

# Is routine cocaine testing justified in patients with septal perforation?\*

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Nasal septal perforation occurs when both mucoperichondrial layers surrounding the septal cartilage are compromised. While richly vascularized, this tissue is particularly vulnerable to ischaemic injury caused by intranasal cocaine use. Cocaine inhibits catecholamine reuptake, leading to vasoconstriction, tissue necrosis, and, ultimately, septal damage. Furthermore, the adulterant levamisole, present in up to 80% of seized cocaine in Germany, is a known trigger for vasculitis, compounding this effect <sup>(1,2)</sup>.

Cocaine use is prevalent in London, with 5.1% of adults aged 16-24 reported as users in 2023 <sup>(3)</sup>. There is significant variation in practice when it comes to cocaine testing in septal perforation, with only 45% of rhinology consultants in the UK conduct this prior to nasal reconstructive surgery. Identifying the cause of septal perforation can be challenging, as cocaine use can elevate antineutrophil cytoplasmic antibody (ANCA) levels, mimicking granulomatosis with polyangiitis (GPA) <sup>(4)</sup>.

To explore the role of routine cocaine testing in patients with septal perforation, we conducted a retrospective analysis of 58 patients at Imperial College Healthcare NHS Trust between January 2021 and July 2024. All patients underwent urine drug screening on the day of presentation, using enzyme immunoassay for benzoylecgonine, a cocaine metabolite detectable up to 48 hours post-use. The data is summarised in Table 1.

These findings raise key considerations. First, there is a clear discrepancy between self-reported cocaine use (79.3%) and positive urine results (50%). This highlights the risk of relying solely on patient history, especially in a population where denial, underreporting, or fear of stigma or legal consequences is common. It may also reflect the limitations of urine testing, which only detects recent use (within 48 hours); hair testing, which can identify drug use over several months, is more sen-

Table 1. Summary of key findings in patients with septal perforation.

Finding	Result
Patients admitting cocaine use at initial consultation	79.3%
Positive urinalysis for cocaine	50%
Initially denied use but later tested positive	20.7%
ANCA-positive (all patients)	63.8%
ANCA-positive (among cocaine users)	63%
Underwent autoimmune screening	94.8%
Surgical repair (after 12 months of negative urine testing)	24%

sitive but not available at our centre <sup>(5)</sup>. Second, the high rate of ANCA positivity among cocaine users complicates diagnosis and risks misdiagnosis <sup>(4)</sup>. It is important to note that our study did not investigate whether patients had undergone recent nasal surgery which has been shown to result in systemic absorption of cocaine, albeit at low levels <sup>(6)</sup>.

Cocaine addiction is not a benign recreational habit, but a chronic, relapsing disease that can result in severe physical, psychological, and social deterioration. Nasal septal perforation is just one visible consequence. Many of these patients also present with poor dentition, malnutrition, psychiatric comorbidities, and strained relationships. They may exhibit manipulative or untruthful behaviour that is not necessary due to malice, but because of their drug addiction.

While urine testing alone will not prompt abstinence, it serves a critical purpose of enabling accurate medical documentation and legal protection. Additionally, it offers a gateway for appropriate referral such as drug rehabilitation services. The British Rhinological Society supports routine urine drug testing for patients with septal perforation and recommends referral to general practitioners for addiction support if patients refuse

testing<sup>(7)</sup>. This aligns with a more holistic, medically responsible approach.

In conclusion, routine cocaine testing is justified. It is not only to determine surgical eligibility, but to support comprehensive care. Identifying ongoing substance misuse enables accurate diagnosis, guides safe treatment, and encourages referral to addiction services. A standardised screening protocol that includes urinalysis and autoimmune testing should be implemented in all patients presenting with septal perforation.

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Conceptualization, methodology, project administration, visualization, writing original draft: RA, TS, TR, CR; Writing—review & editing: TR, CR.

## Conflict of interest

The authors do not have any conflict of interest to declare.

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