

# Psychosocial and Biological Treatment Considerations for the Paraphilic and Nonparaphilic Sex Offender

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There is a growing consensus among clinicians that sex offenders represent a heterogeneous group of individuals. Assessment and treatment of sex offenders is complicated by phenomenological and etiological differences and the presence of psychopathology, including paraphilias. The authors discuss the most commonly employed psychosocial therapies for sex offenders in general. Pharmacologically based treatments for paraphilic sex offenders are also reviewed.

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Contrary to the common but misguided social belief that all sex offenders are created equal and constitute a highly homogenous group, those who commit sexual crimes actually comprise an extremely heterogeneous population. As a group, sex offenders cut across socioeconomic, educational, racial, and religious lines.<sup>1</sup> Laws and legal definitions designating what constitutes a sexual offense and who is identified as a “sex offender” vary from state to state, creating a disparate categorization of this population across the criminal justice system.<sup>2,3</sup> Within the sex offender research and treatment field, the etiological theories posited to explain sexual deviance have contributed to advances in the field and furthered diversification of current understanding of the sex offender population.<sup>4–9</sup> Typological conceptualization has evolved and expanded as well. Empirically based research by Knight and Prentky,<sup>10</sup> for example, led to the identification of distinct typological

categories of sex offenders based on factors including the degree of object fixation, social competence, and physical contact. Their efforts resulted in the delineation of 24 types of pedophiles and 9 types of rapists. In addition, more and more subpopulations of sex offenders, such as adolescent offenders,<sup>11,12</sup> female offenders,<sup>13–16</sup> and Latino and other culturally diverse offenders,<sup>17</sup> are being recognized as relevant treatment groups with notable differences that have significant implications relative to intervention efficacy.

Sex offenders may also present clinically as a very diverse group. The presence of mental illness in a sexual perpetrator, for example, may serve to drive, exacerbate, hinder, and/or mask deviant sexual behavior. For example, a sex offender could be suffering from a major mental disorder or cognitive impairment that contributes to sexually deviant behavior.<sup>18–23</sup> In a comparative study, Philips *et al.*<sup>24</sup> reported the cases of 12 male patients with diagnosed schizophrenia who committed sexual offenses while psychotic. In other clinical cases, however, the presence of psychosis can hinder or perhaps even mask the expression of sexual deviance by eliminating or diminishing an individual’s capacity to act in an organized, goal-directed manner.<sup>19,25</sup> There are other perpetrators who are not mentally ill, but who may

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commit sexual offenses while impaired and under the influence of alcohol and/or drugs.<sup>26,27</sup> The inherent and the constructed distinctions found among sex offenders make research on this group difficult and complicate treatment efforts.<sup>28,29</sup> The heterogeneous characteristics of the sex offender population, therefore, demand that treatment options be informed by the salient and sound biopsychosocial features found among them.

In this regard, an important clinical subgroup of sexually offending individuals is those in whom a sexual deviation syndrome or a paraphilia can be diagnosed. According to the revised fourth edition of the DSM,<sup>30</sup> a paraphilic disorder is characterized by “recurrent, intense sexually arousing fantasies, sexual urges, or behaviors generally involving (1) nonhuman objects, (2) the suffering or humiliation of oneself or one’s partner, or (3) children or other nonconsenting persons, that occur over a period of at least 6 months. . .” (Ref. 30, p 566). Paraphilic disorders generally have their onset around the time of puberty, running a chronic course without interspersed periods of remission.<sup>31</sup> Many studies have further consistently found high rates of comorbid psychiatric disorders in patients with paraphilic or paraphilia-related disorders.<sup>32</sup> For example, Raymond *et al.*<sup>33</sup> reported high prevalence rates of mood disorders (67%), anxiety disorders (64%), and substance abuse (60%) in 45 male patients with pedophilia. In addition, and in line with previous published data, more than 50 percent of the cohort carried more than one paraphilia diagnosis. Although engaging in behavior associated with some paraphilic disorders may constitute a criminal offense, (e.g., exhibitionism, pedophilia, and necrophilia), engaging in others may not (e.g., fetishism and masochism). It is important to note as well that not all sex offenders have diagnosable paraphilias and that not all paraphiliacs have been charged or convicted of a sex crime. In any event, current treatment interventions for sex offenders with paraphilic disorders tend to be integrative and include cognitive-behavioral/relapse prevention treatment approaches in conjunction with psychopharmacological treatments where indicated. As the field advances, however, it becomes clear that not all sex offenders may have the same treatment needs. Paraphilic sex offenders, therefore, like other subpopulations of sex offenders, may benefit from interventions that are tailored to the special clinical concerns they present.

## Psychosocial Treatment of Sex Offenders with Paraphilias

Efforts to provide effective treatment for sex offenders in general, including those with diagnosable paraphilias, have historically been broadly aimed.<sup>34</sup> Clinical assessments attempt to identify the biopsychosocial factors associated with sexual offending.<sup>35,36</sup> Treatment has been focused on altering deviant sexual arousal patterns, addressing social skills deficits that may contribute to sexually delinquent behavior, challenging beliefs that can facilitate sex-offending behavior, and developing strategies to prevent a reoccurrence of sexual offenses. Currently, although many community-based adult male sex offender treatment programs adhere to clinical principles associated with more than one theoretical orientation, most of these programs (80.2%) offer some form of a cognitive-behavioral/relapse prevention treatment approach designed to decrease the incidence of sexual offending.<sup>37</sup>

Behavioral treatment approaches to decreasing sexual deviancy are based on social learning theories of sexual aberrance and involve techniques such as olfactory aversion conditioning, covert sensitization, and masturbatory satiation to decrease deviant sexual arousal and cultivate appropriate sexual response patterns.<sup>38,39</sup> Medications, such as medroxyprogesterone acetate (MPA) and cyproterone (CPA), discussed later in depth, have also been used to decrease sexually deviant fantasies and urges and eliminate sex-offending behavior.<sup>3,40</sup> Psychosocial skills deficits have also been identified as contributing to sex-offending behavior and necessitating treatment.<sup>41–43</sup> Treatment in this domain is designed to improve a sex offender’s social competence, interpersonal and functional social skills, and self-esteem. The psychosocial treatment dimension has broadened to include training in anger management, relaxation, and interventions to promote empathy with the victim and awareness.<sup>44,45</sup> Adherence to thinking errors, such as beliefs that sex with children is a way to teach them about sexuality or that most women enjoy being raped, can contribute to an individual’s justifying and engaging in deviant and criminal sexual behavior.<sup>46,47</sup> Treatment to alter distorted beliefs entails the identification of and challenges to these kinds of cognitive distortions through cognitive re-structuring techniques. Relapse prevention helps an individual maintain behavioral changes by identifica-

tion of their sex-offending cycles and the development of strategies to implement when the cycle is triggered and/or in the context of situations identified as high risk.<sup>48</sup>

Although the efficacy of treatment practices for sex offenders has been questioned and viewed at best as equivocal in the past, more recent research using improved methodologies suggests that even in its broad application, current sex offender treatment approaches appear to have positive effects in reducing sex-offending recidivism.<sup>49–52</sup> Though exact sexual recidivism rates have not been established, and it is difficult to eliminate fully the self-selection biases, the recidivism literature indicates that those sexual perpetrators who forego or discontinue treatment have higher rates of recidivism than those who participate and complete treatment.<sup>53</sup> Berlin and colleagues<sup>54</sup> conducted a 5-year recidivism study, surveying a cohort of 626 male sex offenders (406 pedophiles, 111 exhibitionists, and 109 sexually aggressive men). At the time of study enrollment, subjects were patients at a community-based sexual disorders clinic. Sexual recidivism rates for the entire cohort were less than 9.7 percent. In particular, and as noted earlier, treatment compliance was associated with significantly lower sexual recidivism rates than treatment noncompliance. In a meta-analytic review of 43 studies on the effectiveness of psychological treatment with sexual offenders, Hanson *et al.*<sup>55</sup> found that recidivism rates were lower in treated groups (12.3%) than in the comparison groups (16.8%). In a 25-year follow-up study of over 7,000 sexual offenders, Maletzky and Steinhauer<sup>56</sup> presented outcome data on a cognitive/behavioral treatment program. Limitations in research methodology, such as the retrospective nature of this study, the lack of a control group, and potential problems with self-selection bias, prohibited them from drawing definitive conclusions about treatment efficacy. However, overall results within the limits of their research methodologies indicated that “treatment techniques employed in a cognitive behavioral program generated long-lasting, positive results by reducing recidivism and risk to the community” (Ref. 56, p 143). In addition, their findings suggest that improvements over time in cognitive behavioral techniques and applications itself contribute to improved outcomes for patients.

To date, the broad-brush approach to sex offender treatment has largely been based on research on in-

carcerated, male sex offenders. More recently, however, efforts have been made to develop more tailored interventions that are aimed at addressing the unique clinical needs of emerging subpopulations of sex offenders. For example, adolescent sex offenders appear to have a somewhat different set of clinical needs than do adult sex offenders. With adolescents, treatment providers may try to address an emerging, and at times diffuse, sexual response pattern, and treatment tends to focus more on early adverse life experiences that may have influenced the development of problematic sexual behavior.<sup>12</sup> In different cultural groups of sex offenders, cross-cultural issues related to deviant sexual behavior become a relevant treatment consideration and should be incorporated into the treatment process.<sup>57</sup> In another example, chronically mentally ill sex offenders present unique treatment challenges relative to their variable mental statuses and the possible limits in capacity to sustain behavioral change.<sup>25</sup> Although these subpopulations of sex offenders may engage in similar kinds of sexually deviant behavior, closer examination of their characteristics as subgroups suggest the need for treatment that addresses their distinct, as well as their shared, treatment concerns.

### Biological Treatment for Sex Offenders with Paraphilias

Though the etiology and pathophysiology of the paraphilias remains unknown, some studies suggest abnormalities at a neurobiological level. Indeed, certain focal brain lesions have been found to be associated with an increased vulnerability for *de novo* deviant sexual behavior.<sup>58–60</sup> Burns and Swerdlow,<sup>61</sup> for example, reported the case of a patient with an orbitofrontal tumor who stopped engaging in pedophilic behavior after tumor resection. Similarly, a few case reports have linked traumatic brain injuries, temporal lobe pathologies, and diffuse central nervous system lesions (e.g., multiple sclerosis) to qualitative and quantitative changes in sexual drive and behavior.<sup>62–65</sup> Along the same lines, endocrinological aberrations have been implicated in the pathophysiology of paraphilias. In a recent study, Aromäki *et al.*<sup>66</sup> compared saliva testosterone concentrations of incarcerated rapists ( $n = 10$ ), child molesters ( $n = 10$ ), and nonincarcerated volunteers ( $n = 31$ ), using radioimmunoassay techniques. Though the results were statistically nonsignificant among the three groups, testosterone levels were higher in rapists than

in control subjects and child molesters, in that order. Likewise, Dabbs *et al.*<sup>67</sup> demonstrated a positive correlation between saliva testosterone levels and severity of criminal behavior, using male prisoners as the sample. They found testosterone concentrations to be greater in sex offenders than in burglars. But Brooks and Reddon<sup>68</sup> found morning serum testosterone levels to be lower in sexually offending adolescents than in violent, but nonsexual, offenders. Other investigators such as Gaffney and Berlin<sup>69</sup> studied the function of the hypothalamic-pituitary-gonadal axis (HPG axis) in pedophiles, nonpedophilic paraphiliacs, and control subjects by measuring follicle-stimulating hormone (FSH) and luteinizing hormone (LH) levels at baseline and after stimulation with luteinizing hormone-releasing hormone (LHRH).<sup>69</sup> The FSH response to LHRH did not differ substantially among the three groups. Though no statistically significant differences were reported, increases in LH levels were significantly higher in pedophiles than in nonpedophilic paraphiliacs and control subjects, suggesting therefore a dysfunction at the HPG axis in a subpopulation of paraphiliacs. Though quite intriguing, these findings must be replicated before any meaningful conclusions can be drawn.

### Rationale for Treatment

Although many biologically based therapies have been used to treat individuals with paraphilia over the past decades, several of them, though effective, have deleterious side effects or involve irremediable and invasive interventions (e.g., stereotaxic neurosurgery or orchidectomy). Despite very low recidivism rates, approximating three percent for orchidectomized sex offenders, surgical procedures have become obsolete in the light of the number of effective pharmacological treatments currently available.<sup>70</sup> In our opinion, paraphilic patients should be offered pharmacological treatment when either cravings for deviant sexual acts become overly intense and overpowering or when specific symptoms are not fully amenable to other treatment modalities such as psychotherapy.

Though ethical and medical reasons have limited the implementation of rigorously designed pharmacological studies (e.g., randomized, double-blind, placebo-controlled studies), the number of medications used to treat paraphilias has been increasing over the years. Based on their predominant pharma-

codynamic property, these medications can be categorized into two main groups: the testosterone-lowering agents (i.e., progesterone derivatives and the gonadotropin-releasing hormones [GNRHs]) and the serotonergic antidepressants (serotonin-specific reuptake inhibitors). As with all pharmacological treatments, the choice of which drug to use should be based on the presenting symptoms, the concomitant psychiatric conditions, and a thorough review of the patient's psychosexual and medical history. A medical workup should include, at a minimum, a physical examination and baseline laboratory studies (including a complete blood count, electrolyte screening, thyroid stimulating hormone level, and a pregnancy test in female patients). Moreover, before initiating treatment, especially with one of the testosterone-lowering agents, several specific neuroendocrine tests should be obtained (i.e., LH, FSH, and free and serum testosterone levels).

### Pharmacotherapy for the Paraphiliac

Prior to the increased use of the synthetic progesterone derivatives (i.e., medroxyprogesterone acetate [MPA] and cyproterone acetate [CPA]), estrogen therapy was considered one of the core pharmacological treatments for men who exhibit sexually deviant behavior.<sup>71</sup> However, because of estrogen's association with serious adverse effects and its high morbidity (e.g., breast cancer), estrogen therapy became obsolete and was ultimately superseded by the progesterone derivatives. Though MPA and CPA exert their antiandrogen properties through somewhat different pathways, case reports and clinical trials have demonstrated that both agents are effective in reducing paraphilic symptoms by lowering serum testosterone levels.<sup>72,73</sup> Berlin and Meinecke<sup>31</sup> detailed data from a follow-up study involving 20 male patients with different paraphilic disorders, predominantly homosexual pedophilia and heterosexual exhibitionism, treated with intramuscular MPA for up to 5 years (mean dose approximating 310 mg/week). An interesting finding, in line with those in other studies, was the high recidivism rates in those patients who discontinued treatment. Only 2 patients relapsed while taking MPA, but 10 of 11 relapsed after discontinuing treatment.

Because treatment with high doses of MPA has been associated with serious and sometimes irreversible side effects (e.g., hypertension, hyperglycemia, thromboembolic phenomena, feminization, and

weight gain), trials of lower doses of MPA have been conducted, showing promising results.<sup>74,75</sup> In an open nonblind clinical trial, Gottesman and Schubert<sup>76</sup> treated seven subjects with DSM-III-R paraphilic disorders with oral MPA for approximately 15 months. Six subjects were prescribed MPA at a dose of 60 mg/day, and one received a dose ranging from 60 to 100 mg/day. For those subjects receiving MPA at 60 mg/day the percentage decrease in serum testosterone levels averaged 59 percent without ever reaching prepubertal levels (<100 ng/dL). All subjects reported a decrease in the frequency of ejaculation (masturbation and/or coitus) and deviant sexual fantasies. More important, all subjects reported a complete cessation of paraphilic behaviors without experiencing any significant medication-induced side effects. Two subjects discontinued treatment prematurely because of imprisonment and loss to follow-up, respectively. As mentioned, both progesterone derivatives are effective treatment options for paraphiliacs. In a double-blind, placebo-controlled comparison trial of MPA and CPA, Cooper *et al.*<sup>77</sup> treated seven patients with pedophilia for 28 weeks. Though treatment response appeared to be dose dependent, both medications were equally effective in ameliorating paraphilic symptoms. Similarly, in one of the few double-blind placebo crossover design studies, Bradford and Pawlak<sup>78</sup> prescribed either oral CPA or inactive placebo to 19 men with DSM-III-R paraphilic disorders. In this uniquely designed study, the authors found CPA to be superior to placebo on almost all outcome measures, including physiological and subjective measures. Although effective and relatively safe treatments have begun to be established, the quest for newer and safer drugs has ultimately led to the introduction of the GnRH agonists.

The luteinizing hormone-releasing hormone agonist leuprolide acetate (leuprolide) is gaining increasing popularity among psychiatrists because of its sexual suppressant properties and its relatively benign side-effect profile.<sup>79,80</sup> After injection into an area of large muscle, leuprolide exerts its antilibidinal effect by inhibiting LH and FSH secretion. Though prolonged administration at a therapeutic dose (7.5 mg/month or 22.5 mg/three months) will eventually suppress gonadotropin secretion, the first two to four weeks of treatment are usually marked by an increase in gonadotropin secretion and consequently testicular steroidogenesis (testosterone and dihydrotestos-

terone). This biphasic effect on the HPG is particularly worrisome in paraphilic patients who may already be hypersexual. Therefore, concomitant administration of a peripherally acting antiandrogen, such as flutamide (750 mg/day in divided doses for two to four weeks), becomes essential. Flutamide antagonizes testosterone receptors and therefore neutralizes, or at least attenuates, the potentially deleterious effects associated with the transitory surge of sex hormone secretion.<sup>81,82</sup> In an uncontrolled observational study, Krueger and Kaplan<sup>79</sup> treated 12 adult patients with various diagnosed paraphilias and comorbid psychiatric disorders with leuprolide at a dose of 7.5 mg/month. All patients reported a significant reduction or even cessation of deviant sexual arousal and/or interests. Besides gynecomastia, erectile and ejaculatory problems were the most common reported side effects. Moreover, three patients, receiving long-term leuprolide therapy, showed signs of bone demineralization or osteopenia, and one patient had recurrent depressive symptoms. In a similarly designed study, Saleh *et al.*<sup>83</sup> treated six treatment-resistant young paraphiliacs (mean age, 19 years) with leuprolide at a dose of 7.5 mg/month over a minimum of 12 months. Despite their youth, all subjects had well-established paraphilic disorders (i.e., pedophilia, sexual sadism, or frotteurism) at the time of leuprolide therapy. Though one subject required augmentation with MPA because of residual paraphilic symptoms, evaluations made before and after treatment suggest that leuprolide helped decrease the frequency of erotic thoughts and imagery, as well as the frequency of erection and ejaculation. Except for azoospermia, leuprolide was reportedly well tolerated. Similarly, Dickey<sup>81</sup> reported the case of a patient with multiple paraphilias who responded to leuprolide (7.5 mg/month) after unsuccessful trials of high dosages of both MPA (550 mg/week) and CPA (500 mg/week). In addition to leuprolide, other long-acting GnRH agonist analogues have been used to treat paraphilias.<sup>84</sup> In an observational uncontrolled study, Rösler and Witztum<sup>85</sup> treated 30 paraphiliacs with triptorelin (3.75 mg/month) for up to 42 months. The results were quite encouraging, in that all patients, most of whom carried a diagnosis of pedophilia, reported a reduction in their symptoms. Twenty-one men reported erectile problems, and 11 showed signs of decreased bone mineral density on dual-energy x-ray absorptiometry (DEXA). Though much more data must be gener-

ated to support their use, leuprolide and triptorelin, as shown in these studies, may hold promise as alternative treatments to progesterone derivatives for patients with paraphilic disorders.

In addition to the role played by sex hormones, basic science and data from pharmacological trials provide some evidence in support of a dysregulation of the monoamine systems in the pathophysiology of paraphilias.<sup>86</sup> Tricyclic antidepressants (TCAs) and, more recently, serotonin-specific reuptake inhibitors (SSRIs) have been shown to be effective in reducing paraphilic symptoms. Leo and Kim<sup>87</sup> found behavioral improvements among demented paraphilic patients after treatment with clomipramine. In a double-blind crossover study of 15 patients with paraphilias, Kruesi *et al.*<sup>88</sup> compared clomipramine to desipramine (clomipramine is a more potent serotonergic agent than desipramine). Eight subjects completed the study. The subjects showed similar treatment responses despite the distinct pharmacodynamic properties of the two TCAs. More recently, several reports and open-label studies have detailed the use of SSRIs to treat paraphilias.<sup>89–91</sup> Kafka<sup>92</sup> treated 21 subjects with paraphilic disorders ( $n = 13$ ) or paraphilic-related disorders ( $n = 8$ ) with sertraline monotherapy at a dose of 25 to 250 mg/day or fluoxetine at a dose of 10 to 80 mg/day (fluoxetine was prescribed to sertraline nonresponders). Four subjects required augmentation of SSRI with lithium, methylphenidate, or trazodone. According to the author, 17 subjects showed a decrease in target symptoms while being treated with either SSRI, without the emergence of significant adverse effects. In a retrospective study, Greenberg *et al.*<sup>93</sup> demonstrated that sertraline, fluvoxamine, and fluoxetine were equally effective in reducing paraphilic symptoms. Besides the TCAs and the serotonergic antidepressants, medications belonging to different chemical classes (e.g., buspirone, nefazodone, phenothiazines, dopamine-serotonin receptor antagonists) have been used to treat sexually deviant individuals.<sup>94–97</sup> Although treatment with SSRIs appears promising overall, controlled efficacy and effectiveness studies have not been conducted.

In summary, serotonergic agents, in particular the SSRIs, offer some promise as treatments for patients with paraphilic disorders. However, the dearth of controlled efficacy, effectiveness, and safety studies pertaining to these agents makes their use as first-line treatments for paraphilic disorders debatable.

## Conclusion and Future Directions

The heterogeneity found among the sex offender population challenges treatment providers to expand and/or narrow their clinical practices according to the particular needs of the subpopulations with whom they work. A thorough evaluation should be employed to focus sex offender treatment more keenly and eliminate potentially superfluous clinical efforts. In the case of the subgroup of sex offenders with diagnosable paraphilias, a treatment approach that integrates psychosocial and biological interventions may best serve those with sexually deviant behavior that is influenced by biopsychosocial factors. For those paraphilic sex offenders, however, whose deviant sexual behaviors are derived from, and singularly informed by, biologically based origins and characteristics, pharmacotherapy may prove to be the most efficient and effective intervention. Further research is needed to establish salient distinctions among subpopulations of sex offenders and to determine which interventions are most effective for different sex offender subgroups.

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## Treatment of the Paraphilic and Nonparaphilic Sex Offender

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