX fetus to develop into a normal female. Rare situations involving excess or deficiency of sex hormones can alter the normal male or female outcome; likewise, chromosomal abnormality

can cause intersex conditions. However, in nearly all cases the XX or XY fetus is normally programmed in an as yet poorly understood manner, and the biologic sex is clearly assigned at birth. Various environmental influences from parents and others teach the individual what is meant by being male or female. Thus by the age of 2 one's sense of maleness or femaleness (core gender identity) is normally fixed. Likewise the sense of what constitutes masculinity or femininity (gender identity) is established in early childhood. During early childhood individuals learn various behaviors associated with masculinity or femininity and then establish what can be called non-sexual gender role behavior. Thus girls play with dolls and wear dresses - boys do not and normally will not even consider such activities. Gender role behavior from a sexual viewpoint refers to behavior influenced or precipitated by a personal desire for some type of sexual pleasure. This desire for physical sex resulting in orgasm is mainly explored during adolescence and frequently modified during adulthood. However, most experts feel that the sexual orientation (heterosexual or homosexual) of an individual develops in childhood by ages 6-8, and not in adolescence (see the section on Homosexuality).

The Psychosexual Stages Of Freud provide further emphasis for the importance of childhood and adolescent experience to later adult functioning. According to Freudian theory there are four basic stages: Oral (0-1 1/2 years), Anal (early anal stage at 1 to 2 or 3 years and Late anal stage at 2-6 years), Latency (ages 6-12) and Genital (adolescence). The Oral Phase is concerned primarily with feeding in which pleasure is achieved using the mouth. If this stage proceeds normally, the baby develops a sense of security and optimism; otherwise a generalized hostility and distrust of the environment develops. The Anal Phase is initially concerned with toilet training and difficulties here may lead to an inability to adjust one's behavior to the request of others. An Anal Character is one who has an abnormal need to control one's self and one's environment; this may lead to the compulsive personality disorder in which the individual becomes excessively stubborn, lacks normal warmth in dealing with others and excessively prizes details as well as efficiency.

The time from the end of the third year to the seventh year has been called the late anal phase or the phallic phase and involves the child's discovery of his or her genitals. Controversial theories involve castration anxiety (the boy's fear of genital damage or loss) and penis envy (girl's desire to become a boy by acquiring a penis). During this time the boy becomes attached to his mother and develops negative, "competitive" feelings toward the father. Resolution of this Oedipus Complex results in normal identification with the father. Similar concepts are directed toward the girl and are called the Electra Complex. A considerable amount of Freudian Theory seeks to explain much human psychopathology on the failure to resolve the Oedipus Electra Complex. Normally a temporary resolution is found, ending the Phallic or Late Anal Phase. This ushers in the Latency Stage during which the

child expands intellectual and social skills, while repressing childhood sexuality development. Puberty interrupts latency by establishment of adolescence or the Genital Phase. During this Genital Phase the Oedipus/Electra Complex is once again raised and development of normal health dictates successful resolution of this Complex, so that healthy adult sexuality may occur.

Though various scholars disagree on the exact meaning of these stages, all agree that by the time the child enters puberty, he/she should have developed a good self-image, a sense of security, a willingness to trust others, a consciousness and a normal sense of right versus wrong. If this is not the case, major problems in adolescence and adulthood are likely to unfold. One can also conclude that sexuality does begin at birth or even at conception. A review of normal childhood behavior reveals that physiologic components to sexuality are seen at an early age. For example, erections are noted even in utero and orgasm as a neurophysiological phenomenon can occur as early as the fourth month of life and is common in males 6 to 8 years of age. Female newborns often have leukorrhea or vaginal discharge as a result of maternal hormone effect. Masturbation or self-genital manipulation for pleasure is very common between ages 2-6 and latency age children are naturally curious about the anatomy of the opposite sex.

These are natural phenomenon and a major influence on how the child develops attitudes towards them is the parental attitude themselves. As noted by Mary Calderon: "Whatever happens, it is clear that by the time the child arrives at school, it has already received, for good or ill, the most profound as well as the most unchangeable sex education it will ever receive in its life." If a parent finds the 4 year old masturbating and aggressively reacts to inform the child it is "unclean" and not "respectable", the child clearly learns to associate normal sexuality with negativism - a lesson carried throughout his/her life. If the natural curiosity of the latency age child is totally repressed, the child receives the wrong message about human sexuality. Ignorance on the part of parents and failure to teach the child normal concepts results in numerous psychosexual difficulties in adolescence and adulthood. It is curious to see 5 year olds who can name the most common body parts but not their own genitals. It is curious to see health care professionals contribute to this by not exploring such ideas with parents and not even including the genitals as part of the normal physical examination. When the health care professional does not even visibly inspect external genitals during routine physical examination, the child learns the lesson taught by parents - that genitals and sexuality are negative (even "dirty") and to be avoided as much as possible. Health care professionals must learn normal concepts of human sexuality and encourage parents to do so also. Other groups, as religious and educational institutions, which profoundly affect our children, must actively join parents in the area of sex education.

As often noted by Doctor Mary Calderone: "Sexuality education is the knowledge that we are all sexual human beings, that our sexuality is part of our lives and can be an enhancement or enrichment of our total personality." Unfortunately the ignorance of our children and the negative messages they receive about human sexuality contribute to the many sexuality related problems we see in youths and adults: depression, serious rebellion against society, sexually transmitted diseases, pregnancy, incest, runaway behavior, adolescent prostitution, marital dysfunction, sexual dysfunction and others. Some of these problems are discussed later in this article. However, we need to remember that sexuality simply is a very important part of our lives and that failure to deal with normal concepts does result in major problems in adolescent and adult lives. Negative parental and societal attitudes are a major factor in this unfortunate situation. If we as health care professionals believe this, we need to aid parents and their children in resolving this problem. There is a minority of the population against such an approach, but studies do show that the majority of the American population who are informed about such problems as pregnancy and sexually transmitted diseases, do favor sensible sex education for their children.

2. ATTITUDES AND SEXUALITY

An excellent example of the potential detrimental effect that negative societal attitudes can have on sexuality is offered by looking at historical views on masturbation. For centuries this persistent aspect of sexuality was condemned as sinful and/or harmful to human health. Some incorrectly attributed this conclusion to Genesis 38:9 when Onan was condemned for not impregnating his brother's wife after the brother died. This was part of the Levirate Marriage Concept which was intended to assure survival of human civilization at a time of very high infant mortality rates and relatively short human life spans. Though Onan performed "coitus interruptus", many have incorrectly called masturbation Onanism. Galen, (180 A.D.), the famous Roman physician, wrote that masturbation was a very bad habit and when encountering a male who engaged in this practice, we are warned to "watch carefully over this young man, leave him alone neither day nor night; at least sleep in his chamber. When he has contracted this fatal habit (masturbation), the most fatal to which a young man can be subject, he will carry its painful effects to the tomb - his mind and body will always be enervated."

In 1716 Bekker wrote a book in Europe called Onania The Heinous Sin of Self Population which strongly advocated the view that masturbation was immoral and caused health problems. In 1766, a very influential Swiss physician, Tissot, wrote what was to become a well-known book called: A Treatise on the Diseases Produced by Onanism. The book offered this same thesis and such a conclusion became the dominant medical view, as well as religious view, for the next 150 years or more. Eventually it was taught in Medical

Schools that most of human medical and mental illnesses were due to masturbation. Various treatments were devised including: prayer, diverse dermatological agents, opium, diet, genital cauterization, electrodesiccation of rectum or genitals, devices to prevent penile tumescence (including the spermatorrhea ring with spikes in its middle), circumcision, clitoridectomy, castration and others. From 1890 to 1925 there was an American group of surgeons (called the Orificial Surgery Society) who taught and practiced genital surgery as treatment measures for masturbation. The roots of such ideas are deeply imbedded in religious bias and fear that masturbation injures sperm - thus possibly interfering with the survival of civilization.

A gradual change in such attitudes has been observed in the current century. During the early part of the 20th Century, authors stressed that masturbation as such may not be harmful but guilt over such worry certainly can be injurious to mental health. By the middle of this Century, many physicians realized this concept and numerous researchers began to study masturbation as a very common aspect of normal human sexuality. It was noticed that self-genital stimulations for pleasure is practiced by most adults in some manner or other, without deleterious effects on human physiology. Pediatricians now teach that "excessive" masturbation in infants may result from such problems as pinworm infestation, diaper dermatitis, tight clothes, nonspecific genital pruritus, phimosis and other medical conditions. Freud's view that masturbation drained energy from children is not upheld now. However, it is known that certain masturbation variations can be harmful, as for example the adolescent sexual asphyxia syndrome - in which "partial" hanging is practiced while masturbating in order to achieve orgasm.

Current teaching among professional medical or psychological groups is that masturbation is not harmful by itself and can be useful as part of a therapeutic approach to correct various sexual dysfunctions. Some youth, encouraged by their "peer" journals, are encouraged to masturbate in order to relieve sexual tension. However, there still exists considerable worry by parents about the "perceived" effects of masturbation on their children. Thus anxiety about masturbation and indeed other important aspects of human sexuality remain today, especially because adequate sex education is rarely granted to children and youth. Youth reflect this ignorance and uneasiness about their own sexuality with resultant negative effects. A partial solution to this complex problem would be to encourage parents to acquire a broad knowledge of human sexuality which is consistent with their own moral philosophy and then to share this with their offspring. Health care professionals can assist in this goal as well, as they interact with children and youth. Such concepts about masturbation can also be applied to other important aspects of human sexuality.

3. NORMAL ADOLESCENT SEXUALITY STAGES

The young adolescent resumes previously acquired interest in the development of interpersonal relationships. Typically the youth approaches this from a narcissistic viewpoint in which the individual's interest comes first and concerns of the other are not considered. This "selfish" attitude starts with those of the same sex and extends to those of the opposite sex during mid-adolescence. Considerable energy is spent acquiring social skills ability and friendships with same sex individuals. Thus boys tend to develop "gangs" of males who engage in various behaviors, as each member tests the other in diverse aspects of adolescence. Definitions of masculinity are tested and confirmed within such groups. Group masturbation, homosexual experimentation and considerable false braggadocio about sexuality are quite common. Girls tend to associate with a few very close girlfriends and then, to a lesser extent deal with a larger group of females. The extent of masturbation and homosexual experiences is unknown but probably less than that reported with their male counterparts. This early adolescent phase of development is often referred to as the "homosexual phase" and is considered normal. The next section further expands on homosexuality and the adolescent. Also, classic Freudian theory teaches that early adolescence is the time for reemergence of the Oedipus Complex and, if normal health is to occur, for it to be finally resolved.

Middle adolescence is typically called the heterosexual stage, as youth acquire diverse experiences with the opposite sex. Late adolescence is normally the time to begin consideration of available adult lifestyles. During middle adolescence, depending on the youth's self-image and opportunity as well as parental influence, there is a normal sequencing of this heterosexual development. It begins with interest in the opposite gender, and is followed by group dating, individual dating and eventual sexual intimacy. Such intimacy runs an individual course including handholding, superficial versus "serious" kissing, petting, oral sex and/or coitus. This relationship is also described as narcissistic (generated from self-interest) and deeply embedded in resolution of Oedipus/Electra Complex. Psychiatric literature is replete with articles about young adolescent "triangles" in which close girlfriends "trade off" boyfriends in an effort to resolve their Oedipal conflicts.

Kinsey, 1948, reported that 20% of females aged 16-20 were coitally experienced. Sorensen, 1973, surveyed 400 American youth and reported coital experience in 44% of males versus 30% of females aged 13-15; this contrasted with 72% of males and 57% of females aged 16-19. Kantner and Zelnik published several well-known survey reports from the 1970s (Table 6) indicating that there are millions of American teenagers who are coitively active. In 1971 they reported 46% of females were sexually active by age 19; in 1976 this was reported to include 55% of unmarried 19 year old females

and 70% of unmarried 19 year old males. These researchers also estimated that the average age of onset of sexual activity (sexarche) was 15.5 years for the black teenager surveyed and 16.4 years for the white females. This same team of investigators noted that 31% of sexually active female adolescents reported 2-3 sex partners, 9% had 4 or 5 partners while 10% claimed over 5 sex partners. Since these youth are generally quite ignorant about human sexuality, it is not surprising to note that these millions of sexually active youth produce 1.3 million pregnancies and millions of sexually transmitted diseases each year in the United States. Such action also results in 30,000 pregnancies in youth 14 years of age or less and also in over 400,000 annual abortions in youth of all ages. The complex problems of adolescent sexuality can be further understood by noting the unknown thousands of incest as well as sexual assault incidents which occur each year to our youth, the estimated one million runaway youth there are, and by the estimated one million adolescent prostitutes (male and female) who exist in this country. The impact of sexually transmitted diseases (discussed later) can be partially realized by observing that sexually transmitted diseases involve a diverse list of over 20 diseases, ranging from well-known entities (as gonorrhea or acquired immune deficiency syndrome) to diseases rarely heard of by the general public (as Behcet's or Reiter's Syndromes).

TABLE 6*

PREMARITAL SEXUAL ACTIVITY OF FEMALES

Year	14 Years	17 Years	19 Years
1971	14.4%	26.1%	46.4%
1976	18.6%	42.9%	59.5%
1978	22.5%	48.5%	69.0%

*Zelnic and Kantner: Sexual and contraceptive experience of young unmarried women in the U.S. 1976 and 1971. Fam Plann Perspect 9:55, 1977.

Limited sex education can again be invoked as a partial explanation for such tragic statistics of adolescent sexuality. Youth are naturally curious about sexuality and often experiment widely, especially during mid-adolescence. We exist in a society that stresses the enjoyment of human sexuality but often paradoxically ignores the responsibility as well as potential negative consequences of unwise sexual experimentation. Males are often ignored in such education and it is amazing to see so many adolescent males eagerly experimenting with their sexuality without regard for others. Part of this is the "normal" narcissistic stage of adolescent sexuality, while part of it is concurring with society's encouragement - we advertise with sex and we eagerly expose youth to various movements where "Free Love" is promoted. Cable television may have a profound effect on America's youth without parents really being aware of what is going on.

As previously noted, it is late adolescence when most youth begin to overcome their narcissistic heterosexual experimentation and prepare for adulthood by serious consideration of a job investment as well as an adult lifestyle. As indicated in Table 7, there is an amazing variety of lifestyle alternatives available to adult society. Relationships at this time in late adolescence should switch from "selfish" concerns to overt caring about the other individual - this, at least should be the goal of adult sexual relationships. Unfortunately, the high rate of divorce and sexual dysfunctions reported in current adult populations, indicates that this is not always the case.

TABLE 7

LIFESTYLE SPECTRUM IN THE 1980s*

1. Traditional monogamy
2. Serial monogamy (repeat marriages)
3. Single parenthood
4. Cohabitation
5. Singlehood
6. Communal living
7. Child-free relationships
8. Swinging and/or group sex
9. Group marriage (one married couple adding an additional adult)
10. Synergamous relationship (several couples with various sexual arrangements)
11. Open-ended relationship in marriage (freeing either partner to develop sexual contacts outside the marriage)
12. Celibate marriage
13. Family network systems (several families joined together with or without traditional sexual relationships)
14. Secret extramarital relationship

*Stayton WR: Lifestyle Spectrum 1984. SIECUS Rep 12(3):1-5 1984.

4. HOMOSEXUALITY AND THE ADOLESCENT

Kinsey et al (1948, 1953) startled the American society by reporting that 4% of the adult male population and possibly 2% of the adult female population are exclusively homosexual with respect to their sexual behavior and fantasy life. Their classic research included a thorough survey of 5,000 adult males and 6,000 adult females. They revealed the astonishing data that 50% of the adult male population had a prepubetal homosexual experience, that 33% experienced such behavior with orgasm, and that 10% had this orientation for at least 3 years after puberty. Research since then generally has confirmed that a small but definite percentage of the American adult population is exclusively homosexual, and also adds that many individuals have both homosexual and heterosexual features. The famous Kinsey Scale of Sexual Orientation

(Table 8) notes adult's sexual orientation ranges from exclusively heterosexual (rating 1) to exclusively homosexual (rating 6) to various mixtures (ratings 1-5). There are many recent studies indicating adults display diverse sexual orientations. The Bell and Weinberg Study, 1978, noted that 25% of "homosexual" adults also had heterosexual inclinations at various levels. McConaghy et al, 1979, surveyed 138 male and 58 female medical students in Australia. Their study noted 60% of the students were aware of homosexual feelings at adolescence, while 40% still retained such feelings. Further rating of this male group was as follows: 55% - 0 vs 3% - 6; 38% - 1, 4% - 2-4 and 1% - 5. The females were listed as 52% - 0 vs 3% - 6; 33% - 1, 7% - 2-4 and 5% - 5. Thus our youth seem to enter adulthood with a variety of sexual orientation options.

TABLE 8

KINSEY SCALE OF SEXUAL ORIENTATION

Rating	Description
0	Exclusive heterosexual (in sexual behavior and fantasy)
1	Essentially heterosexual with incidental or limited homosexual history
2	Largely heterosexual with distinct homosexual history
3	Equal heterosexual and homosexual orientation ("ambisexuality")
4	Largely homosexual with distinct heterosexual history
5	Essential homosexual with limited heterosexual history
6	Exclusive homosexual (in sexual behavior and fantasy)

Societal attitudes have generally been very intolerant of such same sex orientation, especially for males. Infant and modern religions (especially the Judad Christian Faith) have often condemned homosexuality as immoral, particularly for the same reasons outlined under the masturbation section. Yet, homosexuality has remained a persistent element of nearly all human civilizations. Currently society is under considerable conflict as to the "morality" and "acceptability" of homosexuality. Our youth face this same dilemma, especially since some youth do become gay and most are exposed to the modern movement of the American Gay Society to become more open. A significant step toward this occurred when the American Psychiatric Association, in 1974 adopted the official policy statement that homosexuality, in and by itself, was not a psychiatric disorder. The American Psychological Association offically accepted this same concept in 1975. Prejudice, of course, still continues toward this phenomenon.

Though there has been considerable research about homosexuality, controversy remains. Some maintain that homosexuality results from sex hormone-controlled "programming" of the brain (hypothalamus) in utero and then combines with complex social learning factors in childhood. It has been observed that if a female (XX) fetus is

exposed to excessive male hormones (as noted with some forms of congenital adrenal hyperplasia), the resultant female child may exhibit some "masculine" traits (such as seeking male aggressive play or ignoring doll playing). However, proof for such theories has not been truly established. Most homosexual individuals have the same sex hormone levels as their heterosexual counterparts. Though very recent data does suggest that homosexuals respond differently to certain hormone injections (as opposed to heterosexuals), more research is clearly necessary in this area.

Psychological studies and theories abound regarding homosexuality, but so do the disagreements. Freud felt that individuals began human life with bipotentiality - that is they could become homosexual or heterosexual; usually the heterosexual aspect dominated. Freud did not consider homosexuality a mental illness, as noted by his famous 1935 response to an American mother of a homosexual: "Homosexuality assuredly is no advantage, but nothing to be ashamed of, no vice, no degradation; it cannot be classified as an illness; we consider it to be a variation of sexual functioning produced by a certain arrest of sexual development." Other mental health professionals have disagreed over this point of the "normalcy" or "abnormalcy" of homosexuality. Though some investigators report that many homosexuals are reared from homes displaying very abnormal family dynamics - others disagree. Are homosexual adults different from heterosexual adults from a psychological viewpoint - again studies conflict regarding this point. Thus opinions still vary from calling homosexuality normal or abnormal to even arguing that to study homosexuality implies unacceptable prejudice against this specific lifestyle. Then, when you add in Kinsey's stages 1-5, more confusion and conflicts abound!

What does this mean for the adolescent? What is clear is that adolescents do experiment in both heterosexual and homosexual spheres. There is far more homosexual experimentation by youth than there are homosexual adults. The young teenager who experiments in this area is not necessarily confined to a homosexual lifestyle. Sometimes the health care professional can be very helpful to the youth who becomes very anxious over such experiences. Youth should be cautioned to keep their options open until late adolescence or early adulthood; by that time most are aware of their real sexual orientation - and usually this is heterosexual. As noted earlier, adolescence or puberty does not cause or induce homosexuality. Sexual orientation is a very complex but poorly understood phenomenon which is established by middle childhood (age 8). Early and mid-adolescence stimulate various stages of experimentation while late adolescence should allow some resolution in this area.

One should also note that some youth enter adulthood committed to a gay lifestyle and they state their sexual orientation as well as commitment began even in early adolescence. Variations of the "norm" certainly do occur. There do seem to be some individuals

who have opposite-gender behavior as well as fantasies from late childhood through adolescence, which go on into adulthood. There are also a few males who display cross-dressing interests (Transvestism) and also rare cases of individuals truly wishing to change their sex (Transsexualism). Such individuals need very careful psychological assessment and triage to appropriate mental health units. However, how about the individual who does not cross-dress or wish to change biological sex, but presents with persistence gay orientation? Nonpejorative counseling may help such individuals discover what his/her feelings really are. Green identifies three stages in this process: first feeling "different", then developing a crush on a same sex person and finally becoming aware of his/her homosexual orientation. There may be a subsequent "coming-out" phase in which the teenager seeks to reveal this "secret" to others, as family or peers. Troiden has outlined 4 stages in the development of gay identity (Table 9).

TABLE 9

TROIDEN'S FOUR STAGE MODEL: DEVELOPMENT OF GAY IDENTITY*

A. Stage One: Sensitization

Gains homosexual experiences in childhood and adolescence while learning of general society's view on homosexuality.

B. Stage Two: Dissociation and Signification

Struggles to reject the concept that society's negative views on homosexuality applies to one's self.

C. Stage Three: Coming Out

Identifies one's self as "gay" and reaches out to become involved in some aspect of the gay society subculture. Begins to consider homosexuality as a viable lifestyle option.

D. Stage Four: ACCEPTANCE

Fuses one's concepts of sexuality and emotionality as an adult. Some are "arrested" at stage 3 while others will arrive at Stage Four.

*Troiden R: Becoming homosexual: A Model of gay identity acquisition. Psychiatry 42:362-373, 1979.

Youth who are going through various stages of homosexual identity need as much support as possible. They have to deal with society's prejudicial attitude, peer's ridicule and parent's rejection. They may develop poor social skills and suffer from a lack of appropriate adult role models. The need for secrecy and limited sex education results in various potential psychological and physio-

logical difficulties. Youth may unknowingly be exposed to various sexually transmitted diseases, especially some types which the heterosexual community does not see - as the enteric diseases (the gay bowel syndrome characterized by giardiasis, amebiasis, shigellosis, herpes or gonococcal proctitis and others). Younger youth may only get gay contact at public places where problems with sexually transmitted diseases often exist. Fortunately, AIDS (Acquired Immune Deficiency Syndrome) has not surfaced as a problem for gay youth as it has for the adult gay population.

It is not surprising to see many such youth develop intense struggles to develop an acceptable self-identity. Health care professionals can help such individuals by nonprejudicial counseling, teaching improved social skills, possibly arranging family counseling, and reminding youth to always keep their options open. Health care professionals may obtain more information on homosexuality by contacting the various groups listed in Table 10. If the individual does seem disturbed by this homosexual orientation, referral to appropriate mental health or counseling facilities may be helpful. However, trying to force change on a youth who seems content with his/her gay lifestyle, simply is not productive. It should be remembered that the American Psychiatric Association only lists ego-dystonic homosexuality as a disorder - that is someone who is disturbed by his/her gay identity and/or wishes to change. A switch from homosexual to heterosexual orientation is possible if the individual has high motivation, retains heterosexual fantasies, has had at least minimal heterosexual experience and whose homosexual experiences occurred over age 16. The heterosexual community must realize that there are indeed millions of American adults who share these comments of Brian McNaught: "I like being gay. I like knowing there is something very unique and even mysterious about me which separates me from most of the rest of the world. I like knowing that I share a special secret with a select group of men and women who lived before me and with those special few who will follow....I like walking at life's edge as a pioneer; as an individual who must learn for himself the meaning of relationship, love of equals, sexuality and morality. Without the blessings of the church and society, my life is one outrageous experiment after another. I like knowing that if I settle into a particular frame of thought, it is because I have found it appropriate and not because I was raised to believe that's the way things must be."

TABLE 10

NATIONAL ORGANIZATIONS PROVIDING INFORMATION ON HOMOSEXUALITY

1. Dignity International
1500 Massachusetts Avenue NW, No. 11
Washington, D.C. 20005
2. National Federation of Parents and Friends of Gays
5715 Sixteenth Street NW
Washington, D.C. 10011
(202) 726-3223

3. National Gay Health Coalition
26 North 35th Street
Philadelphia, PA 19104
4. National Gay Rights Advocates
(415) 863-3624
5. National Gay Student Center
2115 S. Street NW
Washington, D.C. 20008
6. National Gay Task Force
80 Fifth Avenue, Suite 1601
New York, NY 10011
(212) 741-5800
(Educational Materials)
7. Sex Information and Educational Council of the U.S.
(SIECUS)
80 Fifth Avenue, Suite 407
New York, NY 10011
(212) 929-2300

D. PUBERTAL DEVELOPMENT OF ADOLESCENTS

In addition to psychological, cognitive and sexual stages, youth go through well-known physiological stages which are summarized by the term puberty. Puberty occurs because central nervous system maturation triggers rise in sex hormones, including adrenal hormones (androsterone and dehydroepiandrosterone), estrogen (female hormone) and testosterone (male hormone). The maturation of the pubertal axis (hypothalamic-pituitary-adrenal-gonadal axis) occurs because of poorly understood reasons. Proposed theories include such concepts as reduced hypothalamic sensitivity to gonadal steroids, amygdala maturation, adrenal gland secretion, attainment of a special ("critical") weight or body fat to total body weight ratio, and others. Though the cause is unclear, the hypothalamic-pituitary axis does become activated, with resultant production of gonadotropins - Follicle Stimulating Hormone (FSH) and Luteinizing Hormone (LH). These important chemicals then stimulate the gonads to secrete testosterone, estrogen, and or related chemicals to reduce the classic secondary sex characteristics - indicating to the individual and eventually to others that clinical puberty has begun. The secret to this marvelous process seems to lie with the hypothalamus, the brain part which has been called the biological clock of life - determining many aspects of human life - birth, puberty, cellular death and even death of the whole organism.

This pubertal process is intact even in utero but normally does not become activated until between 8-15 years of age. Adolescence is made more difficult because not all youth change at the same time, even if they are of the same chronological age. Females can start with puberty as early as 8 or 8 1/2 or wait until 14 1/2 to 15 years. Precocious puberty in the female is defined as such events occurring under 8 or 8 1/2 years of age while delayed puberty implies absence of some pubertal events by age 14 1/2 to 15. Males are said to be in precocious puberty under age 9 1/2 to 10 while delayed puberty also starts after 14 1/2 to 15 years of age. A careful evaluation is indicated for any youth who does meet the criteria for delayed or precocious puberty. However, girls who enter into precocious puberty under age 8 are usually normal and simply have idiopathic, nonorganic precocious puberty; males have a much higher incidence of organically induced precocious puberty.

The first sign of clinical puberty in females is called thelarche (breast bud stage) and in males - testicular enlargement beyond 2.5 centimeters in diameter. These signs are then followed by the major physical changes of puberty as outlined in Table 11. Such changes occur in a normal sequential pattern over a 2-4 year period, as outlined in Table 12. The chronological variations in these changes are considerable, as reviewed in Table 13. In comparing youth, it is very useful to assign a sexual maturity rating so you have some idea of where he/she is on the physiologic scale of puberty. Table 14 reviews these stages for females and Table 15 for males. Once thelarche occurs, menarche (onset of menstrual periods) usually occurs 1-3 1/2 years later; regular menses usually ensues within 1-2 years of menarche (with an average of 20 months).

TABLE 11

MAJOR PHYSICAL CHANGES OF PUBERTY *

- Major increase in genital system (primary and secondary sex characteristics).
- Gaining of 25% of final height (distal growth, e.g. of feet, may precede that of proximal parts, e.g. the tibia, by 3-4 months).
- Doubling of lean and nonlean body mass (gaining 50% of the ideal body weight).
- Doubling of the weight of the major organs.
- Central nervous system maturation (without increase in size).
- Maturation of facial bones.
- Marked decrease in lymphoid tissue.

*See notation for Table 12.

TABLE 12

THE SEQUENTIAL CHANGES OF PUBERTY *

- Adolescent female
 - Breast bud (thelarche)
 - Pubic hair development (pubarche)
 - Height velocity peak
 - Menarche

Axillary hair
 Final pubertal changes, e.g. full breast, pubic hair, and completed height development

Adolescent male
 Early testicular growth
 Pubarche
 Testicular and penile growth
 Nocturnal emissions
 Height velocity peak
 Marked voice changes
 Facial hair growth and final pubertal changes, e.g. full genital, height, and muscle development

*Reprinted with Permission: Greydanus, D.E. and McAnarney, E.R.: "Overview on adolescence." Survey of Clinical Pediatrics. McGraw Hill, 7th Edition, Wasserman E. and Gromisch DS (Eds), 16, 1981. Normally over a 2-4 year period.

TABLE 13

VARIATIONS IN PUBERTAL CHANGES

Pubertal Change	Age Range of Appearance (Years)
Thelarche	8-14.8
Pubarche	9-14
Menarche	10-17
Testicular enlargement	10-14.8
Peak height velocity (male)	11-16.6
Peak height velocity (female)	10-14
Adult breast state (V)	12-19
Adult genitalia (male V)	13-18

TABLE 14

SEXUAL MATURITY RATING OR TANNER STAGING IN FEMALES*

Stage	Breasts	Pubic Hair	Range
I	None	None	Birth to 15 yr
II°	Breast bud (thelarche): areolar hyperplasia with small amount of breast tissue	Long downy public hair near the labia; may occur with breast budding or several weeks to months later (pubarche)	8 1/2-15 yr (some use 8.0 yr)

III†	Further enlargement of breast tissue and areola	Increase in amount of hair with more pigmentation	10-15 yr
IV+	Double contour form: areola and nipple form secondary mound on top of breast tissue	Adult type but not distribution	10-17 yr
V§	Larger breast with single contour form	Adult distribution	12 1/2-18 yr

- ° Peak height velocity often occurs soon after stage II
† 25% develop menarche in late III
+ Most develop menarche in state IV 1-3 yr after thelarche
§ 10% develop menarche in stage V

*Reprinted with Permission: Greydanus, D.E. and McAnarney, E.R.: "Overview on adolescence." Survey of Clinical Pediatrics. McGraw Hill, 7th Edition, Wasserman E. and Gromisch DS (Eds), 17, 1981.

TABLE 15

SEXUAL MATURITY RATING OR TANNER STAGING IN MALES*

Stage	Testes	Penis	Pubic Hair	Range
I	No change, testes 2.5 cm or less	Prepubertal	None	Birth to 15 yr
II	Enlargement of testes, increased stippling and pigmentation of scrotal sac	Minimal or no enlargement	Long, downy hair often occurring several months after testicular growth; variable pattern noted with pubarche	10-15 yr
III°	Further enlargement	Significant penile enlargement, especially in length	Increase in amount, now curling	10 1/2-16 1/2 yr
IV†	Further enlargement	Further enlargement, especially in diameter	Adult type but not distribution	Variable; 12-17 yr

V§ Adult size Adult size Adult distribution 13-18 yr
 (medial aspects of
 thighs, linea alba)

- ° Peak height spurt usually between III and IV
- † Axillary hair develops, as well as some facial hair
- § 20% have peak height velocity now. Body hair, and increase in musculature, etc. continues for several months to years.

*Reprinted with Permission: Greydanus, D.E. and McAnarney, E.R.: "Overview on adolescence." Survey of Clinical Pediatrics. McGraw Hill, 7th Edition, Wasserman E. and Gromisch DS (Eds), 17, 1981.

Clinical correlations with sexual maturity ratings (Tanner Stages) may prove very useful, as outlined in Table 16. A sexual maturity rating of Tanner IV in a female individual at age 12 reveals that she is physiologically ahead of her peers but yet may not be psychologically ready for the advances of males who are chronologically older. The 15 year old Tanner II male is much shorter and underdeveloped as compared to his peers; considerable psychological repercussions can be expected. Growth in females is accelerated between Tanner II-III (just after thelarche and before menarche) while boys do not normally achieve their adolescent growth spurt until stage III-IV. Thus the classic eighth grade picture shows relatively "tall" girls and "short" boys who are actually in similar respective Tanner Stages! Girls do tend to enter puberty only a matter of months ahead of boys. This same picture reveals the tremendous physiologic variation of both sexes, from stages I-V. The reader is urged to review Table 16 carefully, since it does provide many useful clinical correlations. For example, the girl who is 14 years of age and acquired Tanner Stage II 8 months ago would not be expected to be menstruating; the 14 year old girl who developed thelarche at age 10 should be now menstruating. The boy who is Tanner II has considerable growth potential within his genetic framework, while the Tanner IV boy does not - regardless of actual age. Screening for scoliosis (and it's worsening) should be between the II-IV Stages regardless of age. Gonorrhoea causes a vaginitis in Tanner I females and thus a simple vaginal culture is acceptable; Tanner II and beyond females develop a gonococcal cervicitis - thus adequate screening demands a cervical culture. A careful study of Table 16 will produce other examples as well.

TABLE 16

FACTORS ASSOCIATED WITH TANNER STAGING*

Process Disorder	Tanner Stage
Hematocrit rise (male)	II-V

Alkaline phosphatase peak (male)	III
Alkaline phosphatase peak (female)	II
Adolescent hormonal levels (rise in estrogen for females and testosterone for males)	II-V
Peak height velocity (male)	III-IV
Peak height velocity (female)	II-III
Short male with growth potential	II
Short male with limited growth potential	IV-V
Usual timing of menarche	Late III or early IV
Appearance of menarche	1-3.6 years post stage II
Slipped capital femoral epiphysis	(obese) II or III
Acute worsening of idiopathic adolescent scoliosis (ie. time for close monitoring)	II-IV
Osgood-Schlatter's disease	III
Oral contraceptive prescription	IV
Diaphragm prescription	IV-V
Observe for worsening of straight-back syndrome	II-IV
Appearance of "normal" gynecomastia	II or III
Usual appearance of acne vulgaris	II or III
Gonococcal vaginitis	I
Gonococcal cervicitis (with or without pelvic inflammatory disease)	II+
Timing of orchiopexy	I
Decreased incidence in serous otitis media	II or III
Mild regression in virginal hypertrophy	V
Timing of breast reduction	V
Timing of rhinoplasty	V
Strong suspicion for organic disease	II-V (abnormal progression or regression)
Counseling for further breast growth	II
Increased levels of serum uric acid in males	II-V

*Reprinted with Permission: Greydanus, D.E. and McAnarney, E.R.: "Overview on adolescence." Survey of Clinical Pediatrics. McGraw Hill, 7th Edition, Wasserman E. and Gromisch DS (Eds), 18, 1981.

A review of menarchal data from the past 150 years reveals that from 1840 to 1950, there was a decrease in the average menarchal age of 3-4 months per generation period. Though some researchers have disagreed with such data, most conclude that there was a definite decrease in age onset of puberty during the past 100 or more years. The impact of earlier puberty may have combined with changes of societal moral values to contribute to the prevalent open sexual attitudes seen in some of

our youth. (Its original cause is unclear but often better nutrition is implicated.) However, this earlier trend has now leveled off, probably since a generation ago.

Finally the reader is urged to evaluate youth from the various viewpoints presented. The picture of a teenager which has been described includes a youth who is a psychological being, a cognitive being, a sexual being and a pubertal being. The more you know about where the individual youth is on the outlined stages, the better one can be in a position to evaluate the particular youth's problems and deal more effectively with them. I would now add another brushstroke to this painting - the youth as a legal being.

E. LEGAL RIGHTS OF ADOLESCENTS

Anyone involved with youth (including parents, teachers and health care professionals) must realize that American laws are now recognizing the fact that minors (youth) do have some legal rights. Understanding these rights, especially when specific issues arise, is often difficult because the laws are frequently general, vague and nonspecific. Different states disagree on certain details, and thus one needs to be familiar with current laws in his/her own State. Definition of "the law" tends to be a compilation of various statutes, Supreme Court rulings or decisions (State and Federal) as well as interpretation of law philosophy which covers areas not always specifically covered by an identified law at the Local, State or Federal level. Only recently has official law identified rights of minors (those under age 21). The first 100 years of United States' history was marked by a legal philosophy that parents had essentially complete autonomy over their children. In this "era of parental autonomy", children were expected to obey parents and were punished by parents or other individuals (as the police) if disobedience occurred. Toward the end of the 19th Century a shift in legal philosophy developed which ushered in the "era of child welfare". The laws then reflected the concept that children were different from parents and needed to be protected from parents. If the legal guardian abused these privileges, punishment of the adult was then possible. Thus Juvenile Courts developed and child labor was forbidden to some extent.

However, minors were still not allowed to make contracts of their own. Common Law tradition has often held that to treat a minor without appropriate parental consent means that one is committing an "unauthorized touching," which legally could be called "assault and battery." Much of this legal philosophy continues today but it has become a very complex issue in the light of recent legal cases. In 1967 the "Era of Rights of Minors" began with a well-known legal case - In re Gault. This involved a 15 year old male who was sentenced by a Court to several years of institutionalization after being convicted of placing obscene phone calls to a teacher. The boy's parents brought forth a successful countersuit, claiming the original trial was not legal since it violated the minor's rights on various grounds (as no official legal representative, no cross-examination and others). Table 17 lists other important cases in this concept of minor's rights. The

Danforth Case (1976) placed the minor's rights against the parent's rights. In this case of a late adolescent seeking an abortion from a qualified physician, the State Court ruled:

"The State may not impose a blanket provision requiring the consent of a parent or person in loco parentis as a condition for abortion of an unmarried minor during the first twelve weeks of her pregnancy...The State does not have the Constitutional authority to give a third party an absolute, and possibly arbitrary, veto over the decision of the physician and his patient to terminate the patient's pregnancy. Minors, as well as adults, are protected by the Constitution and possess Constitutional rights....Any independent interest the parent may have in the termination of the minor daughter's pregnancy is no more weighty than the right of the competent minor mature enough to become pregnant."

TABLE 17

IMPORTANT LEGAL CASES AND LAWS INVOLVING LEGAL RIGHTS OF MINORS

Case	Year	Significance
In re Gault	1967	Minors have right to fair trial before sentencing
Tinker vs. The Des Moines Independent School District	1969	Minors cannot be removed from school unless their rights are protected
Roe vs. Wade, Doe vs. Bolton	1973	Women have the right to obtain a first-trimester abortion
Planned Parenthood of Central Missouri vs. Danforth	1976	Mature minors have the right to obtain an abortion regardless of third-party (e.g., parental) disapproval
Bellotti vs. Baird	1979	Judge can grant a minor an abortion with parental notification but without parental consent
Hyde Amendment	1979	Restricted use of federal funds to pay for legal abortions

It is legal to require
immature and dependent
minors to inform parents
before abortion is obtained

*Reprinted with Permission: Greydanus, D.E.: Abortion in Adolescence. In Premature Adolescent Pregnancy and Parenthood. E.R. McAnarney (Ed.), New York; Grune and Stratton Publ., Co., 355, 1983.

Such issues are quite complex and far from being resolved - especially the abortion issue. However, it seems clear that youth can give consent for medical treatment in some situations and do not necessarily have to involve parents in all cases. In general it is best to involve parents in such matters, but such is not always possible or feasible. A non-official legal concept has emerged over the past generation - the mature minor doctrine. This implies "emancipated" minors may seek and receive some medical treatment. However, the interpretation of "emancipation" can be vague, and vary according to different criteria which have been used in various States (Table 18). Being familiar with ones own State rules and philosophy is strongly recommended for those who deal with such teenagers. Table 19 identifies some of these specific concepts for the State of Iowa.

TABLE 18

VARIOUS CRITERIA FOR EMANCIPATION

1. Age (Often over 18, but varies from 14-19)
2. Marriage
3. Parenthood
4. Runaway status (financially independent)
5. Individuals away from the home with parent's permission
6. Individuals at home who are "essentially independent"
7. Education (as High School graduates)
8. Member of Armed Forces
9. Certified by Physician and others

TABLE 19A

EMANCIPATION CRITERIA IN IOWA*

1. Age: 18 (Iowa Law Code, Section 599.1)
2. Marriage (Iowa Law Code, Section 599.1)
(You need to be 16 years of age or over, have the consent of parents and a Judge's approval to marry, if under age 18).
3. Parent-Youth Contract
(Parent(s) and youth under age 18 can make a verbal or written contract declaring emancipation. It's legality would depend on the circumstances).

4. The following, by themselves, do not establish emancipation:
 - a) Parenthood
 - b) Runaway status
 - c) Living away from home
 - d) Living at home but "essentially independent")
 - e) Education
 - f) Member of the Armed Services
 - g) Physician certification

*Prepared in consultation with the Youth Law Center, Des Moines, Iowa.

TABLE 19B

EXAMPLE OF PARENT-YOUTH CONTRACT FOR EMANCIPATION:

Parent(s) and youth under 18 can make a verbal or written contract declaring emancipation. Its legality would depend on the circumstances.

In general individuals over age 18 are allowed to initiate such contracts while those under 18 are not. If an individual 16 or 17 years of age seeks medical treatment, understands the physician's recommendations, and explains why parents are not to be involved then the physician can document this, declare the patient to be an emancipated minor in need of treatment and proceed with appropriate medical treatment. Some consultants recommend having a second physician sign this document also, but one needs remember it is not an official legal statement. The individual who is between 13-15 of age represents a very complex legal situation, even if he or she appears to be fully "emancipated." Minors in need of emergency care, as determined by a physician, can always be treated. Youth who present with possible sexually transmitted disease, pregnancy or drug abuse can also be evaluated and treated without parent's consent or knowledge if necessary. As of this date, there has been no successful lawsuit against a physician treating a minor over 15 years of age for any purpose if the minor consented to the treatment. Also there has not been a successful lawsuit against a physician treating a minor of any age for contraceptive-related services. When treating minors without parent's approval, the youth should be reminded of their obligation to follow through with medical recommendations and to consider the cost of such health care.

Thus there are some legal rights which the youth has, though the situation currently remains complex and in a state of constant legal flux. Problems of sterilization (especially with the mentally subnormal youth), abortion, sexual assault, mental health, health record privacy, payment issues and others remain critical concepts for individuals involved in the health care issues of adolescents.

F. MISCELLANEOUS ADOLESCENT STAGES

There are other divisions of adolescence one could use, in addition to the reviewed philosophies of Piaget, Freud and Erickson. For example, Kohlberg notes that children and youth acquire adult concepts of moral judgment in stages. Older children are placed at the advanced conventional morality stage, in which there is a gradual change in attitude from pleasing certain individuals (as parents or teachers) to a desire to obey rules of society. Teenagers enter the post-conventional morality stage in which, along with the Piagetian formal operational stage, the individual gradually acquires his/her own set of moral philosophy based on a respect for the rights and privileges of others. The reader can also refer to the developmental tasks of Havighurst which outlines various physical-intellectual and social-personal tasks of individuals according to their different chronological stages: infancy, toddlerhood, early childhood, middle childhood and adolescence. One could add the social condition stages of Sears, the lifestages of Lidt, and others. Current writers stress newer concepts of female sexuality, as noted by modern female researchers. It is the opinion of such researchers such as Gilligan, Miller and Chadorow that traditional views of adolescent development (as Erikson's) fail to accurately portray female adolescent development in current times. When using such traditional standards to compare males to females, female adolescents often appear more immature and depressed than is actually the case. Current methods of parenting youth often result in males having difficulty in developing relationships while females have more problems with separation issues. Braverman (in Greydanus DE and Dewdney D, Seminars in Adolescent Medicine, Volume 1(3):185-194, 1985) has recently reviewed some of this new data. The reader is encouraged to review these and other various attempts to understand the process of adolescence. Thus one may add additional brushstrokes to complete this general portrait of adolescence.

III. GENERAL HEALTH CARE CONCERNS

A. Introduction

However, at some point, the health care professional must set aside their painting and begin to relate to the youth. Some teenagers will seem more eager than others to talk to the health care professional. Young adolescents often prefer the assistance of parents, late adolescents do not and middle adolescents typically place the health care provider in a very delicate balance between relating to parents and also to youth. In general the very young teenager, the critically ill and also the mentally subnormal individual do need active parental involvement. Involving parents as much as possible is usually recommended when health care professionals work with youth. When possible, confidentiality must be carefully approached and provided. Young concrete thinking teenagers are especially eager for health information but may be unable to provide detailed answers. A questionnaire focusing on health issues (Table 20) may be helpful in this regard, in addition to interviews with parents. In general, documenting data from as many sources as possible is extremely helpful in evaluating complex

situations which involve diverse family dynamics as well as individual personality complications.

TABLE 20

SCREENING MEDICAL INVENTORY FOR YOUNG ADOLESCENTS

1. Do you have frequent headaches?
2. Do you have any eye or vision difficulties?
When was your last vision check? Result:
3. Do you have any ear or hearing difficulties?
When was your hearing checked? Result:
4. Do you get frequent nosebleeds?
Do you feel you bleed easily? Bruise Easily?
5. Do you feel you have problems with your teeth?
Date of last dental check?
6. Do you have any lumps, bumps or sores you are concerned about?
7. Do you tire easily?
8. Do you get short of breath easily or wheeze?
9. Do you wheeze after exercise?
10. Do you think there is anything wrong with your heart?
11. Do you have any abdominal pain you are concerned about?
12. Do you often have backaches or sore bones or sore joints?
13. Do you think you have a hernia or weak muscles?
14. Are you allergic to anything (drugs, pets, pollen, etc.)? What?
15. Do you sleep well most of the time?
16. Do you have frequent dreams or nightmares?
17. Are you concerned about your weight?
18. Are you concerned about your height?
19. Are you concerned about your appearance?
20. Do you have any medical illnesses (epilepsy, diabetes, tuberculosis, other)?
21. Do you feel you get easily upset?
Do others say you get upset easily?
22. Are you worried you might have a tumor or cancer? Where?
23. Are you satisfied with your progress in school?
24. Do you have skin problems?
25. Are you having problems with your parents?
26. Does it burn when you urinate?
27. Do you have any questions about menstruation?
28. Do you have questions about contraception?
29. Do you have questions about breast problems?
30. Do you have questions about sexual matters?
31. Are there any questions about pregnancy which you have?
32. Do you have any questions about discharge, genital sores, or VD?
33. Are you concerned about your sexual development or sexual feelings?
34. Do you have questions about drugs or alcohol?
35. Do you often feel moody or depressed?
36. Are there any of these or other concerns you wish to discuss with a health professional?

Nurse:
Counselor or social worker:
Physician:
Other (): .

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Many youth do form therapeutic relationships quickly if the health care professional presents some degree of concern and confidentiality. Some youths (especially young ones) will exaggerate symptoms and this must be taken into account by the evaluator. Many will present with anxiety related to sexuality, school performance and family or peer relationships. Thus the evaluator can include such questions in the overall interview. One is seeking to assess where the youth is in their process of accomplishing their adolescent tasks, and also what the health care professional can do if problems with goal attainment are encountered. Thus treatment may involve medical or behavioral considerations and may require health providers to have a wide variety of interdisciplinary capabilities. A psychosocial medical screening is recommended for youth in each of their three main psychological stages - early, mid and late. Table 21 outlines some of the medical as well as behavioral problems which one may encounter when evaluating and treating youth.

TABLE 21

MEDICAL AND BEHAVIORAL DISORDERS OF ADOLESCENTS

A. Behavioral Disorders or Concerns

1. Concerns of normalcy (i.e., height, weight, appearance, pubertal status, etc.)
2. Drug abuse (marihuana, alcohol, tobacco, stimulants, depressants, hallucinogens, etc.)
3. School failure
4. Parent-youth conflicts
5. Adolescent sexuality concerns
6. Physical abuse
7. Depression
8. Suicide gesture (suicide act)
9. Anorexia nervosa
10. Juvenile delinquency
11. Personality trait disorder
12. Psychosomatic illness
13. Hyperventilation
14. Running Away
15. Other Psychiatric illness
16. Functional symptoms (headache, abdominal pain, etc.)

B. Medical Disorders or Concerns

1. Otologic System

- a. Otitis media
- b. Serous otitis media
- c. Otitis externa
- d. Hearing deficiency

2. Ophthalmologic System

- a. Refraction errors (myopia, hyperopia, astigmatism)
- b. Conjunctivitis
- c. Chorioretinitis
- d. Pseudotumor cerebri

3. Respiratory Tract

- a. Bronchitis (cigarette smoker)
- b. Tuberculosis
- c. Asthma
- d. Cystic fibrosis
- e. Pneumonia

4. Breast Disorders

- a. Gynecomastia
- b. Fibrocystic Breast Disease
- c. Virginal Hypertrophy

5. Cardiac System

- a. Functional murmurs
- b. Essential Hypertension

6. Gastrointestinal Tract

- a. Gastroenteritis
- b. Hepatitis
- c. Inflammatory Bowel Disease

7. Genitourinary Tract

- a. Urinary Tract Infection
- b. Sexually Transmitted Disease
- c. Enuresis

8. Neurological System

- a. Headaches (Tension; migraine; other)
- b. Epilepsy

9. Orthopedic Disorders
 - a. Scoliosis
 - b. Slipped Capital Femoral Epiphysis
 - c. Osgood-Schlatter's Disease
 - d. Chondromalacia
 - e. Osteoid osteoma
 - f. Arthritis (Arthralgias)

10. Endocrine System
 - a. Exogenous Obesity
 - b. Diabetes mellitus
 - c. Delayed puberty
 - d. Precocious puberty
 - e. Thyroid Disorders

11. Gynecologic Disorders
 - a. Vulvovaginitis
 - b. Menstrual Disorders
 - c. Diethylstilbesterol-induced vaginal and cervical tumors

12. Oncology
 - a. Osteogenic Sarcoma
 - b. Ewing's Tumor
 - c. Others

13. Dermatologic System
 - a. Acne vulgaris
 - b. Psoriasis
 - c. Pityriasis rosea
 - d. Verrucae
 - e. Tinea

14. Miscellaneous
 - a. Collagen Vascular Diseases
 - Juvenile Rheumatoid Arthritis
 - Systemic Lupus Erythematosus
 - b. Drug Abuse
 - Subacute bacterial endocarditis
 - Thrombophlebitis
 - Hepatitis
 - c. Chest Pain
 - d. Abdominal Pain
 - e. Dizziness
 - f. Lethargy

B. Complicating Factors

When dealing with problems of teenagers, various complicating factors may be encountered by the health provider which may considerably complicate the attempt to effectively deal with adolescent problems (Table 22). The current societal and family unrest complicates the process of adolescent growth and development to a major extent. The high crime rate, growing divorce statistics, high unemployment rates, elevated tensions between nations, fear of nuclear war, loss of the extended family unit due to forced mobility of adults seeking jobs and other societal factors all create an unstable climate for our youth. The uninformed health care professional who goes beyond a basic physical examination and gets to know the youth is often amazed to see so much family unrest in today's society. Unfortunately, it is becoming commonplace to encounter children and youth growing up in homes with single parents, step-parents, nonparental legal guardians, and even constantly changing sex companions to a single parent. This is not to imply that all single parent households are unstable, nor that considerable instability does not occur in some "traditional" two parent (never divorced) households, indeed numerous single parent families are quite stable. Yet, there are millions of American households who do suffer from severe societal and personal unrest - this unfortunately is passed on to their children and subsequently back to society with even more negative overtones. The miscellaneous adult lifestyles listed in Table 7 seems to complicate this chaos as well.

TABLE 22

COMPLICATING FACTORS OF ADOLESCENT HEALTH CARE

1. Current Societal and Family Unrest
2. Limited Socioeconomic Status
3. Over-Protective or Rejecting Parents
4. Severe Medical Complications
5. Major Psychological (Psychiatric) Disorders
6. Physical Handicaps (Chronic Illness)
7. Harsh Peer Criticism or Unacceptance
8. Intellectual Subnormality
9. Sexual Dysfunction
10. Other

Youth born into a situation where limited socioeconomic status is the rule, also complicates this picture. Though some argue to the contrary, health care professionals clearly know that not all individuals have equal access to the best health care. Modern American medicine and dentistry is becoming increasingly expensive and those without adequate insurance are frequently deprived of certain forms of health care. For example, one sees many poor families who desperately need long term professional therapy: with hourly charges of \$50-\$100 many families simply cannot afford such care. How many poor youth can

afford modern dentistry or even access to a personal private physician? This is not to imply that the wealthy lack medical or psychological difficulties, only that the poor may have less access to the best care. Some poverty stricken youth simply give up and never fully negotiate adolescent tasks - they seem to get lost in the complicated process of adolescent development in modern life.

Of course, major medical or psychological disorders themselves can complicate the entire picture - depending on the exact disorder, its severity, what therapeutic modalities are available and what access the youth has to health care. Some of these disorders are discussed in other parts of this Manual while the reference list will point out useful articles providing helpful information on many of these problems. Chronic illness may constitute a very serious block to adolescent growth and development by limiting the youth's self-image and removing the individual's emancipation process. When encountering an adolescent with chronic illness the health care professional should assess the answer to several questions, as listed in Table 23. In the opinion of the author, such assessments are as important as an evaluation of the medical aspects of the identified illness. Even youth with "minimal" disease can have considerable problems with developmental issues. The concept of marginality states that individuals with well controlled chronic illnesses (as epilepsy or diabetes mellitus-where friends need not even know of the illness) may feel very different from peers and may resent the fact that special attention is not provided to them - as perhaps is the case with those having unstable disease requiring frequent medical intervention and/or hospitalization. Thus health care professionals should screen all individuals with chronic illness for developmental problems, even if they appear to have the disease in good control. Of course, certain problems will present their own unique difficulty - some of these conditions are listed in Table 24.

TABLE 23

ASSESSMENTS TO MAKE OF TEENAGERS WITH CHRONIC ILLNESS OR HANDICAPS:

1. Is the youth being allowed to make his or her own decisions in management care and other age-appropriate matters?
2. Is there a growing sense of control of his or her life and adequate emancipation from family?
3. Is his or her moodiness due to failure to adequate emancipation or establishment of identity formation?
4. Is the peer interaction at school and social functions adequate and appropriate? Are friendships made or is the youth a loner (by personality or disease determined)?
5. Is progress being made to establish a sexual identity?
6. Is there a developmental arrest due to the chronic illness?

7. Is the teenager using inappropriate or negative, maladaptive coping mechanisms to react to his or her disease?

TABLE 24

PARTICULARLY DIFFICULT YOUTH

1. Spinal-cord injury or other major accident complications
2. Chronic illness with recurrent hospitalizations
3. Drug Abuse
4. Cancer
5. Urogenital Anomaly
6. Personality Trait Disorders (as Conduct Disorder)
7. Severe Depression and Suicide
8. Dying Youth
9. Pregnancy and Abortion
10. Mental Subnormality
11. Homosexuality
12. Others

The parents' reaction to adolescent problems, of course, is very important. Youth need the understanding and approval of parents, even during the turbulence of middle adolescence. Parents can react to children's problems by over-protecting or even rejecting their children. It is a normal desire on the part of parents to produce a perfect child - one who is the best at some or all the qualities parents find acceptable. The birth of a baby can give the parent considerable joy and start Mother or Father off on a journey of fantasy about the wonderful things that the child may do, making the parents very proud. Some parents even live their lives and dreams through their children. Unfortunately, children may not live up to such expectations. Many parents accept this fact and learn to love children in a realistic manner. As Tagore in the Crescent Moon states, "I do not love him (the child) because he is good, but because he is my little child." Most parents realize that their children are simply reflections of themselves and thus perfection is impossible! However, some parents develop guilt over producing a child with problems and then seek to protect this child from life's many potential difficulties. Such over-protection can force the child to become too dependent on parents and not go through the necessary pains of adolescence. Chronic illness itself (including physical handicaps) can limit the emancipation process in youth and overprotective parents can worsen this negative trend. Parents may unconsciously or consciously seek to prevent their youth from growing up; this can be especially true if this is the last child in the home and the parent(s) has no other interests. Some individuals have called this the empty nest syndrome. Youth with physical handicaps may develop very low self-esteem, have limited access to other peers and have parents who actively or passively limit their needed

emancipation process. On the other hand, parents who find their children imperfect can also reject them, either subtly or overtly. Such rejection can severely limit the child's development of a stable identity. The bond of a child with his/her natural parent is a very strong one and like no other in the child's world. If this bond is broken through death, divorce or excessive parental criticism, the youth has a major roadblock to overcome in his/her quest for stable adulthood. Problems of adolescence can often, in part, be traced to such rejection.

Likewise, rejection by peers can pose another major hurdle for some youth. The individual who has a poor self-image becomes easy prey for peers who often look to criticize others so that they themselves can avoid such damaging criticism. Very few individuals can happily receive unacceptance or harsh criticism of peers. We are all in various groups as children, adolescents or adults. General acceptance by our own peers is vital to our own inner stability. Every school society has a minority of students who are not accepted by their peers. Frequently, the adults in such individuals' lives ignore this serious problem. The effect of such rejection can simply not be underestimated in its massive negative effect on adolescents' development. There are many youth who would positively benefit from social skills training. Providing parents with parenting skills and youth with social skills are two important tasks health care professionals could provide to readily improve the current problems of our youth.

Mental subnormality represents a special subgroup of adolescents who can complicate adolescent health care issues. Mental retardation or subnormalcy is usually defined as subnormal general intellectual functioning and usually is applied to individuals with an IQ under 70-75. It is usually noted at birth or during early childhood and is associated with severe impairment in adaptive behavior. It involves about 3% of the population and includes over 1.2 million American teenagers, with about 100,000 individuals being born each year. Approximately 80% are in the mild range, with IQ's between 50-75. These youth are educable and potentially literate as well as employable with unskilled or semiskilled jobs. Though often limited to preoperational or concrete operational Piagetian thinking levels, they go through the main psychological stages their higher IQ peers go through. Such youth are painfully aware of their limitations and may have difficulties emancipating from parents as well as establishing a secure self-image. They do have the same needs for development of sexuality as their "normal" peers, but society is often unwilling and unable to accept such a concept. Health Care professionals should address the sexuality and vocational needs of their mildly retarded adolescent patients (clients).

It should be remembered that most of these youth are in the mild range. About 12% are in the moderate range with an IQ of 25-50. They are called trainable individuals who can be instructed in self-care, appropriate socialization and verbal communication. They can perform simple chores and usually remain with family or residential faculty.

Families who keep such youth at home usually need guidance in maximizing their potential without negatively impacting others in the home. Finally, those under IQ 25 (in the severe or profound range) are totally dependent on others and are usually institutionalized.

The final complicating factor discussed (though the reader can certainly add others) is sexual dysfunction. Youth must often go through their important sexual development with access to minimal sexuality information. Thus they often develop sexual dysfunction. Their ignorance of sex information often results in resistance to receiving information, as noted in the refusal of most teenage boys to contribute to their contraceptive responsibility when engaging in coitus with partner(s). Often the only group resisting sex education for youth more than teenagers are their parents! The result is often high rates of adolescent pregnancy as well as sexually transmitted diseases. Other results include coitally active youth with limited sexual potential. Thus coitally active youth often have such sexual dysfunctions as impotence, ejaculation disorders (premature, retrograde or retarded), dyspareunia and/or orgasmic dysfunction. The unfortunate result of this adolescent sexual dysfunction is that such problems continue on into adulthood and partially explain the high prevalence of sexual dysfunction described in adults.

C. DEMOGRAPHY OF ADOLESCENT MORBIDITY AND MORTALITY

Before proceeding with a further discussion of counseling issues, this section concludes with a summary of general adolescent morbidity and mortality statistics. There are over 40 million adolescents (ages 10-19) in the United States with a projected number of over 54 million by the beginning of the 21st Century. As already reviewed, each of these youth have health care needs while some represent more risk for health problems than others. If one adopts a broad view of health care principles, there is considerable adolescent morbidity and mortality. (Hofmann and Greydanus, 1983.)

Approximately 10% of youth have hypertension, recurrent migraine headaches, severe dysmenorrhea, exogenous obesity and other disorders. Recent studies implicate that 25% of adolescent females have an eating disorder, whether bulimarexia, anorexia nervosa or exogenous obesity. Approximately 80% or more of youth develop acne vulgaris and the majority have dental problems, particularly dental caries. Estimates are that the average 15 year old youth has 10 "diseased" teeth (decayed, filled or missing). About 12% of youth (5 million) have a chronic illness or handicap and the potential behavioral problems of such difficulties on adolescent growth and development have already been reviewed. Demographic information on specific illnesses include such statistics as a million teenagers with epilepsy, over a million with asthma, 100,000 with diabetes mellitus, 8 million with refractive errors (myopia, hyperopia or astigmatism) - including a 100,000 with partial or limited vision, and over a million with significant hearing loss. As previously noted there are over a million mentally subnormal teenagers, most of whom are in the mild range.

Trauma and violence constitute major problems for American youth. The leading cause of adolescent death is accidents (25,000 per year), most of which are car accidents and many of which are influenced by drug use. In addition many thousands are severely injured in major car accidents. In the United States there are over 125,000 paraplegics, many of whom are between ages 15-24. The second and third leading causes of death for males aged 15-19 are homicide and suicide; these constitute the 3rd and 4th causes of death for females aged 15-19. In general homicide is more likely to occur in the inner city than suicide while suicide is more prevalent in suburban America. Each year several thousand (3-5 thousand) youth are murdered and a nearly equal number commit suicide. There is an estimated 10-30:1 suicide attempt to suicide ratio. Cancer has an incidence of over 16 per 100,000 population in youth and constitutes the second leading cause of death in females age 15-19 and the 4th cause in males age 15-19.

As we have indicated, behavioral problems are major causes of morbidity and mortality in adolescents. Most adolescents experiment with alcohol while many try marijuana and cigarettes. Approximately 6-8% of youths smoke marijuana daily and 11% of adolescent males versus 13% of adolescent females regularly smoke cigarettes (10 or more per day). This addiction to cigarettes alone translates to over 300,000 premature cigarette related deaths each year in the adult population. Unfortunately millions of youth abuse other drugs as well - such as barbiturates, amphetamines, cocaine, narcotics, hallucinogens, other. School dysfunction is a major problem for youth as well. Various studies of urban students indicate up to 10% of enrolled youth are always absent from school, up to 30% are absent on any given day, and as many as 2% of 14-15 year olds simply drop out of school. School phobia is estimated at 17 per 1000 school age children. The severe negative effects of such school failure on the future of these unfortunate individuals and society at large is incalculable - especially in this ever increasingly technical world which is fast approaching the 21st Century. Compounding this problem is the complex phenomenon of juvenile delinquency. Current figures show that youth under age 19 may cause 40% of serious crimes and those up to age 21 - 60%. Juvenile Court records show that 1 of every 9 adolescents (1 of every 6 adolescent males) are referred to these Courts; over 500,000 youth are in some type of jail situation. In addition, there is an estimated one million youth who run away from home each year - many who never return home or who do so only after a prolonged absence from the home environment. Finally, problems of adolescent sexuality have been referred to earlier. The 1.2 million annual adolescent pregnancies include 30,000 individuals under age 14 and over 400,000 abortions. There are millions of sexually transmitted disease cases among youth each year. Over 25% of gonorrhea cases occur to youth while 5,000 female youth are absent from school each day due to this severe infection. In addition there are over 300,000 cases of pelvic inflammatory disease in youth with an estimated 100,000 cases of infertility occurring in sexually active women each decade because of pelvic inflammatory disease. Add this to the unknown thousands of incest and sexual assault cases among youth each year - and the negative impact of adolescent sexuality problems becomes quite serious.

IV. Counseling Issues

A. General

Health Care professionals who treat youth often end up as counselors, granting advice at various levels on diverse topics. As previously noted, most teenagers will listen to some nonparental adults and can benefit from the knowledgeable, nonprejudicial counselor who takes the time to establish a therapeutic, confidential rapport with the adolescent. One need not be a psychiatrist or psychologist to counsel many youth. One starts with the premise that counseling is a valid therapeutic modality which presupposes that developmental drives of most youth are toward positive health. The counselor seeks to support the identified strength of the patient so that positive adaptation is encouraged and maladaptation is inhibited. Counseling seeks to improve the patients' self-esteem, self-control and self-responsibility. Counseling also seeks to evaluate and assist the youth's important adolescent processes of emancipation and identity formation.

When confronted with difficult situations, the specific problem(s) must be carefully identified, and for whom the problem exists: youth, family, school and/or others. Sometimes ventilation about the difficulties can be very therapeutic for those involved. Discussion of how the involved parties view problem resolution is very important before any detailed plan is possible. If considerable patient or family resistance to treatment is observed, the entire situation is considerably complicated. It can be very frustrating to the health care professional, for example, to deal with a drug abusing youth where both family and patient fail to see the seriousness of the problem. Sometimes a counselor must provide correct information about the problem before agreement on treatment is reached. A careful review of treatment options is a major task of the counselor. Once agreement is reached on the chosen option, a plan can be developed to achieve and maintain the desired goals. In general, adolescents do better if they are active partners with parents in their own decision-making and are given as much responsibility for self-care as possible. The counselor can aid the individual in avoiding negative coping skills - as regression, denial, isolation and/or depression. Working with various treatment disciplines may be necessary to deal with the complex problems of patient and family.

Health care professionals who deal with adolescents are presented with unique challenges and responsibilities. A delicate balance must be struck between youth and parents. Early adolescents generally want considerable, direct parental involvement in the physician-patient relationship while middle and late adolescents generally seek much greater autonomy. Trying to effectively deal with both individuals can be difficult at best, especially if various complicating factors arise (Table 22). The youth must be given some sense of confidentiality and that the clinician/counselor is not merely an unfiltered conduit of information from the youth to the parent. Our patients must be given some reassurance that what they say will be held in acceptable confidence. However, the youth must realize that there are some limits to

this aspect. For example, individuals who are severely depressed and threatening suicide or those possessing a risk of physical harm to others must not be allowed to go through with these serious issues untreated and unchecked. Clinical judgment is necessary in deciding who to tell and how to handle such problems. This is the challenge that we face. Some health care professionals prefer simpler issues which deal with pill prescriptions or surgical techniques. Those of us who also deal with delicate counseling issues learn many problems are not easily solved through medication or surgery.

Counseling a youth starts with a full psycho-socio physiological assessment of the patient. Knowledge of the youth's various stages can prove very helpful in determining how to proceed (See Tables 1-5, 14-16). In general a careful medical screening is important (Table 20) with knowledge of various medical and behavioral disorders of the adolescent (Table 21). Chronic illness and handicaps pose additional challenges (Table 23).

Younger adolescents may not be developmentally prepared to relate details of problems while older youth may be reluctant unless a relationship of trust has been established. Issues of anxiety can be probed in such areas as peer interaction, parent-youth relationships, school functioning and sexuality concerns. A good psychosocio medical history demands a thorough sexual history as well. Sexuality is important to the overall health of the youth and should not be ignored. Starting with general issues about "Boy/Girl Friends" or "Dating" may be followed by more specific inquiries about sexuality; this may lead to important discussions around such topics as masturbation, homosexuality, coital activity, pregnancy, abortion, contraception, sexual abuse and many others. It is certainly not a field for the timid! Getting to know the patient is very important and thus talking about non-sexuality related topics at first may be helpful. Let him/her know that you are interested in all aspects of their health care. Thus general discussions may help the youth better negotiate their stages of adolescence, improved thinking skills, broaden values, encourage better social skills, prepare for adult roles and others. There are many sexuality related issues of concern which the youth has. Trust is important to develop and can take considerable time. Sensitive issues as sexual assault or incest will not be brought up easily. However, even rebellious or frightened youth may honestly talk to an adult health care professional who has established an open, non-judgmental rapport. However, one needs to remember that general sex education is clearly part of the role of the adolescent's counselor - especially since youth are given such limited neutral knowledge from society in general.

It is important for the counselor to provide knowledge in a non-judgmental manner. We all have our opinions but we need to allow the youth to arrive at his/her own conclusions with regard to various matters. Most would recommend that youth not become sexually active and thus avoid their high risks for sexually transmitted diseases and pregnancy. However, many of our youth will simply heed our warning to stop their coital activity and if we then refuse further information and

contraceptives - that is clearly counterproductive to reducing the staggering current pregnancy and sexually transmitted disease problems of our youth. Concern over sexuality identity is not unusual in youth and neutral information is necessary, in view of the wide variety of eventual adult life styles which are available to the teenager (Table 7). Adolescents do not desire a biased counselor who foolishly seeks to "convert" his/her patients into his or her own mode of thinking. We need to help our youth develop and not hinder this remarkable period of change which is called adolescence. Counseling youth often revolves around two important issues: Contraception and depression. Further analysis of these two issues is presented.

B. Depression in Adolescence

Depression is defined by a gloomy feeling about life, frequently associated with a significant disregard for general activities and failure to find much joy in life itself. Depression, according to the Diagnostic and Statistical Manual III (American Psychiatric Association, 1980) involves a dysphoric mood with at least four of the following features: poor appetite, sleep difficulties (hyper- or hyposomnia), loss of energy, psychomotor retardation or agitation, reduced interest in normal activities, decreased concentration abilities, excessive guilt and/or suicidal thoughts.

Depression in youth can be reactive in nature in which transient sadness results from reaction to a specific event (as moving, parental death or loss of a peer). There may be depression in association with various medical or behavioral (psychiatric) disorders. Adolescent depression may be a continuation of childhood depression or a result of mood swings commonly seen in youth. Severe depression may be classified according to the DSM-III as primary affective disorder either unipolar affective disorder (with no mania history) or bipolar affective disorder. There may be a positive history in the family for major depression. Some studies have noted that many individuals with severe depression have cortisol hypersecretion which fails to suppress with a trial of dexamethasone. However, this much heralded dexamethasone suppression test has not yet proven to be of major importance in the diagnosis or treatment of adolescent depression.

The statistics on depression in human life are very impressive. Approximately 30% develop depression during their lifetime while 15% of the general population are significantly depressed at any specific time. About half of those with major depression develop another episode, 21% will develop another episode two years after treatment, and 15% of individuals with depression are estimated to run a chronic course. Approximately 25% of depressed individuals receive treatment while 15% of depressed individuals develop overt suicidal action. The influence of the family history is noted by Gershon's 1983 data: the risk of depression in the child or teenager is 27% if one parent has major depression and 74% if both parents have a history of depression. Recent studies from the National Institute of Mental Health (1984) confirm the high prevalence of depression in adults, and also note that depression is twice as common in women versus men; these studies also note that depression is more common in urban versus rural environments.

Studies on children and youth are not as numerous as with adults. Earls (1980) offers a 4-8% range of preschool children with depression while Mitchell (1980) notes a 10% figure if failure to thrive is included in the overall diagnosis of depression. Rutter (1975) notes a 1.5% prevalence rate in school-age children while Carlson et al (1979) reports a diagnosis of severe depression in 16% of patients from a pediatric psychiatric clinic. Others note a depression prevalence of 8.6% in adolescents, and associate depression with other behavioral disorders, including conduct disorder, eating disorders (anorexia nervosa, bulimia, exogenous obesity, substance abuse disorder, anxiety disorder and borderline, personality disorder. Earls (1984) sees a significant increase in depression from middle-childhood through adolescence and on into adulthood.

Teenagers with depression that is not effectively resolved may go on to commit suicide. Suicide rates have doubled or tripled in various adolescent groups over the past generation. Currently 3-5,000 youth commit suicide each year and an estimated one-half to one million youth attempt suicide each year. Suicide is the second leading cause of death among certain groups of adolescent males aged 15-19. Though most individuals with a suicide attempt are requesting help and do not represent a true death wish--every suicide attempt must be taken very seriously by the health care professional.

Appropriate care for such an individual includes seeking to understand the motive(s) behind the attempt and indicating clearly to the individual that help will be offered. Not infrequently there is a complex array of factors involving individual as well as family dynamics. Many youth are quite impulsive and may try suicide after being involved in what others would call a "minor" problem. Developmental factors may be involved in such attempts and should be remembered. The current high societal and family unrest certainly contributes to the serious problem that depression as well as suicide represents among today's youth. Immediate protection for the youth and family is advised. Ongoing treatment involves a combination of individual, family, and group therapy. The use of antidepressants is helpful in certain carefully selected cases. A wide variety of health care professionals may be necessary to assist the youth and family involved in this complicated phenomenon. Identification often starts with general counseling of youth with problems as they are presented.

C. Contraceptive Issues

These are critical issues and a psychosocial profile must be developed for a particular youth, when seeking to apply health care issues to this patient. Likewise, a pubertal assessment (Tanner Staging) is important to develop for a youth and apply to the psychosocial evaluation. Application of contraception to some sexually active teenagers is a difficult task, partially because of the conscious or unconscious factors contributing to adolescent pregnancy, which are also intricately interwoven into the very fabric of adolescence.

For example, the young adolescent is often not developmentally prepared to understand the concept of pregnancy. Thus the pregnancy may be used to create a close relationship with the mother or even to see if pregnancy is possible, as if one could become only a "little" pregnant. Failure to acknowledge the consequences of sexual activity is a major cause of adolescent pregnancy. Domination by an older teenage or adult male, rape, incest and other factors are also operational in some youth. Application of effective contraception in this group may be quite difficult. Likewise, some middle adolescents may present as very problematic individuals for contraception. A youth who is in the middle of critical adolescent issues may use her sexual activity and consequent pregnancy as a means to obtain various goals, such as an attempt to compete with the mother for her father or a means to acquire new autonomy, or even change specific aspects of her life. The older adolescent often, but not invariably, has more adult-like motivational factors and may be more capable of avoiding pregnancy than her younger counterpart.

There are other reasons adolescents fail to use contraception. "Magical thinking" may play a role in which the young or middle adolescent feels she is special and somehow will be protected from pregnancy despite coital activity. Some may equate the use of contraception with a keen and unacceptable desire for sex, or refuse to have their "free spirit" burdened or limited by thoughts of sex preparation. Some methods require unacceptable self-intimacy (as a diaphragm) or carry the risk of being detected by parents (as birth control pill packets). Also, there may be no or minimal support by her partner, leaving her developmentally unwilling to abstain from coitus and incapable of assuming the sole contraceptive responsibility.

These and other factors are important to consider when seeking to prevent teenage pregnancy. This introduction acknowledges the problem of teenage pregnancy and its many underlying currents. Those sexually active individuals who are at high risk for contraceptive failure or refusal need identification and further study. Education on sexual matters should be presented to teenagers (including young adolescents) without fear that it will encourage more promiscuous sexual attitudes. Various formats for education can be used, including classrooms, office visits, and even the mass media. It is critical that health care providers (as general practitioners, pediatricians, internists, gynecologists, nurse practitioners, others) who deal with teenagers be capable of providing counseling on sexual matters and specific contraception to those wishing it. Adequate motivation and training on these health care providers is very important.

Indeed, the physician can actually impede the interested adolescent's use of contraception by not offering contraception with assurance of adequate confidentiality and also with sufficient expertise. Some young people seek contraceptive counseling and information without their parents' or guardians' knowledge or permission. If the physician cannot assure this confidentiality, or has moral objections to provid-

ing contraception, he/she should refer such patients to local resources where such care can be provided. Issues of morality and legal rights of minors should also be discussed during the conference, but will not be reviewed in this presentation.

The adolescent patient-parent-physician relationship is also critical for the health care provider and needs emphasis. A primary physician-adolescent patient relationship should be developed, in which the youth feels the health care provider is addressing the patient's needs in a mutually acceptable setting. Counseling and sexual matters and specific contraception can then be provided to the interested youth. Clearly those individuals who are intent on avoidance of pregnancy will do a better contraceptive job than those who are unsure of their contraceptive aims.

V. Reproductive (Contraceptives) Issues of Adolescents

Since there are millions of adolescent teenagers who are sexually active and are not motivated to utilize abstinence, the application of specific contraception to this population becomes a very important task. There are many types of contraceptives (Table 24) available but most youth who choose contraception will select the oral contraceptive (Birth Control Pill). Table 25 presents a suggested plan to evaluate adolescents for the Birth Control Pill and for contraception in general.

TABLE 25

SUGGESTED PLAN TO EVALUATE ADOLESCENTS FOR BIRTH CONTROL PILLS.

I. History

- A. Does the patient need and want contraception?
- B. Does she understand what methods of contraception are available?
- C. What is her menstrual history?
 1. Age at menarche?
 2. Are menstrual periods regular? For at least 1 year?
 3. Date of last menstrual period?
 4. Previous pregnancies or abortions?
- D. Does she need or wish additional counseling about sexuality?
- E. Is she willing to use a barrier method (diaphragm with contraceptive foam or condom with contraceptive foam)?
- F. After discussion of the various options, has she chosen the birth control pill? What concerns does she have about birth control pills?
- G. Will she take these pills on a daily basis?
- H. Are there absolute contraindications to birth control use?
 1. Thrombophlebitis, thromboembolism, or thrombotic disease
 2. Breast Cancer
 3. Estrogen-producing neoplasia
 4. Undiagnosed uterine bleeding
 5. Pregnancy
 6. Active acute or chronic liver disease
- I. Are there relative contraindications to birth control pill use?
 1. Hypertension
 2. Migraine headaches
 3. Hyperlipidemia
 4. Sickle cell disease (trait or anemia)
 5. Uncontrolled epilepsy
 6. Poorly controlled diabetes mellitus
 7. Significant chest pain of unknown cause

8. Optic nerve or retinal disease
9. Clotting abnormalities or coagulation defects
10. Melasma or "mask of pregnancy"
11. Collagen vascular disorders
12. Uterine fibroids
13. Lactation
14. Oligomenorrhea
15. Depression
16. Cholelithiasis
17. Inflammatory bowel disease
18. Major organ disease (eg, heart, lung, or kidney disease)
19. Chorea
20. Porphyria
21. Erythema nodosum
22. Other (acne vulgaris or candidal vaginitis, which may worsen with birth control pill use; use of contact lenses, which may be affected by pill use; use of drugs such as anticonvulsants and antibiotics, which may render the pill less effective; etc.)

II. Complete physical examination with emphasis on the following:

- A. Tanner staging of sexual maturity (should be stage IV or V)
- B. Blood pressure
- C. Eye examination (jaundice, visual defects)
- D. Thyroid examination
- E. Breast examination
- F. Cardiovascular system evaluation
- G. Liver evaluation (size, tenderness, stigmas of hepatitis or chronic liver disease)
- H. Skin evaluation (acne vulgaris, melasma, xanthoma)
- I. Complete pelvic examination

III. Laboratory tests

- A. Urinalysis, including a microscopic examination
- B. Liver function tests if liver status is in doubt
- C. Screening for *Neisseria gonorrhoeae* (cervical culture) and other sexually transmitted diseases
- D. Papanicolaou smear
- E. Triglyceride and cholesterol screen if there is a family history of hyperlipidemia

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F. Other tests as indicated by history and physical examination

*Adapted, with permission, from Greydanus DE, McAnarney ER: Contraception in the adolescent: Current concepts for the pediatrician. Pediatrics 1980;65:6,7.

A. Oral Contraception

There are over 145 brands of oral contraceptives used throughout the world, which generally contain both synthetic estrogen and synthetic progestogen. In the United States, birth control pill brands are various combinations of ethinyl estradiol or mestranol as estrogens, while six different progestins are seen: norgestrel, levonorgestrel, ethynodiol diacetate, norethindrone acetate, norethindrone, and norethynodrel. The "pill" has been shown to be a safe and effective contraceptive for reproductive women--especially those of the adolescent age group. Current recommendations are to use a pill with 30-50 mcg of estrogen and 0.15 to 1.5 mg of progestin. The most popular estrogen is ethinyl estradiol, while norgestrel, levonorgestrel and norethindrone are the most popular progestins. Careful monitoring and selection of patients for birth control pill use will reduce complications of the pill to a considerable extent. Contraindications to oral contraception are reviewed in Tables 25 and 26. Absolute contraindications are those under which the pill is never given. Relative contraindications are those under which the risks of pregnancy and oral contraception must be carefully evaluated for a specific patient with this specific condition, before the pill is prescribed.

TABLE 26

CONTRAINDICATIONS TO ORAL CONTRACEPTION*

Absolute contraindications

- Pregnancy
- Undiagnosed uterine bleeding
- Breast cancer
- Estrogen-dependent cancer
- Active liver disease (acute or chronic)
- History of thromboembolic disease
- Severe migraine headaches (especially with prolonged auras)
- Severe hypertension
- Hyperlipidemia
- Cyanotic heart disease
- Inability to take the pill each day for a prolonged length of time
- Inability to return for follow-up visits to the physician as needed

Relative contraindications

- Diabetes mellitus
- Epilepsy
- Sickle cell disease
- Collagen vascular disease

Uterine leiomyomata
Lactation
Oligomenorrhea
Depression
Pill-related dermatologic disorders (melasma, erythema nodosum, others)
Gallbladder disease
Inflammatory bowel disease
Hypothalamic-pituitary dysfunction
Chorea
Porphyria
Coagulation defects
Renal disease
Pulmonary disease
Cardiac disease
Retinal disorders
Severe, chronic monilial vaginitis
Various drug interactions
Severe chest or abdominal pain of unknown etiology
Others

*Modified with permission from: Greydanus DE, McAnarney ER. Menstruation and its disorders in adolescence. *Curr Prob Pediatr* 1982;12(10):22.

This section will briefly review risks of several complications to birth control pill use: cardiovascular conditions, oligomenorrhea, diabetes mellitus, seizure disorder, migraine headaches, hepatic disorders, and cancer.

1. Cardiovascular Complications

Women on birth control pill do have an increased risk for pulmonary emboli, thrombophlebitis, and vascular thromboses. Some studies note a greater incidence of myocardial infarction and subarachnoid hemorrhage as well. Most agree this risk of vascular accidents is mainly to women over age 35, especially if they are regular cigarette smokers. Teenagers who do not have an inherent risk for thrombotic phenomena are at very low risk for cardiovascular complications. The mortality rate for females (15-19 years of age) is 1.2 deaths per 100,000 pill users (1.4 if they smoke); this is contrasted with the pregnancy and child birth mortality rate for individuals 15-19 years of age--11.1 per 100,000 live births. Also mild elevations of the blood pressure is well known among pill users and there are a few anecdotal reports of severe hypertension developing after one is placed on the pill. Thus careful blood pressure monitoring is important.

2. Oligomenorrhea

Much concern has been raised over the past years that the pill will interfere with adolescent menstruation. Thus it has often been

stated that the pill should not be given to youth unless she has at least several months of "regular" menses. But what of the sexually active teenager with physiologic irregular periods--she is still at risk for pregnancy. Evidence over the past several years has indicated that the pill does not over suppress the hypothalamic-pituitary-ovarian axis and will not lead to suppression of height or post-pill amenorrhea. If the clinician is dealing with a sexually active teenager who has oligomenorrhea, a careful evaluation should be done to find its cause. However, appropriate contraception should be offered. Treatment of breakthrough bleeding is outlined in Table 27 along with management of other birth control pill related problems.

TABLE 27

MANAGEMENT OF SOME ORAL CONTRACEPTIVE-RELATED PROBLEMS*

PROBLEM	MANAGEMENT
Weight gain or edema	Use 30 or 35 mg estrogen pill.
Acne	Usually controlled with antiacne medications: benzoyl peroxide, retinoic acid and antibiotics (topical or systemic).
Acute monilial vaginitis	Usually controlled with antifungal agents given intravaginally: miconazole nitrate (Monistate 7 cream)--hs for 7 nights; clotrimazole cream or vaginal tablets (Gyne-Lotrimin)--hs for 7 nights; nystatin vaginal tablets (Mycostatin)--BID for 14 days.
Chronic monilial vaginitis	Treat for an entire menstrual cycle; evaluate for other factors (as broad spectrum antibiotic use, endocrinopathies, infected male genital tract, others); male partner can use a condom; use of oral nystatin to reduce gastrointestinal reservoir; many others.
Breakthrough bleeding	Usually resolves without treatment after 2-3 more cycles. Otherwise use a 50 mg pill. Finally, give 10-20 mg ethinyl estradiol for 7-10 days. Be sure patient is taking the pill every day.
Suspected pregnancy	Stop the pill immediately since it is a mild but confirmed teratogen. Patient must be able to take the pill daily.
Other Side effects	Monitor any side effects very carefully. Patient must allow frequent evaluation as determined by the physician. Some problems (as melasma) need immediate cessation of the pill.

*Modified with permission from: Greydanus DE, McAnarney ER. Menstruation and its disorders in adolescence. Curr Prob Pediatr 1982;23(10):23.

3. Diabetes Mellitus

Current evidence indicates that diabetes mellitus is a strong relative contraindication to birth control pill use in teenagers. However, this remains controversial and further studies are needed. There is concern that the birth control pill use may worsen diabetic complications of pregnancy and diabetes should also be considered. Alternative methods can be offered, as depomedroxyprogesterone acetate or barrier methods.

4. Seizure Disorder

Though the pill can worsen existing epilepsy in a particular patient, an adjustment in anti-seizure medications is often therapeutic. A serious problem is that of drug interaction. There may be an anti-convulsant drug-induced increase in hepatic microsomal enzymes which can produce increased pill metabolism and thus weakening of the pill's contraceptive ability. Thus women on the pill who also take various anti-convulsants, are at an increased risk for pregnancy. Further study is needed to determine the significance of this particular risk. The possible teratogenic effects of anti-seizure medications complicates this problem. Other medications may also interfere with the birth control pill use, including antibiotics and sedatives.

5. Migraine Headaches

It has been observed for many years that some females develop new or worsening migraines when placed on the pill. The various high estrogen pills of the 1960's even resulted in anecdotal cerebrovascular accidents and death. Current low estrogen pills have improved this situation considerably. However, caution is still advised when prescribing the birth control pill to an individual with a history of migraine headaches. If the individual has a history of severe migraines or migraines with prolonged auras (as with the hemiplegic or ophthalmoplegic types) the pill should not be given. If the migraine headache and/or the aura worsened while on the pill, it should be stopped immediately. Careful monitoring is advised when placing migrainoid women on the pill.

6. Liver Disorders

It has been clearly written that active liver disease is an absolute contraindication to pill use. A history of hepatitis is not an absolute contraindication if the liver function tests have returned to normal. The only known birth control pill associated neoplasm is the hepatic cell adenoma, currently given an estimated annual incidence of 3.4 cases per 100,000 pill users. A variant of this benign tumor is the focal nodular hyperplasia; on rare occasions this can rupture in the liver or peritoneum, causing a syndrome of right upper quadrant mass, abdominal pain, right shoulder pain, and diverse symptomatology associated with acute blood loss.

7. Cancer

Research over the past 20 years has vigorously sought to link birth control pill use with cancer. In general, no such association has been proven in the 1980's. As noted, the only tumor in this category is the benign hepatic adenoma. In the mid-1970's, the sequential type of birth control pill was withdrawn from the market because of a possible link to endometrial carcinoma.

There is no current evidence linking the birth control pill with cancer of the breasts, endometrium, ovary or pituitary gland. Recent evidence seems to actually indicate a protective effect for ovarian, endometrial, and breast cancers. However, a 1983 study by Pike et al did link certain pill types with breast cancer but this study has generally not been accepted as valid.

A 1983 study by Vessey et al does indicate the pill as one of several possible contributing factors to cervical cancer. However, cancer of the cervix has many precipitants, including possible association with early "sexarache" (onset of coital activity), many sex partners, herpes simplex infection, condyloma accuminata infection and others. The use of the birth control pill may increase the number of partners the individual has--thus its actual role in the complicated pathogenesis of cervical cancer remains to be clarified. Certainly one should conclude that individuals on the birth control pill need "regular" Papanicolaou screening. Also, there is limited evidence that birth control pill use can worsen malignant melanoma--a rare condition in the adolescent.

8. Miscellaneous

There are numerous other effects of the birth control pill which the clinician may encounter. Such minor but well known problems as weight gain, Candida albicans, vulvovaginitis, or acne vulgaris do not usually require stopping the pill (Table 27). Recent evidence has indicated the birth control pill may actually have a protective effect for gonococcal-induced pelvic inflammatory disease but the opposite for chlamydial-induced pelvic inflammatory disease. In general, the following conditions preclude pill use: leiomyomata, melasma, erythema nodosum, retinal or optic nerve disorders, estrogen-dependent cancer, history of thromboembolic disease, severe hypertension, hyperlipidemia, cyanotic heart disease, porphyria, chorea, and others. If a "depressed" individual is placed on the pill, she should be carefully monitored to see if this depression worsens. If the depression worsens or develops while on the pill, it probably should be stopped. If the individual becomes pregnant while on the birth control pill, it should be stopped immediately. Most consider the pill to be a "mild" teratogen and abortion is not usually recommended. There are many other conditions which can arise and consultation with appropriate literature or available experts is advised.

Finally, though the possible complications of the birth control pill must be carefully monitored, it should be remembered that there are many therapeutic effects of the pill as well:

- a. Safe, effective contraception.
- b. Treatment for dysmenorrhea.
- c. Treatment for anemia secondary to dysfunctional uterine bleeding.
- d. Regulation of menses.
- e. Lower incidence of ovarian cyst disease and benign breast disease.
- f. Partial protection from gonococcal-induced pelvic inflammatory disease.
- g. Lower incidence of ectopic pregnancy.
- h. Partial cancer protection.
- f. Others.

The use of low estrogen and low progestin contraceptives has reduced pill-associated complications to a major extent. The use of bi-(tri)-phasic oral contraceptives has introduced a new pill type which offers effective contraception but yet unproven major benefits over the traditional "fixed" birth control pill. These newer pills seek to simulate a menstrual period by varying the estrogen and progestin ratio during a 21 day period. Further study is warranted to determine their overall value. Many predict the widespread use of tri-phasic pills in the near future.

Finally the mini-pill (progestin-only) has been available for many years. It has been used in those individuals having disorders where estrogen may be contraindicated--such as sickle cell anemia, cyanotic heart disease, diabete mellitus, and others. Some have not recommended the mini-pill for teenagers because of its increased pregnancy rate (1-3 pregnancies per 100,000 women years of use versus less than 1 pregnancy per 100,000 women years for the combined birth control pill), as well as frequent breakthrough bleeding and amenorrhea noted in individuals on the mini-pill.

B. Other Contraceptive Methods

1. Barrier Methods

These include the diaphragm, condom, vaginal spermicides and vaginal contraceptive sponge. Most youth do not use these methods and the few who do, often use them ineffective. Many youth are not prepared to deal so intimately with their own bodies and do not wish to prepare so carefully for each coital encounter. However, they can be an effective method for motivated adolescents. Types of Diaphragms are outlined in Table 28 and contraindications to diaphragm use in Table 29. The health care professional can easily learn to fit a diaphragm and then give the youth appropriate instructions. The coil-spring or flat-spring diaphragm serves most adolescents well. The diaphragm is used with vaginal cream or foam and can even be used in conjunction with the condom. The condom

and vaginal contraceptives can also be an effective contraceptive combination. Table 30 lists the advantages of vaginal contraceptives, Table 31 the advantages of the condom. However, youth should be encouraged to utilize condoms as a potentially good contraceptive which is associated with many other positive qualities (Table 31). Health care professionals should present the subject of condoms in a positive, not negative light. Unfortunately most teenage males will not use condoms, for reasons outlined in Table 32. The vaginal contraceptive sponge is a relatively newly introduced barrier method which seems to be as effective as the use of the diaphragm with vaginal contraceptives. Recent concern has been raised linking the diaphragm to urinary tract infections and the diaphragm as well as the sponge to toxic shock syndrome. However, these barrier methods are generally safe and effective if knowledgeable health care professionals carefully train motivated adolescents.

TABLE 28

TYPES OF DIAPHRAGMS*

Coil-spring diaphragm

A round, spiral-coiled metal wire is inserted in the rim. Folds in one plane. Well suited for general use.

Flat-spring diaphragm (Mensinga)

Similar to coil-spring diaphragm but firmer. Useful in women with anteverted uterus and/or long, posteriorly pointed cervix.

Arching-spring diaphragm (Findley)

Double metal spring in rim; it forms an arc when the rim is compressed. Used in women with posteriorly pointed cervix, poor muscle tone, and certain other conditions.

Matrisalus diaphragm (Bowbent)

Strong, flat steel band that is curved and inserted in rim. Useful for patients with vaginal-wall relaxation or cystocele.

*Reprinted with Permission: Greydanus, D.E.: "Contraception in Adolescence. An Overview for the Pediatrician." Pediatric Annals. 9(3):55, 1980.

TABLE 29

CONTRAINDICATIONS TO USE OF THE DIAPHRAGM*

Short anterior vaginal wall

Severe retroversion (backward tilting of uterus)

Severe anteversion (forward tilting of uterus)

Perineal tears

Vesicovaginal (or rectovaginal) fistulas
Complete uterine prolapse
Allergy to rubber or spermicides

*Reprinted with Permission: Greydanus, D.E.: "Contraception in Adolescence. An Overview for the Pediatrician." Pediatric Annals. 9(3)59, 1980.

TABLE 30

ADVANTAGES OF VAGINAL CONTRACEPTIVES*

Provide effective contraception, especially if used in conjunction with condom or diaphragm
Allow couple to share contraceptive responsibility if used in conjunction with condom
No prescription needed
Relatively inexpensive
Few side effects
Serve as vaginal lubricants to reduce dyspareunia
May provide some protection against venereal disease, because of bactericidal action on *Treponema pallidum* and *Neisseria gonorrhoeae*
Useful for young women who have only sporadic intercourse

*Reprinted with Permission: Greydanus, D.E.: "Contraception in Adolescence. An Overview for the Pediatrician." Pediatric Annals. 9(3):60, 1980

TABLE 31

ADVANTAGES OF THE CONDOM AS A CONTRACEPTIVE*

Provides effective contraception
No side effects
No prescription needed
Provides some protection against venereal disease
May prolong coitus by delaying ejaculation
Allows the male to share in the responsibility for contraception
May contribute to reduced incidence of cervical cancer
Many types available
Can assist in relieving deyspareunia

*Reprinted With Permission: Greydanus, D.E.: "Contraception in Adolescence. An Overview for the Pediatrician." Pediatric Annals. 9(3):60, 1980.

TABLE 32

REASONS GIVEN FOR NOT USING CONDOMS AS CONTRACEPTIVES*

Decreased penile sensation during coitus
Need to disrupt foreplay to put condom on
Stigmata of using device associated with promiscuity and venereal disease
Failure of physicians to advocate this method
Failure of pharmacists to display the condom openly
Need for proper technique with each use if failure is to be prevented
Cost
Unwillingness of some boys and men to accept male responsibility for
contraception
Religious beliefs

*Reprinted With Permission: Greydanus, D.E.: "Contraception in
Adolescence. An Overview for the Pediatrician." Pediatric Annals.
9(3):59, 1980.

2. Intrauterine Device (IUD)

The copper 7 or copper T IUD has current limited used for American teenagers. Though it is an effective contraceptive, the risk for subsequent Pelvic Inflammatory Disease is too great to warrant its use for most teenagers. Contraindications to IUD placement are given in Table 33 and complications of IUD use are listed in Table 34. It is the Pelvic Inflammatory Disease risk which is of major concern here - especially chlamydial induced disease. However, some motivated, older youth with limited risk for sexually transmitted diseases may be considered for IUD.

TABLE 33

CONTRAINDICATIONS TO IUD PLACEMENT*

1. Pelvic infection (acute cervicitis or pelvic inflammatory disease).
2. High risk for sexually transmitted diseases.
3. Cervical or uterine hypoplasia.
4. Uterine malignancy.
5. Severe menorrhagia/anemia.
6. Severe dysmenorrhea.
7. High risk for bacterial endocarditis.
8. Recent postpartum endometritis.
9. Recent septic abortion.
10. History of ectopic pregnancy.
11. Bleeding disorders.

*Reprinted With Permission: Greydanus, D.E.: "Contraception." Chapter 18
in Pediatric and Adolescent Obstetrics and Gynecology. Eds: JP Lavery and
JS Sanfilippo. New York: Springer-Verlag, page 248, 1985.

TABLE 34

COMPLICATIONS OF IUD USE*

1. Pain during insertion.
2. Increased menorrhagia with anemia.
3. Increased dysmenorrhea.
4. IUD expulsion.
5. Inability to find the IUD string.
6. Perforation of the uterus with peritonitis.
7. Bowel perforation.
8. Pregnancy (increased maternal and fetal morbidity).
9. Ectopic pregnancy.
10. Spontaneous abortion.
11. Pelvic infections. (Pelvic Inflammatory Disease)
12. IUD embedment with resultant endometrial necrosis.
13. Bacterial endocarditis.

*Reprinted With Permission: Greydanus, D.E.: "Contraception." Chapter 18 in Pediatric and Adolescent Obstetrics and Gynecology. Eds: JP Lavery and JS Sanfilippo. New York: Springer-Verlag, page 249, 1985.

3. Injectable Contraceptives

The main injectable contraceptive available in the U.S. is Depo-medroxy-progestrone acetate. It is given in a dose of 150 mg, intramuscularly every 3 months. It is as effective as a birth control pill but has not received Federal Drug Administration approval because of alleged links to breast cancer and alleged mutogenic properties. However, many authorities worldwide refute these allegations and consider it to be a safe and effective contraceptive. It is useful where a highly effective contraceptive is needed and the side effects of an estrogentype contraceptive must be avoided. Thus, it has been used for individuals with cyanotic heart disease, sickle-cell anemia, thrombophlebitis and others. Psychotic and retarded individuals who are at risk for pregnancy have also been included in the list of those prescribed this injectable contraceptive around the world. A common side effect is irregular menses including amenorrhea.

4. Miscellaneous

Table 24 lists other possible contraceptive methods, Periodic Abstinence of Rhythm Methods can be effective for highly motivated youth who are carefully attuned to cervical mucus changes and timing ovulation. Its application to most teenagers is quite limited. Postcoital contraceptives refers to a variety of agents given to a rape individual at risk for pregnancy. Diethylstilbestrol (DES) has been recommended by the F.D.A. at a dose of 25 mg twice a day for 5 days, starting within 72 hours of the rape incident. However, the well-known side effects of DES on offspring has

caused considerable current controversy in its use for this matter. The use of Lo-Ovral is currently recommended by many authorities. This and other proposed postcoital contraceptives are listed in Table 35. Lactation can induce amenorrhea but is not a reliable "Contraceptive" - especially if supplemental feedings are given to the baby and/or the baby is 6 months or more of age. Coitus Interruptus is a method of antiquity which is difficult if not impossible for most teenage males to utilize as an effective contraceptive method. Non-coital sex (as masturbation, kissing, petting, oral sex, etc.) can be used by some individuals as an alternative to coitus. Sterilization is a method which legally is not available to teenagers except in very rare circumstances. Unfortunately, several hundreds of thousands of American adolescents have been involuntarily and unknowingly sterilized over the past 20 years because of Pelvic Inflammatory Disease. Finally though some utilize abortion as a contraceptive method, health care professionals should instruct youth that abortion is not a method of contraception as such.

TABLE 35

POSTCOITAL CONTRACEPTIVES*

Lo-Ovral, 2 Tablets by mouth, on two occasions, 12 hours apart.
DES 25 mg b.i.d. PO for 5 days.
Postcoital IUD insertion (copper device).
Ethinyl estradiol (50-100 mg) with 0.5-1.0 mg norgestrel. These are given together on 2 occasions, 12 hours apart.
Conjugated estrogens 30 or 50 mg PO for 5 days.
Conjugated estrone sulfate 100 mg PO for 5 days.
Ethinyl estradiol 5 mg PO for 5 days.
Synthetic agonistic peptide analogs of gonadotropin-releasing hormone (GnRH). (Under research.)
Progesterone receptor antagonists (Under research).

*Modified With Permission: "Contraception." Chapter 18 in Pediatric and Adolescent Obstetrics and Gynecology. Eds: JP - Lavery and JS Sanfilippo. New York: Springer-Verlag, page 254, 1985.

C. Summary: Contraceptive Issues

The extent of coital activity has been reviewed and it seems clear whatever safe measures exist which can effectively lessen this problem would be welcomed by man. Thus prevention of an unwanted pregnancy is the goal of the clinician caring for adolescents. The most effective contraceptive methods are the combined birth control pill (estrogen and a synthetic progesterone) and intramuscular medroxyprogesterone acetate (Depo-Provera), both with pregnancy rates under 1/100 woman-years of use. Others (as the intrauterine device and the condom or diaphragm with foam) have higher pregnancy rates, but are potentially very effective contraceptive methods.

A thorough history and physical examination should precede the recommendation or prescription of contraception. Pelvic examination should be performed and cervical culture for *Neisseria gonorrhoeae* and *Chlamydia trachomatis* obtained. Screening tests, as a hemotocrit, urinalysis, syphilis serology or others are recommended by some. Other tests or evaluations depend on the particular situation and clinical judgement. Counseling regarding sexually transmitted disease (STD) should be included in this overall plan. The physician should remember and the youth must have some idea of the many types of STD's for which the unwary individual may be at risk.

Concern over the side-effects of various contraceptive methods must be carefully discussed. However, it should be remembered that the mortality rate for such contraceptive methods is lower than noted for pregnancy and childbirth. A careful matching of the individual patient and appropriate contraceptive method will reduce associated morbidity. Frequent follow-up of any teenager given contraception is important to improve compliance and more effectively monitor possible complications of the method which has been chosen by the patient with her physician's guidance.

A discussion of contraceptive methods, with particular emphasis on adolescence, is important to the subject of pregnancy prevention. Again, I must emphasize that such a review is based on psychosocial factors of adolescence, sexual physiology of adolescence and the role of education in the prevention of adolescent pregnancy.

CONCLUSION

This brief manual has presented important concepts of adolescent growth and development in the belief that assimilation of such knowledge will enable the interested health care professional to better understand and more effectively deal with youth. Various stages of adolescence have been reviewed: Psychological, cognitive, sexual, pubertal, and miscellaneous. Legal rights of minors have been briefly reviewed. This manual has also outlined basic principles of adolescent health care including various factors implicating such care and general demography of illness. General counseling issues were then reviewed, but with specific comment on two important issues: depression and contraception. The conclusionary part centered on reproductive issues of adolescents, with major emphasis on oral contraception.

I am hopeful that such an outline will be of help to the leaders and invite their feedback. Adolescence is a critical time of human development and fully deserves our collective interest as well as concentration. We must not allow the pressures of other life phases to minimize our efforts with this critical life phase. Evaluation and treatment of youth is an exciting challenge and those health care professionals entrusted with our youth are fortunate individuals who have been given a major responsibility. I hope such individuals remember this when they are working with youth, whether such teenagers are my children, the reader's children or others. We also should not forget the parents of such youth. A delicate but important balance must be developed by health care professionals, as we seek to help our youth successfully negotiate their adolescent

tasks and help parents effectively cope with the inevitable changes time brings to their children. It is a difficult, but perplexing, but potentially rewarding task. Our youth represent our future. What could be more important than positively affecting our future in this manner?

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