The present report is a review of all 554 papers published on Medline on pedophilia. The first discussion is the history of the disorder from ancient Greece to the present time, especially the influence of the liberal country of the Netherlands, the North American Man-Boy Love Association, and the sexual crisis in the Catholic Church. One important question is the relationship between homosexual pedophilia and adult homosexuality. Evidence for and against this relationship is presented. Next discussed are the characteristics of the victim and the long lasting serious effects of sexual abuse. Laboratory correlations are included, especially phalometric tests in order to objectively measure the physical responses to sexual stimuli. Electrophysiological and radiographic tests are also mentioned, including electroencephalography, computed tomography, magnetic resonance imaging, and positron emission tomography scans. An important section is the characterization of pedophiles with emphasis on their frequent previous sexual abuse, their past, their present, and their anticipated future. The final topic is treatment of this disorder with surgery, medication, behavioral therapy and the combination of medication and behavioral therapy.

**Keywords:** pedophilia; homosexuality; sexual abuse; behavioral therapy; drug therapy; child abuse

**History of Pedophilia Introduction**
When I discuss pedophilia with medical colleagues or friends, the dominant feeling is one of great discomfort with this topic. The same general point was made in 1982 by Jones, who added that the medical community must pay some attention to this disorder. Most everyone seems to feel a natural repulsion, mainly because most adults are disgusted to imagine someone forcing a sexual act on a small child. A chronological approach is followed in this review to demonstrate how reports and attitudes have changed over time.

Pedophilia refers to a sexual act involving an adult and a prepubertal child, and homosexuality refers to a sexual act involving a postpubertal individual of the same
sex. The broader term of paraphilia refers to a disorder of sexual identity development with 3 characteristics: (1) long-standing, highly arousing erotic preoccupation; (2) pressure to act on the erotic fantasies; and (3) sexual dysfunction with a partner during sexual behavior.2

**Early History**
The history goes back at least to ancient Greece, where homosexuality conformed to the pederastic model and the warrior/hero felt justified in taking sexual advantage of young males.3 Much later, in the middle ages, monarchs like Henry VIII of England in 1533 passed laws making sodomy illegal,4 and as late as 1967, the act was then decriminalized. In the mid-1970s, political leftists were concerned with 3 approaches: (1) sexual liberation with the attempt to place homosexual love on par with heterosexual, (2) civil rights of homosexuals without a challenge for the supremacy of heterosexual love, and (3) the Stalinistic view that homosexuality was a form of “bourgeois decadence” that was alien to the working class.5 When the American Psychiatric Association in 1984 removed homosexuality as a mental disorder, some liberals wanted all paraphilias (sexual deviations) also to be removed, claiming that classes of sexual disorders were merely codification of social mores.6 In the same year, there was an outcry that with the attempts to normalize behavior like pedophilia, there were “staggering numbers of cases of sexual abuse.”7 In summary, the history ranges from ancient Greece through the middle age to modern times, with forces trying to establish these acts as crimes and other forces trying to normalize this behavior.

**Influences of the Netherlands**
In the 1980s, the Netherlands began to play a major role in the history of pedophilia. The famous philoso- pher Erasmus had been known in the early 16th cen- tury for his broadmindedness,8 and William of Orange, considered by some the “father” of the Netherlands, had considerable influence on this country for his emphasis on individual rights.9 For these and similar reasons, many believe that the Netherlands has been and is today the most liberal country in Europe. One of the first articles to demonstrate this attitude was one to abolish the opposition and disgust toward pedophilia.10 Here, the assumption was that homoex- ury was a fully recognized and accepted lifestyle, and pedophilia should also be accepted. By accepting pedophilia, the Dutch Cultural and Recreational Center would be able to broaden the idea of gay iden- tity.10 With these ultraliberal views, there was no sur- prise that man–boy relationships developed in the Netherlands,11 based on the concept of a
pedagogical Eros. Soon articles were published indicating that that pedophilia was tolerated at arm's length in the Netherlands, as some tried to redefine pedophilia as youth emancipation. Such tolerance was rooted in Dutch history. Justifications were then forthcoming, such as for a child the main thing is to be wanted, suggesting that such sexual child abuse was a positive experience for the child and that pedophilia was not necessarily sex abuse. Other examples were to give the abuse a new name like "intergenerational intimacy," claiming that a negative outcome was not inevitable. Thus, in the name of sexual freedom, there have been attempts, especially from the liberal Netherlands, to place a positive spin on sexual contacts between an adult and a child.

**Spread to United States**
In 1990, the Dutch influence spread into man–boy love and the American gay movement, mainly under the auspices of the North American Man–Boy Love Association (NAMBLA), with some claiming that man–boy love had intersected the gay movement since as early as the 19th century. An additional point was made that the U.S. gay movement had retreated from the original vision of sexual freedom for all in favor of the existing social and political structure. To legitimize or rationalize man–boy sexual relations, not only NAMBLA but also the Rene Guyon Society and the Childhood Sensuality Circle developed. Also, there were attempts to redefine any possible criminal aspect of pedophilia and to try to escape prosecution by using the insanity defense. Apologists for pedophilia were always available. There was no surprise that many physicians were troubled by these developments, and some reminded us that medical doctors must report pedophilia. Also, the prevalence of sex victimization of children was soon viewed as an intractable national problem. The fear was that the situation would become, like in India, one in which pedophiles often would go free and the victimized child became so depressed and full of guilt that suicide may result. Although the gay community tried to maintain that consensual sex with adolescents of 14 years of age qualified as a gay rights issue, the heterosexual community maintains that vic- tims under 14 years of age should never be considered as a gay rights issue. Because pedophilia remained controversial and only a few physicians even wanted to discuss it, not to mention to help to legislate against it, terrible abuses continued. The priest scandal of the Catholic Church became very evident in 2002, with thousands of priests indicted, many thousands of victims with their lives forever compromised, and very many millions of dollars paid out as a token compensation to these same victims. Because most of the victims were altar boys more than 14 years of age, most of the perpetrators were homosexuals and not pedophiles, by definition. Eventually, with such loose legislation against these abuses, horrendous crimes did occur, exemplified by Luis Alfredo Garavito, a homosexual pedophile who killed more than 200 male children, similar to the serial killer, Jurgen Bartsch, also a homosexual pedophile. The penalty given to Garavito was 2600 years in prison, but as an example of ridiculous legislation on this disorder, Garavito could possibly be released in 10 to 20 years in Columbia, South America. Of course, there is moral panic in our society about pedophilia, and even housing restrictions of 1000 feet for perpetrators to be away from potential
victims have at times not worked, serving occasion- ally as a stimulus for reoffense.26 The question posed by Di Segni Obiols27 of why 2 consenting adults seem far more persecuted than pedophiles is answered only by increasing penalties against pedophiles. In sum- mary, NAMBLA has spearheaded an attempt to decriminalize child sexual abuse and even to encour- age it within the context of a moral panic in our soci- ety that often would not wish to deal with what citizens view as a disgusting practice.

Possible Relationship Between Homosexual Pedophilia and Adult Homosexuality

Evidence Against the Relationship
As early as 1977, the medical literature discussed whether male homosexuality and child molestation were associated but concluded that there was likely only a random connection between the two.28 In another report, female children were victimized twice as often as male children, and all perpetrators were said to be heterosexual later as adults. The conclusion was that homosexual pedophilia may be mutually exclusive with adult homosexuality and that among adults, the heterosexual male may be a greater risk to a child than the homosexual male.29 In another study of 269 cases of pedophilia, 82% of the offenders were a heterosexual partner of a close relative of a child and only 2 were homosexual or lesbian. Their conclusion was that the risk of child abuse by a homosexual was only 0% to 3% and, thus, that a child is unlikely to be abused by a gay or lesbian.30 One additional point is that a homosexual expe- rience early in life does not mean a lifetime with that gay orientation. In Papua, New Guinea, the Sambia tribe usually orients boys and adolescents as homo- sexual and then switches to a heterosexual orienta- tion in adulthood.31 One interpretation of this phenomenon is to reiterate the proposed mutual exclusiveness of homosexual pedophilia and adult homosexuality, but here only in the setting of a New Guinea tribe. In 2004, one conclusion from the gay community was that equating pedophilia and homo- sexuality was worrying and treating homosexuality as a sickness was disgusting.4 The main evidence here is a study that concluded that only a 0% to 3% risk is found for a pedophile to later become a homosexual.

Evidence for the Relationship
Early in the 1980s, there was an attempt by gay groups to separate pedophilia and homosexuality, but in the end similar groups tried to abolish the opposi- tions to pedophilia and to point out that homosexual identity was “by no means a constant, but a fluid iden- tity.” The goal was to broaden the idea of gay identity to include and accept pedophilia, as proposed by the Dutch Cultural and Recreational Center.10 As an example of a close relationship, in 1986 both pedophilia and adult homosexuality were known to be related to birth order, with both groups tending to include the youngest male among numerous brothers. In 1997, the latter point was confirmed with a more specific finding that pedophiles, both homosexual and bisexual, had a later birth than het- erosexual pedophiles. The same finding also
applied to homosexual men. Still later, another report confirmed the specific finding that homosexual pedophiles usually had more older brothers than heterosexual pedophiles. Additionally, the finding was that “fraternal birth order correlated with homosexuality in pedophilia, just like it does in men attracted to mature partners.” The conclusion was that “fraternal birth order may prove the first identified univ- er-sal factor in homosexual development” and that “factors are similar for homosexuality against a child and homosexuality against adults.” In 2004, the conclusion from another study was that “fraternal birth order applies to sexual deviant behavior.” The conclusion applied specifically to sexual behavior but not to general criminal offenses.

A later report on this matter concluded that the evidence for fraternal birth order was considered weak, as was intrauterine hormonal exposure, but that evidence for postnatal learning as an explana- tion for homosexuality was stronger. Comments included: “There seems likely to be causes common to male homosexuality and pedophilia. They may include sexual (or quasi-sexual) experience in child- hood or adolescence.” The last report in this sec- tion was from 2005, and it indicated that a great amount of data exist that both male homosexuals and pedophiles have experienced more sexual abuse in childhood than heterosexuals. The supposition was that these are more than correlational and are in fact accurate. The main evidence in favor of a rela- tionship between pedophilia and homosexuality is the common cause of fraternal birth order and post- natal learning. Also, an adult male sexually attacking

a prepubescent 10-year-old boy would be probably called a pedophile and then 4 years later with the same boy would be called a homosexual, by defini- tion. It seems to be questionable logic to view these 2 conditions as completely unrelated.

Characterization of the Victim Demographic Variables
In 1975, the data showed that 88% of the victims were female and the mean age of the abused was 10.7 years. One half of the attacks occurred during the summer, between 2 PM and 6 PM, committed by abusers with a mean age of 28 years. In 1978, the number of female victims was reported as less at 66%, but still the majority. Much later, in 1995, the victims were found to mainly fall into 2 age groups: <5 years and 6 to 12 years of age.

Physical and Psychological Harm
Physical problems of the victims have rarely been men- tioned, but vaginitis in females has been reported. Mental and emotional changes have been empha- sized in a number of reports, and serious psycholog- ical harm was reported as early as in 1976, especially if the sexual attack was repressed by the victim. Other studies have discussed similar effects on the victim and have emphasized that these effects of abuse are serious and long lasting. Occurrences of emotional abuse in conjunction with multiple events of sexual abuse were “good predictors of later poor mental health and also later interest themselves in committing child sexual abuse.” Other studies also emphasized that emotional abuse represents an
additional risk for developmental problems.43 The emotional scars from the abuse have had various specific effects on children, such as leading to anorexia nervosa,44 desensitizing them to touch, and minimizing for them the concept of violence.45 All of these latter effects have been expressed in neuro-physiological terms. Early sexual abuse is considered to produce a neurodevelopmental abnormality in the temporal areas of the brain that mediate sexual arousal and erotic discrimination, in addition to the frontal areas that mediate cognitive aspects of sexual desire and behavioral inhibition.46

The final point in this section deals with the probability that this serious sexual abuse of children can be sufficiently uncovered by caregivers so that the process of therapy can begin for these unfortunate children. Among 107 abused young boys, not a single boy disclosed his abuse to general practitioners, although persistent somatic and behavioral problems continued for years.20 Therefore, all possible means must be discovered to identify the victims of these crimes. In summary, the serious emotional disorders from sexual abuse of these children often lead to poor mental health conditions, like anorexia and desensitization. Special efforts by pediatricians are needed to identify these victims.

**Laboratory Correlations With Pedophilia Phallometric Tests**

As early as 1989, tests called phallometric tests were run to measure the penile responsiveness in the form of an erection to various sexual stimuli. The sensitivity of the test was found to be 55% and the specificity 95%.47 Three years later, there was discussion of whether penile volume or circumference was more valid, but the final decision was that both gave similar results.48 In 1993, an attempt was made with these phallometric tests to differentiate between homosexual versus heterosexual pedophilia, and the differences were relatively weak.49 Two years later, the test was usually called phallopelthysmography,50 and at that time more specific results were reported about the differences between those who preyed on female versus male victims. With female victims, the perpetrators were like control groups, but with the male victims the pedophiles had a significantly greater response to child stimuli, like nakedness. The sensitivity was 42% for perpetrators with males, and the specificity was 92%.51 During the same year, homicidal versus nonhomicidal molesters were compared and no differences were found for age or intelligence quotient (IQ). However, differences were seen between the 2 groups with the phallometric index.52 More recently, in 2003, penile tumescence was found to be more predictive than psychosexual assessment for detecting pedophiles.53 Finally, the latest (2004) data have shown that the scale for pedophile interest correlates with phallus changes and that these correlational data have more predictive value than uncorrelated phallus data.53 Thus, the phallometric test can often identify individuals who have specific responses to child sexual stimuli.

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**Chemical Tests**
In 1989, hyperprolactinemia was reported in child molesters as an example that pedophilia may represent an endocrine disorder,54 confirmed 3 years later in 1992.55

**Electrophysiological Tests**

In 1994, the electrical response called the contingent negative variation (CNV) was studied for possible usefulness to identify pedophiles. This is an event-related potential that measures a long-lasting negative potential recorded from the middle of the scalp when the subject expects an event to occur. Although homosexuals showed a larger CNV than heterosexuals, no differences were found between the responses to stimuli showing male versus female children.56 During the next year (1995), no difference was seen between child and adult stimuli for pedophiles, but, as expected, a larger CNV was seen from normal heterosexual controls when viewing adult than child stimuli.57 Thus, the CNV likely has no definite role in identifying or confirming pedophiles.

**Radiographic Tests**

Positron emission tomography has been used to try to determine why 2 particular patients developed late-life homosexual pedophilia, a rare phenomenon. The scanner showed a hypometabolism within the right temporal area. The resulting speculation was that anterior temporal lobe disease, right greater than left, can increase sexual interest, and a predisposition toward pedophilia could be unmasked by this hyper-sexuality from brain disease, resulting in overt pedophilia.58 More recently, the functional magnetic resonance imaging of a homosexual pedophile during the viewing of young boys in their underwear showed activation of the right orbital frontal cortex.59 Although these latter diagnostic studies are helpful, others with appropriate controls are needed before definitive conclusions can be drawn. On the other hand, a corroborative study, published later, was that a pedophile was discovered to have an orbitofrontal tumor and after its removal the pedophilia was resolved.60 This type of case and other similar cases led to the hypothesis that “striato-thalamic cortical processing is involved in pedophilic urges. A possible deficit in cognition may be mediated by striato-thalamic areas in association with the frontal cortex and also with a deficit in prefrontal and motor processing.”61 Thus, radiographic tests would lead to a conclusion that the right temporal and orbitofrontal areas may be especially involved in pedophilia.

**Temperature Tests**

One report indicated that a higher body temperature can be found in pedophiles in response to meta-chlorophenylpiperazine. Also, compared with controls, pedophiles had an increased sensation of dizziness, restlessness, and a strange type of hunger, representing a serotonergic disturbance or hyperresponsivity.62

**Characterization of the Pedophile Demographic Variables**

The mean age of pedophiles was 28 years in a survey reported in 1975,37 and in a group of 40 female abusers in 1987 the mean age was a similar 26 years63; they were usually economically poor, poorly educated, retarded, and psychotic (50%) and were also often chemically dependent (>50%).63 In 1995, the emphasis on pedophiles was again on low IQ and poor education, and the number of previous offenses was influenced by a younger age of the victims and a low educational level.
of the perpetrator. A higher prevalence of left-handedness was reported in 2001, not likely related to any increased educational difficulty. More recently, in 2005, left-handedness was again found to be much more frequent than the rates in pervasive developmental disorders, like autism.

As for the sex preference of the victims, the ratio of girls to boys was 11:1 among (male) pedophiles in contrast to 20:1 among (male) adults committing sex crimes like rape. Thus, homosexual attraction was greater in pedophiles than in other adults involved with sexual crimes with nearly a 2:1 difference. The latter sex preference of pedophiles precedes the age preference, so relatively early the pedophile shows a tendency for contact more with boys than does the rapist. In 1998, the sex preference was 75% for young girls and an overlapping 50% for boys. An exclusive interest in boys has been found especially in pedophiles with mothers of older age and an interest in girls mainly in intellectually deficit perpetrators.

One other characteristic was that pedophiles had more head injuries before 13 years of age (compared with controls), correlated with neuropsychological phenomena, attention problems, and also left-handedness. Head injuries after 13 years were associated more with drug abuse and promiscuity. In 2004, another study confirmed an increased prevalence for cognitive problems, mainly of immediate and delayed memory, a low IQ, and again left-handedness. The general conclusion was that pedophilia was linked to early neurodevelopmental perturbations, manifesting itself often in the mid-20s from left-handed individuals who had a head injury before 13 years of age.

**Their Past**

*Previous abuse as child.* As early as 1975 and 1979, evidence was presented that abusers were often victims of abuse themselves. In 1988, a similar point was made that previous homosexual contact heightens the risk for sexual abuse by the same person. Seven years later another study made the same point, which was found in 42% of pedophiles, but added the interesting finding that the perpetrators choose an age-specific victim in accordance with their own age at victimization. The clergy as pedophiles often had similar trauma in early life. An added point was made in a study that 35% of male abusers had previously been abused, but among 96 females sampled, 43% had been victims but only 1 had later become a perpetrator. The previous abuse leading later to abuse of a child was viewed as an expression of a comorbid psychiatric disorder, associated often with substance abuse. When pedophiles and healthy males were compared, 60% of the former and only 4% of the latter had been abused as a child. In the obverse situation, only 26 victims of abuse (among 224) later became abusers, especially if the abuse was by a female with intrafamily violence and cruelty to animals. Thus, most victims of sexual abuse do not become later abusers, but with other factors, previous abuse increases the risk of pedophilia. The prior discussion of the abused later becoming abusers led one group of authors to emphasize that pedophilia tends to be...
found in families of pedophiles. Not only do the abused tend to become abusers as adults, but they also often commit sexual offenses as a child, found in 26% of pedophiles.

A 1995 study reported that in their group, every pedophile had been sexually abused but the immediate stimulus for abusing others was not frank child pornography but (surprisingly) soft core heterosexually oriented pornography. During that year, 1 report emphasized that the molested becomes the molester, comparing clerics and nonclerics. The clerics tended to demonstrate sex conflictedness, whereas the nonclerics showed more sociopathy and mental disorders.

**Drug abuse.** A report in 1976 pointed out that there was a clear association between alcoholism and pedophilia and that 49% had been drinking near the time of the attack, 34% heavily (10 or more beers). Alcoholism rate was 52%, with a lower rate if a male child had been the victim, compared with a female victim. In the same year, another report emphasized that the most common secondary diagnosis with pedophilia was alcoholism and drug abuse, and another paper correlated alcoholism and other paraphilias. On the other hand, only 5% of previous convictions were found to be related to multiple paraphilias, whereas 86% were nonsexual offenses, suggesting a general theory of crime among pedophiles.

**Family life.** The previous point was clearly made that many of the pedophiles were abused within their own families. In one study, 85% were abused by relatives or acquaintances. One report emphasized that pedophiles had often seen physical violence in their parents and did not seem to want cuddling as an infant. In a 1987 report of 40 female abusers, 63 children were involved, three-fourths in an incestuous situation, and more than 90% were mothers to at least 1 victim. Most common was group sex and next was fondling, more often (two-thirds of the time) with females. One half had retardation and/or psychosis, and the majority had chemical dependency.

Another report emphasized that pedophiles saw their parents as emotionally rejecting them but at the same time trying to exert great control over them while discouraging any self-development. The same general conclusion was drawn by other investigators who associated pedophilia with earlier separation from their parents. The emotional abuse in such a family was a good predictor of poor mental health and later child abuse. Thus, this section has emphasized the dysfunctional aspect of most families of child abusers, especially abuse within the family and early separation from the parents.

**Physical changes.** Computed tomographic scans of pedophiles show that their skulls tend to be thinner and less dense with lower regional cerebral blood flow, compared with controls.

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The electroencephalogram has shown increased amounts of normal alpha power and abnormal slow activity on the frontal areas at the time when the pedophiles are with their child partners. In addition, evidence showed a reduced coherence (similar wave-forms from 2 areas that are in phase with each other) within and between the hemispheres. During verbal processing, there was altered hemispheric functioning on the dominant hemisphere and disruption of relationships between the left and right frontal areas. Chemically, evidence showed an increased concentration of plasma catecholamines, especially epinephrine, thereby demonstrating increased activity of the sympathoadrenal system. Neurophysiological changes would be anticipated when a head injury severe enough for unconsciousness to occur. Pedophiles with such an injury tended to have decreased intellectual and educational levels if the accident had been before 6 years of age, but not if between 6 and 12 years, so that neurodevelopmental perturbations would result. Thus, physiological changes would place an emphasis on the frontal areas of the brain.

Comparison with other conditions. Pedophiles are usually different in a number of ways from violent criminals, especially because violence is relatively uncommon in pedophilia, although the influence of the abuse can be strong and long lasting. In contrast to the rapist, the pedophile was described as weaker and less muscular with more body fat. The smaller number of rapists over 40 years of age relative to pedophiles "mitigates the incidence of recidivism in rapists, but not in pedophiles." In other words, with older age the frequency of rapes diminishes but not the frequency of child sexual abuse. Other investigators have claimed that rapists resemble pedophiles in many ways.

In another study, homicidal pedophiles were compared with those involved with incest. The homicidal men were more often removed from their homes during childhood and were more violent, aggressive, and psychopathic, also committing more nonsexual offenses. They showed a higher level of phallometric responses to pediatric stimuli and were more aroused when their assaults were depicted. Finally, they were more often psychotic, with antisocial personalities and sexual sadism. In 75%, there were 3 or more sexual diagnoses versus only 6% in those committing only incest. Although pedophiles interact with their victims on a child's level, the incestuous men prefer to elevate their victims to an adult status.

In another study comparing incest with pedophilia, subjects in the incest group were initially less likely to commit new violent or sexual offenses but had phallometric preferences for a child and a recidivism rate of 22% involving violence within 5 years. One conclusion was that pedophiles had a severe and pervasive personality impairment. In 2006, another study concluded that personality disorders and pedophilia share a common structure. In contrast to criminals in general, whose factors are external, unstable, and controllable, pedophiles have factors that are internal, stable, and uncontrollable. Compared with violent criminals or rapists, pedophiles tend not to be as violent.

Psychological characteristics of pedophiles. Various characteristics have been ascribed to pedophiles. These include that pedophiles tend to be guilt ridden and try to inhibit their aggression and have the greatest affective and thought disturbance of all sexual offenders. The older adults tend to have a diminished
educational level with a low IQ and passive dependent behavior.108 Their negative mood is said to be related to their “deviant sexual fantasies,”109 and they often deny their own hostility as a means of trying to minimize their own psychopathy.110 As another example of their sociopathy, 50% of pedophiles claim to have no bad feelings about their abuse of children.111 Their arousal was often greater toward a male than a female child.112

Some groups suggest that there are 2 different groups of abusers: (1) those who are fixated, who molest males, and who come from broken homes but without alcohol abuse; and (2) those who are regressed, who molest females, and who come from intact homes.113 However, these perpetrators are often viewed before their crimes as normal men and are skilled at planning their abnormal behavior.114

Also, females are not often viewed as pedophiles by their male victims, but depending on the definition, the prevalence of such behavior is as high as 60%.115

Another characteristic of homosexual pedophiles is that they prefer to interact with their children on a child’s level, whereas the heterosexual pedophile is motivated by sexual gratification.116 Pedophiles can intellectually understand moral issues, but, given their personality orientation, they ignore interpersonal social values.117 In general, child abusers have a fragile body image, and those who abuse boys have a weaker ego than those who abuse girls.118 The victim of child abuse is powerless and feels betrayed by the adult abuser, resulting in the emasculation of the development of sexual identity.

As an example of the importance of environment as opposed to genetics, when 4000 siblings were checked, one abused and one not, only the abused suffered the psychopathic symptoms characteristic of pedophiles.119 Some of those symptoms are denial, refutation, minimization of behavior, and depersonalization of their offenses.120 Other attitudes include viewing children as sexual beings who have no control over their own sexuality and deserve sexual entitlement.121 The pedophile with more convictions had been involved with boys who were younger victims, and the offense took place usually without intoxication compared with nonpedophile crimes.122 Thus, pedophiles tend to appear normal but are often guilt ridden, having negative moods and a fragile body image, ignoring social values, and denying their behavior.

General characteristics. A number of investigators have generally characterized the pedophile, and these characterizations from 1996 until the present will be presented, especially to see if there may be a changing description. In 1996, compared with criminals without a sexual offense, the pedophile was viewed as more anxious and helpless with painful introspection and with a distorted view of others, having primary dependency needs and a diminished feeling of self-worth. He was chronically hostile, with a narcissistic personality disorder, much like an antisocial personality.123 Slightly later, the description was that nearly all (95%) had 2 or more paraphilias, many (82%) had mood disorders—including a bipolar diagnosis (55%) and also substance abuse (50%), impulse control disorder (55%),
attention deficit hyperactivity disorder (71%)—and nearly all (94%) had a conduct disorder.124 During the same year (1999), other investigators reported that nearly all pedophiles (93%) met criteria for an axis I disorder other than pedophilia. Mood disorder was found in 67%, anxiety in 64%, substance abuse in 60%, other paraphilias in 53%, and a sexual dysfunction diagnosis other than pedophilia in 24%.125 The main difference in the latter 2 studies was the prevalence in other paraphilias (95% vs 53%). Still later the description was that pedophiles had more characterological anger, likely stemming from their general inadequacy, cognitive rigidity, and "introverted inability to gratify their needs."126 In 2002, the description was that these perpetrators had an impaired interpersonal function, reduced assertiveness, increased passive-aggressiveness, impaired self-concept, increased sociopathy, and a propensity for cognitive distortion.127 In 2005, the general comments were that most men were middle-aged with elevated professional positions, one third were married, one third had never had sex with a woman, but 40% had children. Because only 3% had a criminal record, one conclusion from this group was that deviant sexual fantasies are widespread among men not usually regarded as offenders.128 An excellent example of men not usually viewed as criminals are the clerics who are pedophiles, and they have also been characterized. Compared with nonclerical pedophiles, the clerics tend to be older and highly educated, the majority (71%) suffering from homosexual pedophilia as measured phallometrically. The clerics less often had antisocial personality disorders, had more endocrine disorders, and had a long delay before charges were brought against them. They tended to use force and more often were in the offense posture.129 In summary, pedophiles tend to have a myriad of psychiatric problems, are often anxious with a distorted view of others, have a narcissistic personality disorder, and often have substance abuse and an aggressive sociopathy.

**Their Future**

*University students.* One way to judge the possible future for potential perpetrators is to survey the attitudes and tendencies of individuals before they commit any pedophilic crimes. Some surveys have been conducted with university students before any sexual crimes were committed. In one such study, 21% of students admitted a sexual attraction to small children. In addition, 9% admitted to sexual fantasies,

5% admitted to masturbating with fantasies, and 7% admitted a likelihood of pedophilic sexual relations if they could be undetected. Those with the latter admission tended to have had early sexual experiences, had masturbated with pornography, had had frequent sex partners, and had sexual conflicts.130 In a later survey, university students who were attracted to children were characterized as having low self-esteem, greater sexual conflicts, more sexual impulses, and more problems attracting the appropriate sex partners.131 In summary, up to 7% of uni-
versity students claim they would engage in sexual relations with a child if they were certain not to get caught.

*Prediction of another sexual offense.* The prediction of a new sexual offense based on the present crime was attempted by one group,132 who found a higher risk if a stranger was the victim and also if the victim was only an acquaintance but not a relative. Other data from a 6.3-year follow-up study showed that 31% had a new sexual offense, 43% had a violent or sexual offense, and the majority (58%) had some type of criminal offense. If the new offense was the same as the previous conviction, then the perpetrator was more often in jail, often diagnosed as a personality disorder and usually never having married.133 Another study134 reached one of the same conclusions, namely that if a new sex offense was the same as the older one, the pedophile most likely would offend still again. In 21/2 years, 17% offended again. Thus, these studies show that 17% to 31% of pedophiles soon will offend sexually again, but the majority will commit some type of crime.

**Treatment of the Pedophile Surgery**

The earliest report for the treatment of sexual delinquents (in 1975) was a surgical operation, in particular a unilateral hypothalamotomy (6 cases).135 Five years later, in 1980, the report was that brain surgery was not yet based on sufficient knowledge so the method of choice was orchidectomy, removal of the testicles.136 During the next year, surgical castration was evaluated, with claims that the procedure strongly decreased sexual thoughts and frequency of coitus, especially when performed in men 46 to 59 years of age. However, 31% still could engage in sexual intercourse so it was not considered a reliable treatment for sex offenders.137 No further reports about surgery for pedophiles are found after 1981 on the Internet’s Medline.

**Chemical Drugs**

*Medroxyprogesterone acetate.* The second recommendation mentioned for pedophilia (1978) was medroxyprogesterone. When administered for 2 months, the effect was a decrease in sexual fantasies and a decrease in the anxieties from them.138 In 1983, the effect was reported as a decrease in testosterone, in libido, and also in the number of offenses with few side effects, but no change in sexual orientation.139 Three years later, the effect was summarized as helpful in many ways.140 In 1990, the claim was repeated as producing a decrease in testosterone.141 Much later, in 2001, antiandrogenic progesterone was repeated as having a significant effect on sex drive, if side effects could be tolerated. A similar effect was mentioned for antiandrogen luteinizing hormones.142 However, another report emphasized the increased dropout rate, because the patients often refused to be compliant.143 As early as 1984, the conclusion was reached that pedophilia was a manifestation of hypothalamic–pituitary–gonadal dysfunction, because luteinizing hormones could be effective.144

*Cyproterone acetate.* The next antiandrogen medication mentioned (in 1987) was cyproterone acetate, investigated because behavior programs by themselves had not been effective. This drug had varying types of effects.145 In 1991, a report indicated that cyproterone could be successful, but up to 5 years were needed for treatment.146 During the same year, a case was mentioned with surprisingly favorable results after 16 years of follow-up.147 In 1992, one reason for the
effectiveness of cyproterone acetate was indicated as a decrease in testosterone, also revealed by a decrease in penile tumescence in phallometric responses.148 Another report in 1992 emphasized that only few effects could be found, but they were long acting.149 In the same year, both cyproterone and medroxyprogesterone were reported to decrease all sexual problems by decreasing the testosterone levels, but only the minority of pedophiles were likely to accept the libido-reducing drugs.150 In 1993, one group concluded that there was no convincing evidence for success from drug treatment.151 However, in the same year a more positive report was published of a decrease in recidivism,152 and in 1995 a decrease in sex drive was claimed.153 Not until nearly 10 years later, in 2003, did another report find beneficial effects of cyproterone (and also luteinizing hormones).154 The last report found was in 2004, stating that cyproterone would be needed for criminals with severe paraphilic behavior.155

**Triptorelin.** The next drug (in 1993) was a gonadotrophin hormone-releasing agonist called triptorelin, which decreased fantasies.98 Five years later, details were provided for its effect. A decrease in abnormal sexual behavior was reported, likely related to a testosterone level that fell in one patient from 545 to 23 ng/dL after 42 months. Side effects included erection failure, hot flashes, and a decreased bone density.156

**Leuprolide acetate.** The next drug reported (in 2001) was another gonadotropin-releasing hormone, called leuprolide, which in 1 year was viewed as very promising.157 The last report appeared in 2004, relating that 4 patients were much improved and 2 were moderately improved.158 One other paper warned that at least 4 years of treatment were needed, and if treatment was stopped, the cessation should be gradual, rather than abrupt. One example was given for a satisfactory effect for 7 years, but with abrupt stopping of the drug a relapse occurred in 8 to 10 weeks.

**Combination of Medication and Behavioral Therapy**

In 1999, the combination of an antiandrogenic drug and psychotherapy was introduced, but an interesting problem developed. At times, there was a social stigma against mental health professionals who treated pedophiles, because they were considered by some as supporters of illegal sexual acts rather than professionals treating a psychiatric disorder.159 In 2000, this combination of therapies was reported as highly effective in pedophiles,160 and in 2005 the conclusion was that it decreased urges and fantasies.161

**Behavioral Therapy Alone**

A report published in 1990 recommended counseling the pedophile and was based, of course, on the notion that the emotional, erotic, and sexual attraction to young boys should not be legitimized or modified.162 Four years later, the conclusion was that the comprehensive relapse program resulted in less of a risk of reoffending, but if there was a high level of sexual arousal, the patient was more likely to reoffend.163 In 2001, such cognitive therapy was a costly
matter but the economic benefits were considered worth it if successful. The controversial results are indicated in another study, which showed a decrease in reoffending in 1 year, but in another part of the study, no benefit was found for group therapy, and the reported even suggested potential harm in 10 years. In 2002, the conclusion of one group was that pedophilia was extremely difficult to treat. In 2005, the conclusion was that group therapy was successful, but in 2006, another report found that cognitive therapy was suboptimal. Another group emphasized some of the reasons why the success is so variable, namely that the patient must admit guilt and accept personal responsibility before a successful outcome could be anticipated. Other reasons for apparent failure include the media being blamed for slanting the failure of these therapies and the belief that humor should always be included in the therapy but often was not.

**Other Drug Therapy**
*Risperidone.* In 1996, this drug was used with fluoxetine, but no clear results have been published.
*Sertraline.* In 2002, sertraline was introduced, but effects are unclear at this time.
*Anticonvulsants: carbamazepine and clonazepam.* These drugs were used in 2002 without any conclusions.

**Masturbation Therapy**
As early as 1983, prolonged masturbation (for 1 hour) while verbalizing deviant fantasies was attempted, called satiation therapy. In 1992, this type of therapy was reported to result in decreased deviant arousal. In 1996, the final report was that there was no help from such masturbation therapy.

The summary of this therapy section is that antiandrogenic medication, like medroxyprogesterone, cyproterone, triptorelin, and leuprolide, could be effective and was even more effective when combined with behavioral therapy. Masturbation and behavioral therapy alone were not as effective for the pedophile.

**Conclusion**
Pedophilia is a topic that causes many physicians to feel uncomfortable, especially because there are forces that attempt to normalize this repulsive behavior. One controversial aspect is the possible relationship between homosexual pedophilia and adult homosexuality. However, there is no controversy about the great psychological harm done to the victims of these crimes. The proper identification of a pedophile can often be determined by phallometric tests, whereas electrophysiological and radiographic procedures may also be helpful in the future. The characterization of the typical pedophile is a male around 26 years of age, often with poor education, left-handed, and at times having sustained a head injury before 13 years of age. They themselves have often been the victims of sexual abuse, they may be alcoholic, and they may have come from a dysfunctional family with an early separation from their parents. Compared with other criminals whose factors are external, unstable and controllable, the pedophile has factors that are...
internal, stable, and uncontrol- lable. Pedophiles usually have a distorted view of others and a narcissistic personality disorder, often with substance abuse and aggressive personality. One unfortunate fact is that 7% of university stu- dents admit that they would likely have sexual rela- tions with a child if they knew that they would not get caught. Behavioral therapy, neurosurgery, and excessive masturbation have not been effective, but 4 different antiandrogenic medications have been helpful if the pedophile agrees to take these drugs. One last point for all pediatricians is that the great majority of children will not usually volunteer that they have been victims, and great effort is necessary for the practicing pediatrician to uncover this terri- ble sexual abuse. Clues may be a sudden change in mood and behavior on the part of the child.

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