

Document printed from TOXBASE® 03.05.16

Note: links from this entry are not printed automatically; please access and print all links separately.



UK NPIS 0344 892 0111

Ireland NPIC (01) 809 2566

mail@toxbase.org

The information on TOXBASE® requires expert clinical interpretation (ideally users should complete the TOXBASE® E-Learning modules; click [here](#)) and, therefore, should only be used by clinically trained medical/nursing professionals, who are responsible for the correct interpretation of the relevant clinical case history. **In severe or complex cases, including multiple ingestions, we recommend that you discuss your case with your poisons service: in the UK NPIS 0844 892 0111, in Ireland NPIC (01) 809 2566.**

TOXBASE® entries should not be used as patient information sheets.

Body Packers

New 12/2011

Type of Product

Drugs carried by body-packers are generally packaged in one of four ways:

Type 1 - Loosely packed powder in two to four layers of wrapping (condoms, latex gloves, balloons). These may be identified on plain X-ray as circular white densities. They are at risk of rupture and are highly hazardous.

Type 2 - Tightly packaged powder covered by 6-7 layers of tied tubular latex. These are less susceptible to breakage. They may be visible on X-ray as soft tissue densities with surrounding gas haloes.

Type 3 - Hardened paste may be wrapped in aluminium foil and overwrapped with 3-5 layers of tubular latex. These are least likely to break and may be difficult to detect on X-ray.

Type 4 - Hardened cocaine paste, machine packaged in tubular latex and coated in a layer of coloured paraffin or fibreglass. Packages are of uniform shape and size, radiopaque and easily identified by X-ray. This kind of packing carries a low risk of rupture (Pidoto et al, 2002).

Toxicity

Toxicity in body-packers is influenced by:

- the type of drug
- the amount in each package
- the number of packages used
- the type of packaging used

Physical obstruction can also result. Surgical intervention for bowel obstruction was required in 3 to 5% of body-packers (Bustrode et al, 2002; Gomez Antunez et al, 1998; Aldrighetti et al, 1996).

Where large packets are ingested each packet may contain a lethal dose of drug. There may also be a risk of toxicity from adulterants mixed with the drug (e.g. lidocaine, caffeine and strychnine).

Features

Cocaine:

Each individual packet may contain 5-7 g cocaine. Fatalities have occurred after ingestion of 1-3 g cocaine. It is vital therefore that all cocaine packets are removed prior to discharge from hospital. Features suggestive of intoxication include tachycardia, hypertension, agitation, dilated pupils, hyperpyrexia, seizures, chest pain and arrhythmias. Click [here](#) for more information on cocaine.

Heroin:

Most of the effects are mediated by its rapidly formed metabolites, particularly morphine. The lethal dose depends upon an individual's tolerance and previous exposure. Not all body-packers are chronic heroin abusers and non-users are more susceptible to its toxic effects. Opioids may lead to a delay in bowel transit time, increasing the risk of drug absorption and bowel obstruction. Features of toxicity include nausea, vomiting, pinpoint pupils, respiratory depression and the development of non-cardiogenic pulmonary oedema. Click [here](#) for more information on heroin.

Cannabis:

Absorption is slow and erratic after ingestion. Fatalities are very rare. Features of toxicity include anxiety, hallucinations and loss of consciousness. Click [here](#) for more information on cannabis.

Amfetamines:

There are very few reports of amfetamine bodypacking. Features suggestive of toxicity include nausea, vomiting, dilated pupils, tachycardia, hypertension, sweating and convulsions. Click [here](#) for more information on amfetamine.

Management

ALERT BOX - for hospital doctors

Body packers admitted to hospital are a high-risk group, with changing patterns of packaging and drug use influencing the outcomes of interventions.

Clinicians managing patients are encouraged to discuss cases with your poisons information service: in the UK NPIS **0344 892 0111**, in Ireland NPIC (01) 809 2566.

Click [here](#) for details you may be required to give when telephoning NPIS.

1. Admit all suspected body-packers.
2. Maintain a clear airway and ensure adequate ventilation.
3. Physical examination should include rectal and vaginal examination.
4. Try to determine which drug has been packed, the number of packages ingested, the type of packaging used and the amount of drug in each packet.

Early surgical consultation is advisable in cases of cocaine body-packers before the development of complications. Surgical intervention will be required rapidly in the case of package rupture (Schaper et al, 2007).

5. Monitor pulse, cardiac rhythm, blood pressure, respiration rate, GCS, temperature and oxygen saturation.

6. Perform a 12 lead ECG and measure the QRS duration and QT interval. Repeat 12 lead ECGs are recommended, especially in symptomatic patients.

QRS prolongation is a complication of sodium channel blockade and may be associated with life threatening ventricular arrhythmias. Sodium bicarbonate may reduce the QRS duration and risk of arrhythmia and should be administered urgently in patients with QRS prolongation associated with poisoning with a sodium channel blocker (e.g. tricyclic antidepressants).

QT prolongation occurs due to potassium channel blockade and may provoke torsade de pointes ventricular tachycardia. Magnesium sulphate should be administered urgently to patients with torsade de pointes. Magnesium sulphate can also be given to patients with prolonged QT to reduce the risk of torsade de pointes; however, administration of magnesium does not shorten the QT interval.

Click [here](#) for further advice and management of ECG abnormalities.

Asymptomatic patients:

7. Consider performing urgent abdominal CT (without oral contrast) in all patients. In particular CT will be valuable in those in whom there is concern that leakage may have occurred or surgical removal is being considered.

If it is possible that a female patient is pregnant, this should be excluded by urine testing before a CT scan is performed. In pregnant patients consider ultrasound or MRI scan. The effectiveness of MRI scans for imaging in body-packers is not yet established.

8. In the absence of CT examination, chest/abdominal X-ray is less reliable, and false negatives often occur. Circular white densities (type 1 packets) or soft tissue densities surrounded by a gas halo (type 2 packets) if present are characteristic. The gas halo may be caused by gas trapped during packaging but may also indicate package breakdown.
9. Perform a urine toxicology screen. A positive screen in a non-user indicates leakage has occurred. A positive cocaine screen is an indication for urgent surgical referral. A positive heroin screen is an indication for close monitoring for toxicity.
10. Body packers remain at risk of severe intoxication until complete evacuation of **all** packages, usually indicated by the passage of two consecutive package-free stools. Repeat radiology (CT) may be necessary for confirmation of evacuation in some cases, e.g. when patients exhibit intoxication even after stools remain package-free. Strong oral laxatives or whole bowel irrigation (WBI) may aid early expulsion of packages, but there are no data on the optimum time for employment of such techniques, or their efficacy in this situation. Click [here](#) for more information on whole bowel irrigation.

Packages congested in the stomach or duodenum carry a higher risk of rupture due to the action of gastric acids on the packaging (Van Geloven et al, 2002).

11. Attempted endoscopic removal, particularly for large and fragile packages, may lead to package rupture. It may be considered for smaller packages lodged within the stomach, which have not progressed.

Symptomatic patients:

12. Patients with symptoms of bowel perforation or obstruction should be referred for surgical intervention. Endoscopic removal is not recommended as it risks package damage and leakage.
13. Body packers with cocaine and amphetamine toxicity should be referred for immediate surgical intervention to remove packages. Treatment for the complications of cocaine toxicity should be started. Whenever possible a CT scan (without oral contrast) should be performed prior to operative intervention, but this should not be allowed to delay surgical intervention.
14. Body packers with heroin toxicity should be given intravenous naloxone. A naloxone infusion may be required. If respiratory failure or pulmonary oedema occurs despite naloxone consider intubation, mechanical ventilation and surgical removal. Whenever possible a CT scan (without oral contrast) should be performed prior to operative intervention, but this should not be allowed to delay surgical intervention.

Naloxone

Naloxone should be used with caution when the patient is at risk of acute withdrawal e.g. chronic opioid use or when there is a need for therapeutic effect e.g. pain relief. Small doses are also appropriate for post operative respiratory depression. However, for severe opioid-induced respiratory depression following acute overdose, rapid titration of naloxone - as detailed below - is necessary to ensure rapid reversal of this potentially life-threatening effect.

If the patient has respiratory depression or inadequate airway protection, give naloxone.

For children aged 12 years or over and adults:

Give an initial dose of 400 micrograms (0.4 mg).

If there is no response after 60 seconds, give a further 800 micrograms (0.8 mg).

If there is still no response after another 60 seconds, give another 800 micrograms (0.8 mg).

If still no response (after a total of 2 mg), give a further 2 mg dose. Large doses (4 mg) may be required in a seriously poisoned patient.

Aim for reversal of respiratory depression, not full reversal of consciousness.

For children (under 12 years of age):

For full reversal: Give an initial dose of 100 micrograms/kg (0.1 mg/kg) up to a maximum of 2 mg; use lower doses to reverse respiratory depression associated with therapeutic opioid use (1–10 micrograms/kg titrate to effect).

If there is no response after 60 seconds give another 100 micrograms/kg (0.1 mg/kg) and repeat until a satisfactory response has been obtained or a maximum of 2 mg has been given.

Once an adequate response has occurred, monitor blood gases, oxygen saturation, and respiratory rate.

Intramuscular naloxone is an alternative in the event that IV access is not possible or is delayed. **Failure of a definite opioid overdose to respond to large doses of naloxone suggests that another CNS depressant drug or brain damage is present.**

Observe the patient carefully for recurrence of CNS and respiratory depression. The duration of action of naloxone is shorter than that of all opioid analgesics - **REPEATED DOSES OF NALOXONE MAY BE REQUIRED.**

Intravenous infusions following resuscitation

Intravenous infusions of naloxone are often useful where repeated doses are required. An infusion of 60% of the initial dose required for resuscitation per hour is a useful starting point.

For adults, a solution containing 10 mg (25 vials) made up to a final volume of 50 mL with dextrose will produce a 200 micrograms/mL solution for infusion using an IV pump (dose adjusted to clinical response).

For children weighing less than 20 kg, a more dilute solution may be appropriate to allow accurate dose adjustment. For example, a solution containing 0.5 mg/kg body weight of naloxone made up to a final volume of 50 mL with dextrose would deliver 0.01 mg/kg/hour if infused at 1 mL/hour.

Naloxone can be used undiluted provided an appropriate pump is available. Note this is an off-licence use.

Infusions are not a substitute for frequent review of the patient's clinical state.

15. Body packers remain at risk of severe intoxication until complete evacuation of packages, usually indicated by the passage of two consecutive package-free stools. Repeat radiology (CT) may be necessary for confirmation of evacuation in some cases, e.g. when patients exhibit intoxication even after stools remain package-free.

Surgical Intervention

Studies have shown that the most common operative complication following surgical removal of packets is that of wound infection. Incidents of infection correlate to the number and location of enterotomies made. Colostomy carries a higher risk than a gastrotomy (Mandava et al, 2011).

Intact packets in the distal bowel should be manually expelled through the anal canal. Intact packets located in the proximal small bowel should be 'milked' retrogradely into the stomach where they can be removed by a single gastrotomy (Mandava et al, 2011). Although Mandava et al (2011) suggests surgical removal of packets detected by imaging if not expelled by day 5, there are no data on the risk or benefit of this strategy.

'Milking' ruptured packets may carry the risk of increased drug absorption. Multiple enterotomies may therefore be unavoidable if packages are widely dispersed throughout the intestine (East, 2005; Olmedo et al, 2001). If multiple enterotomies are required the surgeon should consider delayed wound closure to prevent infection (Silverberg et al, 2006).

Abdominal CT should be performed post-operatively to ensure all packets have been removed.

Links

[Cocaine](#)

[Heroin](#)

[Cannabis](#)

[Amfetamine](#)

[Body Stuffers](#)

[Whole Bowel Irrigation](#)

[References](#)

All material on TOXBASE® is subject to Crown copyright protection unless otherwise stated. Material should only be used to assist in the clinical management of poisoned patients and may be printed using the "Printable version" button, however we strongly advise that printouts should NOT be kept for any length of time, or for "future reference" as they

can rapidly become out of date. For any other use of material you must apply for permission to NPIS Edinburgh, RIE, EH16 4SA or via mail@toxbase.org.

Aldrighetti L, Paganelli M, Giacomelli M et al.

Conservative management of cocaine-packet ingestion: experience in Milan, the main Italian smuggling center of South American cocaine.

Panminerva Med. 1996; 38: 111-116.

[click here for abstract](#)

American Academy of Clinical Toxicology & European Association of Poisons Centres and Toxicologists.

Position paper: whole bowel irrigation.

J Toxicol Clin Toxicol. 2004; 42: 843-854. Erratum: *JTCT* 2004; 42: 1000. (dosage error in text).

Bebarta VS, Summers S.

Brugada electrocardiographic pattern induced by cocaine toxicity.

Ann Emerg Med 2007; 49: 827-829.

(no abstract available)

de Beer SA, Spiessens G, Mol W, Fa-Si-Oen PR.

Surgery for body packing in the Caribbean: a retrospective study of 70 patients.

World J Surg. 2008; 32: 281-285. (also discussion 286-287).

[click here for abstract](#)

Beno S, Calello D, Baluffi A, Henretig FM.

Pediatric body packing: drug smuggling reaches a new low.

Pediatr Emerg Care 2005; 21: 744-746.

[click here for abstract](#)

Bucke T, Teers R, Menin S et al.

Near misses in police custody: a collaborative study with forensic medical examiners in London.

IPCC Research and Statistics Series. 2008; Paper 10; p 20.

(no abstract available)

Bulstrode N, Banks F, Shrotria S.

The outcome of drug smuggling by 'body packers'--the British experience.

Ann R Coll Surg Engl. 2002; 84: 35-38.

[click here for abstract](#)

Cordero DR, Medina C, Helfgott A.

Cocaine body packing in pregnancy.

Ann Emerg Med 2007; 49: 543-544.

[click here for abstract](#)

East JM.

Surgical complications of cocaine body-packing: a survey of Jamaican hospitals.

West Indian Med J 2005; 54: 38-41.

[click here for abstract](#)

van Geloven AA, van Lienden KP, Gouma DJ.

Bodypacking – an increasing problem in the Netherlands: Conservative or surgical treatment?

Eur J Surg 2002; 168: 404-409.

[click here for abstract](#)

Hoffman RS, Smilkstein MJ, Goldfrank LR.

Whole bowel irrigation and the cocaine body packer.

Am J Emerg Med 1990; 8: 523-527.

Jordan MT, Bryant SM, Aks SE, Wahl M.

A Five-Year Review of the Medical Outcome of Heroin Body Stuffers.

J Emerg Med. 2009; 36: 250-256.

[click here for abstract](#)

Kashani J, Ruha AM.

Methamphetamine toxicity secondary to intravaginal body stuffing.

J Toxicol Clin Toxicol 2004; 42: 987-989.

[click here for abstract](#)

Koehler SA, Ladham S, Rozin L.

The risk of body packing: a case of a fatal cocaine overdose.

Forensic Sci Int 2005; 151: 81-84.

[click here for abstract](#)

Lancashire MJR, Legg PK, Lowe M, Davidson SM, Ellis BW.

Surgical aspects of international drug smuggling.

BMJ 1988; 296: 1035-1037.

Leo PJ, Sachter JT, Melrose M.

Heroin bodypacking.

J Accid Emerg Med 1995; 12: 43-48.

Mandava N, Chang RS, Wang JH et al.

Establishment of a definitive protocol for the diagnosis and management of body packers (drug mules).

Emerg Med J. 2011; 28: 98-101.

[click here for abstract](#)

McCarron MM, Wood JD.

The cocaine "body packer" syndrome.

JAMA 1983; 250: 1417-1420.

Norfolk GA.

The fatal case of a cocaine body-stuffer and a literature review - towards evidence based management.

J Forensic Leg Med 2007; 14: 49-52.

[click here for abstract](#)

Olmedo R, Nelson L, Chu J, Hoffman RS.

Is surgical decontamination definitive treatment of "body-packers"?

Am J Emerg Med. 2001; 19: 593-596.

[click here for abstract](#)

Pidoto RR, Agliata AM, Bertolini R et al.

A new method of packaging cocaine for international traffic and implications for the management of cocaine body packers

J Emerg Med. 2002; 23: 149-153.

[click here for abstract](#)

de Prost N, Lefebvre A, Questel F.

Prognosis of cocaine body-packers.

Intensive Care Med. 2005; 31: 955-958.

[click here for abstract](#)

Schaper A, Hofmann R, Bargain P et al.

Surgical treatment in cocaine body packers and body pushers.

Int J Colorectal Dis 2007; 22: 1531-1535.

[click here for abstract](#)

Shahnazi M, Sanei Taheri M, Pourghorban R.

Body packing and its radiologic manifestations: a review article.

Iran J Radiol. 2011; 8:205-210.

[click here for abstract](#)

Silverberg D, Menes T, Kim U.

Surgery for "body packers"--a 15-year experience.

World J Surg 2006; 30: 541-546.

[click here for abstract](#)

Sporer KA, Firestone J.

Clinical course of crack cocaine body stuffers.

Annals Emerg Med 1997; 29: 596-601.

[click here for abstract](#)

Sribanditmongkol P, Supasingsiripreecha W, Thampitak S, Junkuy A.

Fatal heroin intoxication in body packers in northern Thailand during the last decade: two case reports.

J Med Assoc Thai 2006; 89: 106-110.

[click here for abstract](#)

Stolbach AI, Garra G, Howland MA et al.

Esophageal perforation after "body packing" cigarette tobacco. [Abstract]

Clin Toxicol (Phila) 2006; 44: 690-691.

(no abstract available)

Takekawa K, Ohmori T, Kido A, Oya M.

Methamphetamine body packer: acute poisoning death due to massive leaking of methamphetamine.

J Forensic Sci 2007; 52: 1219-1222.

[click here for abstract](#)

Traub SJ, Hoffman RS, Nelson LS.

Body packing--the internal concealment of illicit drugs.

N Engl J Med 2003; 349: 2519-2526.

(no abstract available)

Utecht MJ, Stone AF, McCarron MM.

Heroin body packers.

J Emerg Med 1993; 11: 33-40

Veyrie N, Servajean S, Aissat A et al.

Value of a systematic operative protocol for cocaine body packers.

World J Surg. 2008; 32: 1432-1437.

[click here for abstract](#)

Watson CJE, Johnston PS, Thomson HJ.

Body-packing with amphetamines-an indication for surgery.

[J Roy Soc Med 1991; 84: 311-312](#)