DISRUPTIVE, IMPULSE-CONTROL, AND CONDUCT DISORDERS

Pyromania

DSM-5-TR 312.33 | ICD-10-CM F63.1

Deliberate, repeated fire setting for tension release and fascination with fire, never for profit, revenge, or ideology.

PREVALENCE	TYPICAL ONSET	SEX RATIO	COURSE
<1%; ~3-6% of inpatients	Adolescence; late teens	Male predominant	Episodic; often chronic

CLINICAL PICTURE

- Fires are set alone, deliberately, and on more than one occasion, preceded by tension or affective arousal that discharges the moment of ignition.
- Patients describe fascination with fire, its uses and consequences, and often collect lighters, watch fires, or linger around fire stations.
- Many are habitual false alarm callers, arrive unusually early at fires, or attach themselves to fire departments as volunteers or fixed bystanders.
- Gratification, relief, or excitement accompanies setting fires, watching them burn, or participating in the aftermath, with sexual arousal in a minority.
- Only a small fraction of arsonists qualify for the diagnosis; most fire setting is instrumental, and true pyromania is rare in forensic samples.
- Adolescent-onset cases usually present after school or property fires, with escalating frequency during periods of family conflict or acute stress.

DIAGNOSTIC CRITERIA AT A GLANCE

- Requires deliberate and purposeful fire setting on more than one occasion, which distinguishes it from a single isolated act of arson.
- Tension or affective arousal must precede the act, and fascination with, interest in, curiosity about, or attraction to fire must be present.
- Pleasure, gratification, or relief must occur when setting fires, when witnessing them, or when participating in their aftermath.
- Fire setting must not be for money, to conceal a crime, to express anger or vengeance, to improve living circumstances, or in response to a delusion.
- It is excluded when better explained by conduct disorder, a manic episode, antisocial personality disorder, or impaired judgment from intoxication.

NEUROBIOLOGY & PHYSIOLOGY

- Reduced CSF **5-HIAA** and **MHPG** have been reported in impulsive fire setters, implicating low serotonergic and noradrenergic tone in impulsivity.
- Reactive hypoglycemia on glucose tolerance testing was described in early Finnish fire setter cohorts, though the finding has not been reliably replicated.
- Frontal executive dysfunction, lower IQ, and learning disorders are overrepresented, impairing response inhibition and anticipation of consequences.
- Shared reward circuitry with other impulse-control disorders is inferred from mesolimbic **dopamine** release accompanying arousal and subsequent relief.
- Elevated rates of childhood head injury, seizure disorders, and perinatal insult appear in fire setting samples, suggesting neurodevelopmental contribution.
- Family histories show increased alcohol use disorder and antisocial traits, consistent with a heritable externalizing spectrum vulnerability.

PSYCHOLOGICAL MECHANISMS

- Fire setting functions as tension reduction; the relief that follows negatively reinforces the behavior and drives its repetition over years.
- Powerlessness and social marginality are common, and the fire delivers a rare experience of control, mastery, and immediate public impact.
- Deficits in verbal expression and assertiveness leave fire as a nonverbal communication of rage or distress the patient cannot otherwise voice.
- Modeling and early unsupervised access to matches or lighters in a chaotic household shape the behavior long before any diagnosis is made.
- Curiosity fire setting in young children is developmentally common and must be distinguished from persistent, tension-driven repetition.

DIFFERENTIAL & COMORBIDITY

- Arson for insurance money, revenge, crime concealment, political statement, or peer approval is intentional wrongdoing rather than pyromania.
- Exclude fire setting within **conduct disorder**, antisocial personality disorder, mania, psychosis, intellectual disability, and substance intoxication.
- Comorbidity is the rule: mood disorders, substance use disorders, other impulse-control disorders, and personality disorders in the large majority.
- Adults with pyromania show high rates of comorbid kleptomania, compulsive buying, and mood disorder in structured psychiatric inpatient samples.
- Assess immediate danger to life and property, mandatory reporting duties, and current access to accelerants at every single visit.

Treatment EVIDENCE-BASED MANAGEMENT

PHARMACOLOGIC

- No agent is FDA-approved; **SSRIs** are used most often, with fluoxetine and sertraline reported to reduce urges in isolated case reports.
- **Topiramate**, lithium, and **naltrexone** carry anecdotal support extrapolated from other impulse-control disorders rather than pyromania trials.
- **Antipsychotics** are appropriate only when fire setting arises within psychosis, mania, or severe agitation, not for pyromania itself.
- Treat comorbid substance use aggressively, since intoxication is the single most common proximal trigger for a fire setting episode.
- Avoid **benzodiazepines**, whose disinhibiting effect can increase impulsive acts in patients with already poor behavioral control.

PSYCHOTHERAPY

- **CBT** targeting the tension-arousal-relief chain, with functional analysis and alternative arousal regulation, is the mainstay for adults.
- Structured fire safety education combined with **CBT** reduces recidivism in children and adolescents more than either component delivered alone.
- **Family therapy** addresses supervision, accelerant access, household conflict, and parental monitoring in juvenile fire setting cases.
- Relapse prevention identifies high-risk states such as intoxication, rejection, and boredom, with rehearsed competing behaviors for each.
- **Contingency management** reinforcing documented fire-free intervals supports adolescents in structured outpatient or residential settings.

ADJUNCT & SUPPORTIVE

- Juvenile firesetter intervention programs run jointly by fire departments and mental health teams substantially reduce repeat fire setting.
- Coordinate with forensic services, probation, and the courts, since treatment participation frequently forms part of sentencing conditions.
- Environmental control means removing lighters, matches, and accelerants and supervising access throughout the early phase of treatment.
- Assess and treat comorbid ADHD, learning disorders, and substance use, all of which raise recidivism risk when they go untreated.
- Document risk formulation and safety planning at each contact, given the potential for catastrophic harm to uninvolved third parties.

CLINICAL PEARLS

- Most arsonists are not pyromaniacs; a motive of gain or revenge rules the diagnosis out.
- Ask about false alarm calls, hanging around fire stations, and lighter collecting.
- Intoxication is the most common proximal trigger; treat substance use first.

References

American Psychiatric Association. (2022). *Diagnostic and statistical manual of mental disorders* (5th ed., text rev.). https://doi.org/10.1176/appi.books.9780890425787

Fariba, K. A., & Gokarakonda, S. B. (2023). *Impulse control disorders*. In *StatPearls*. StatPearls Publishing. https://www.ncbi.nlm.nih.gov/books/NBK562279/

Grant, J. E., & Kim, S. W. (2007). Clinical characteristics and psychiatric comorbidity of pyromania. *The Journal of Clinical Psychiatry*, *68*(11), 1717-1722. https://doi.org/10.4088/JCP.v68n1111

Grant, J. E., Levine, L., Kim, D., & Potenza, M. N. (2005). Impulse control disorders in adult psychiatric inpatients. *American Journal of Psychiatry*, *162*(11), 2184-2188. https://doi.org/10.1176/appi.ajp.162.11.2184

Lejoyeux, M., Arbaretaz, M., McLoughlin, M., & Ades, J. (2002). Impulse control disorders and depression. *The Journal of Nervous and Mental Disease*, *190*(5), 310-314. https://doi.org/10.1097/00005053-200205000-00007

Sadock, B. J., Sadock, V. A., & Ruiz, P. (2021). *Kaplan & Sadock's synopsis of psychiatry* (12th ed.). Wolters Kluwer.

Stahl, S. M. (2021). *Stahl's essential psychopharmacology* (5th ed.). Cambridge University Press.

NOTE

References are formatted in APA 7th edition style with hanging indents. Diagnostic terminology, criteria structure, and coding follow the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed., text rev.; APA, 2022); criteria are paraphrased for instructional use and are not reproduced verbatim. Verify all citations against the original sources before use in academic work, and confirm medication dosing against current prescribing information.