PART XI | ADOLESCENT MEDICINE

Substance Use Disorders

Chapter 157

13 one-best-answer study questions with original source tables

Nelson Textbook of Pediatrics, 22nd edition, Volume 1

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A 15-year-old reports drinking alone before school, declining grades, and a recent crash while driving after drinking. Which interpretation of the table's seriousness factors is best?

A. School-day use lowers the table's concern score
B. A driving-related crash is unrelated to risk assessment
C. Only the beverage type can determine seriousness
D. Several features point toward a more serious pattern of substance use
E. Use alone is less concerning than use only with peers

ORIGINAL SOURCE TABLE | Table 157.1 | PDF p. 1207 | printed p. 1194

Table 157.1 Assessing the Seriousness of Adolescent Substance Use

VARIABLE	0	+1	+2
Age (yr)	>15	<15	
Sex	Male	Female	
Family history of substance use		Yes	
Setting of substance use	In group		Alone
Affect before substance use	Happy	Always poor	Sad
School performance	Good, improving		Recently poor
Use disorder before driving	None		Yes
History of accidents	None		Yes
Time of week	Weekend	Weekdays	
Time of day		After school	Before or during school
Type of substance	Marijuana, beer, wine	Hallucinogens, amphetamines	Whiskey, opiates, cocaine, barbiturates

Total score: 0-3, less worrisome; 3-8, serious; 8-18, very serious.

A 16-year-old now uses multiple substances every day, reports loss of control, and has withdrawn from family and friends. Which stage in the table best fits?

A. Stage 5: burnout with use to feel normal
B. Stage 4: regular use with preoccupation with the high
C. Stage 1: potential for use
D. Stage 2: experimentation with few consequences
E. Stage 3: regular use with early consequences

ORIGINAL SOURCE TABLE | Table 157.2 | PDF p. 1207 | printed p. 1194

Table 157.2 Stages of Adolescent Substance Use

STAGE	DESCRIPTION
1	Potential for use • Decreased impulse control • Need for immediate gratification • Available substances, alcohol, inhalants • Need for peer acceptance
2	Experimentation: learning the euphoria • Use of inhalants, tobacco, marijuana, and alcohol with friends • Few, if any, consequences • Use may increase to weekends regularly • Little change in behavior
3	Regular use: seeking the euphoria • Use of other substances (e.g., stimulants, LSD, sedatives) • Behavioral changes and some consequences • Increased frequency of use; use disorder alone • Buying or stealing substances
4	Regular use: preoccupation with the "high" • Daily use of substances • Loss of control • Multiple consequences and risk taking • Estrangement from family and "straight" friends
5	Burnout: use of substances to feel normal • Polysubstance use/cross-addiction • Guilt, withdrawal, shame, remorse, depression • Physical and mental deterioration • Increased risk taking, self-destructive, suicidal

A teenager arrives agitated after taking an unknown tablet. Examination shows tachycardia, mydriasis, dry flushed skin, urinary retention, and decreased bowel sounds. Which toxidrome best fits?

A. Sympathomimetic
B. Cholinergic
C. Opioid intoxication
D. Sedative intoxication
E. Anticholinergic

ORIGINAL SOURCE TABLE | Table 157.4 | PDF p. 1210 | printed p. 1197

Table 157.4 Most Common Toxic Syndromes

ANTICHOLINERGIC SYNDROMES	
Common signs	Delirium with mumbling speech, tachycardia, dry, flushed skin, dilated pupils, myoclonus, slightly elevated temperature, urinary retention, and decreased bowel sounds. Seizures and dysrhythmias may occur in severe cases.
Common causes	Antihistamines, antiparkinsonian medication, atropine, scopolamine, amantadine, antipsychotic agents, antidepressant agents, antispasmodic agents, mydriatic agents, skeletal muscle relaxants, and many plants (notably jimsonweed and *Amanita muscaria*).
SYMPATHOMIMETIC SYNDROMES	
Common signs	Delusions, paranoia, tachycardia (or bradycardia if the substance is a pure α-adrenergic agonist), hypertension, hyperpyrex diaphoresis, piloerection, mydriasis, and hyperreflexia. Seizures, hypotension, and dysrhythmias may occur in severe case
Common causes	Cocaine, amphetamine, methamphetamine (and its derivatives 3,4-methylenedioxyamphetamine, 3,4-methylenedioxymet mphetamine, 3,4-methylenedioxyethamphetamine, and 2,5-dimethoxy-4-bromoamphetamine), some synthetic marijuan and OTC decongestants (phenylpropanolamine, ephedrine, and pseudoephedrine). In caffeine and theophylline overdoses, similar findings, except for the organic psychiatric signs, result from catecholamine release.
OPIATE, SEDATIVE, OR ETHANOL INTOXICATION	
Common signs	Coma, respiratory depression, miosis, hypotension, bradycardia, hypothermia, pulmonary edema, decreased bowel sound hyporeflexia, and needle marks. Seizures may occur after overdoses of some narcotics, notably propoxyphene.
Common causes	Narcotics, barbiturates, benzodiazepines, ethchlorvynol, glutethimide, methyprylon, methaqualone, meprobamate, ethan clonidine, and guanabenz.
CHOLINERGIC SYNDROMES	
Common signs	Confusion, central nervous system depression, weakness, salivation, lacrimation, urinary and fecal incontinence, gastrointestinal cramping, emesis, diaphoresis, muscle fasciculations, pulmonary edema, miosis, bradycardia or tachycardia, and seizures.
Common causes	Organophosphate and carbamate insecticides, physostigmine, edrophonium, and some mushrooms.

From Kulig K. Initial management of ingestions of toxic substances. *N Engl J Med* 1992;326:1677–1681.

A 14-year-old denies personal substance use but rides with friends who sometimes drive after drinking. Which CRAFFT screening question directly explores this risk?

A. Have you used substances while alone?
B. Have you gotten into trouble while using substances?
C. Have you ridden in a car driven by someone who was high or using alcohol or substances?
D. Have you forgotten things while using substances?
E. Have you used substances to relax?

ORIGINAL SOURCE TABLE | Table 157.5 | PDF p. 1210 | printed p. 1197

Table 157.5 CRAFFT Mnemonic Tool

• Have you ever ridden in a **C**ar driven by someone (including yourself) who was high or had been using alcohol or substances? • Do you ever use alcohol or substances to **R**elax, feel better about yourself, or fit in? • Do you ever use alcohol or substances while you are by yourself (**A**lone)?	• Do you ever **F**orget things you did while using alcohol or substanc • Do your **F**amily or **F**riends ever tell you that you should cut down on your drinking or substance use? • Have you ever gotten into **T**rouble while you were using alcohol substances?

From the Center for Adolescent Substance Use Research (CeASAR). *The CRAFFT Screening Interview.* (Copyright John R. Knight, MD, Boston Children's Hospital, 2015.)

A family asks what modifiable factor may protect their adolescent from substance use. Which family-domain strategy is listed?

A. Parental monitoring
B. Lack of parental supervision
C. Early aggressive behavior
D. Easy substance availability at school
E. Weak neighborhood attachment

ORIGINAL SOURCE TABLE | Table 157.6 | PDF p. 1211 | printed p. 1198

Table 157.6 Domains of Risk and Protective Factors for Substance Use Prevention

RISK FACTORS	DOMAIN	PROTECTIVE FACTORS
Early aggressive behavior	Individual	Self-control
Lack of parental supervision	Family	Parental monitoring
Substance use	Peer	Academic competence
Substance availability	School	Anti–substance use disorder policies
Poverty	Community	Strong neighborhood attachment

From National Institute on Substance Use. Preventing Substance Use Disorder Among Children and Adolescents: A Research-Based Guide for Parents, Educators, and Community Leaders, NIH Pub No 04-4212(B), 2nd ed. Bethesda, MD: NIDA; 2003.

A 13-year-old has started drinking, believes it is harmless, and has poor impulse control. Which interpretation is supported by the table?

A. Risk begins only after age 18
B. Family communication has no role in risk
C. Perceived low risk protects against escalation
D. These are individual risk factors for developing a drinking problem
E. These are established protective factors

ORIGINAL SOURCE TABLE | Table 157.7 | PDF p. 1212 | printed p. 1199

Table 157.7 Risk Factors for a Teen Developing a Drinking Problem

FAMILY RISK FACTORS

- Low parental supervision
- Poor parent to teen communication
- Family conflicts
- Severe or inconsistent family discipline
- Having a parent with an alcohol or substance problem

INDIVIDUAL RISK FACTORS

- Poor impulse control
- Emotional instability
- Thrill-seeking behaviors
- Behavioral problems
- Perceived risk of drinking is low
- Begins drinking before age 14 yr

A teen experiences panic and transient paranoia shortly after a high-dose cannabis exposure. Which category of effects in the table best fits the timing?

A. A remote withdrawal syndrome only
B. Acute adverse effects
C. Chronic bronchitis from prolonged smoking
D. Long-term educational impairment
E. Decade-long subtle cognitive impairment

ORIGINAL SOURCE TABLE | Table 157.9 | PDF p. 1215 | printed p. 1202

Table 157.9 Acute and Chronic Adverse Effects of Cannabis Use

ACUTE ADVERSE EFFECTS

- Anxiety and panic, especially in naïve users
- Psychotic symptoms (at high doses)
- Road crashes if a person drives while intoxicated
- Cannabis hyperemesis syndrome

CHRONIC ADVERSE EFFECTS

- Cannabis dependence syndrome (in about 1 in 10 users)
- Chronic bronchitis and impaired respiratory function in regular smokers
- Psychotic symptoms and disorders in heavy users, especially those with a history of psychotic symptoms or a family history of these disorders
- Impaired educational attainment in adolescents who are regular users
- Subtle cognitive impairment in those who are daily users for 10 yr or more
- Impaired tasks of sequencing ability, cognitive processing speed, inhibition, and sustained attention

Modified from Hall W, Degenhardt L. Adverse health effects of non-medical cannabis use. *Lancet*. 2009;374:1383–1390.

A 17-year-old with prolonged heavy cannabis use has recurrent stereotyped vomiting episodes, takes long hot showers, and improves during sustained abstinence. Which diagnosis matches the table?

A. A single episode of food poisoning
B. Functional constipation
C. Isolated motion sickness
D. Acute appendicitis
E. Cannabinoid hyperemesis syndrome

ORIGINAL SOURCE TABLE | Table 157.10 | PDF p. 1215 | printed p. 1202

Table 157.10 Rome IV Criteria for CHS Diagnosis

CATEGORY	FEATURES
Essential	Stereotypical episodic vomiting resembling CVS in terms of onset, duration, and frequency Presentation after prolonged, excessive cannabis use Relief of vomiting episodes by sustained cessation of cannabis use
Supportive remarks	May be associated with pathologic bathing behavior (prolonged hot baths or showers)

CHS, Cannabinoid hyperemesis syndrome; CVS, cyclic vomiting syndrome.
From Zhu JW, Gonsalves CL, Issenman RM, Kam AJ. Diagnosis and acute management of adolescent cannabinoid hyperemesis syndrome: a systematic review. *J Adolesc Health*. 2021;68:246–254, Table 1, p. 248.

A teenager using nitrous oxide from whipped-cream dispensers develops paresthesias and gait difficulty. Which nutritional complication is linked to this inhalant in the table?

A. Hypervitaminosis A
B. Vitamin K excess
C. Vitamin B12 deficiency
D. Vitamin C deficiency
E. Iron overload

ORIGINAL SOURCE TABLE | Table 157.11 | PDF p. 1216 | printed p. 1203

Table 157.11 Hazards of Chemicals Found in Commonly Used Inhalants

Amyl nitrite, butyl nitrite ("poppers," "video head cleaner"): sudden sniffing death syndrome, suppressed immunologic function, injury to red blood cells (interfering with oxygen supply to vital tissues)

Benzene (found in gasoline): bone marrow injury, impaired immunologic function, increased risk of leukemia, reproductive system toxicity

Butane, propane (found in lighter fluid, hair and paint sprays): sudden sniffing death syndrome via cardiac effects, serious burn injuries (because of flammability)

Freon (used as a refrigerant and aerosol propellant): sudden sniffing death syndrome, respiratory obstruction and death (from sudden cooling/cold injury to airways), liver damage

Methylene chloride (found in paint thinners and removers, degreasers): reduction of oxygen-carrying of blood, changes to the heart muscle and heartbeat

Nitrous oxide ("laughing gas, Whippits, i.e., whipped cream dispensers), **hexane**: death from lack of oxygen to the brain, altered perception and motor coordination, loss of sensation, limb spasms, blackouts caused by blood pressure changes, depression of heart muscle functioning; vitamin B_{12} deficiency

Toluene (found in gasoline, paint thinners and removers, correction fluid): brain damage (loss of brain tissue mass, impaired cognition, gait disturbance, loss of coordination, loss of equilibrium, limb spasms, hearing and vision loss), liver and kidney damage

Trichloroethylene (found in spot removers, degreasers): sudden sniffing death syndrome, cirrhosis of the liver, reproductive complications, hearing and vision damage

After inhalant exposure, an adolescent becomes drowsy with slurred speech, incoordination, depressed reflexes, and nystagmus. Which stage in the table best matches?

A. Stage 3: medium central nervous system depression
B. Stage 1: excitatory phase
C. Stage 2: early central nervous system depression
D. Stage 4: late central nervous system depression
E. No listed stage

ORIGINAL SOURCE TABLE | Table 157.12 | PDF p. 1216 | printed p. 1203

Table 157.12 Stages in Symptom Development After Use of Inhalants

STAGE	SYMPTOMS
1: Excitatory	Euphoria, excitation, exhilaration, dizziness, hallucinations, sneezing, coughing, excess salivation, intolerance to light, nausea and vomiting, flushed skin and bizarre behavior
2: Early CNS depression	Confusion, disorientation, dullness, loss of self-control, ringing or buzzing in the head, blurred or double vision, cramps, headache, insensitivity to pain, and pallor or paleness
3: Medium CNS depression	Drowsiness, muscular incoordination, slurred speech, depressed reflexes, and nystagmus or rapid involuntary oscillation of the eyeballs
4: Late CNS depression	Unconsciousness that may be accompanied by bizarre dreams, epileptiform seizures, and EEG changes

CNS, Central nervous system; EEG, electroencephalogram.
From Harris D. Volatile substance use. *Arch Dis Child Educ Pract Ed*. 2006;91:ep93–ep100.

A teenager collapses after volatile-solvent inhalation, and the monitor shows ventricular fibrillation. Which conclusion is supported by the table of clinical presentations?

A. Only gastrointestinal symptoms are reported
B. A normal electrocardiogram is required for diagnosis
C. Cardiac arrest occurs only after chronic use for years
D. Ventricular fibrillation is a documented severe presentation of volatile-substance use
E. Cardiac rhythm disturbances are excluded by inhalant exposure

ORIGINAL SOURCE TABLE | Table 157.13 | PDF p. 1216 | printed p. 1203

Table 157.13 Documented Clinical Presentations of Acute and Chronic Volatile Substance Use

Ventricular fibrillation	Muscle weakness
Asystolic cardiac arrest	Abdominal pain
Myocardial infarction	Cough
Ataxia	Aspiration pneumonia
Agitation	Chemical pneumonitis
Limb and trunk incoordination	Coma
Tremor	Visual and auditory hallucinations
Visual loss	Acute delusions
Tinnitus	Nausea and vomiting
Dysarthria	Pulmonary edema
Vertigo	Photophobia
Hyperreflexia	Rash
Acute confusional state	Jaundice
Conjunctivitis	Anorexia
Acute paranoia	Slurred speech
Depression	Diarrhea
Oral and nasal mucosal ulceration	Weight loss
Halitosis	Epistaxis
Convulsions/fits	Rhinitis
Headache	Cerebral edema
Peripheral neuropathy	Visual loss
Methemoglobinemia	Burns
Acute trauma	Renal tubular acidosis

A teenager is somnolent with shallow breathing and pinpoint pupils after an unknown drug exposure. Which intoxication category in the comparison table fits best?

A. Sympathomimetic intoxication
B. Opioid intoxication
C. Amphetamine intoxication
D. Cocaine intoxication
E. Benzodiazepine withdrawal

ORIGINAL SOURCE TABLE | Table 157.15 | PDF p. 1219 | printed p. 1206

Table 157.15 Signs and Symptoms of Intoxication and Withdrawal

	OPIATES	AMPHETAMINES/COCAINE	BENZODIAZEPINES
INTOXICATION			
Behavior	Apathy and sedation; disinhibition; psychomotor retardation; impaired attention and judgment	Euphoria and sensation of increased energy; hypervigilance; grandiosity, aggression, argumentative; labile mood; repetitive stereotyped behaviors; hallucinations, usually with intact orientation; paranoid ideation; interference with personal functioning	Euphoria; apathy and sedation; abusiveness or aggression; labile mood; impaired attention; anterograde amnesia; impaired psychomotor performance; interference with personal functioning
Signs	Drowsiness; slurred speech; pupillary constriction (except anoxia from severe overdose—dilation); decreased level of consciousness	Dilated pupils; tachycardia (occasionally bradycardia, cardiac arrhythmias); hypertension; nausea/vomiting; sweating and chills; evidence of weight loss; dilated pupils; chest pain; convulsions	Unsteady gait; difficulty in standing; slurred speech; nystagmus; decreased level consciousness; erythematous skin lesions or blisters
Overdose	Respiratory depression; hypothermia	Sympathomimetic symptoms	Hypotension; hyperthermia; depression of gag reflex; coma
Withdrawal	Craving to use; lacrimation; yawning; rhinorrhea/sneezing; muscle aches or cramps; abdominal cramps; nausea/vomiting/diarrhea; sweating; dilated pupils; anorexia; irritability; tremor; piloerection/chills; restlessness; disturbed sleep	Dysphoric mood (sadness/anhedonia); lethargy and fatigue; psychomotor retardation or agitation; craving; increased appetite; insomnia or hypersomnia; bizarre or unpleasant dreams	Tremor of tongue, eyelids, or outstretched hands; nausea or vomiting; tachycardia; postural hypotension; psychomotor agitation; headache; insomnia; malaise or weakness; transient visual, tactile, or auditory hallucinations or illusions; paranoid ideation; grand mal convulsions

From Haber PS, Demirkol A, Lange K, et al. Management of injecting substance users admitted to hospital. *Lancet*. 2009;374:1284–1292.

A patient receiving treatment for opioid use disorder is prescribed a medication described as a partial mu-opioid receptor agonist. Which listed medication fits?

A. Methadone
B. Fentanyl
C. Morphine
D. Codeine
E. Buprenorphine

ORIGINAL SOURCE TABLE | Table 157.16 | PDF p. 1221 | printed p. 1208

Table 157.16 Types and Actions of the Most Commonly Prescribed and Used Opioids

	TYPE OF OPIOID	ACTION ON OPIOID RECEPTOR
Alfentanil	Fully synthetic	Agonist of μ-receptors
Buprenorphine	Semisynthetic	Partial agonist of μ-receptors and NOP receptors; antagonist of κ-receptors
Codeine	Natural	Weak agonist of μ-receptors
Diamorphine (heroin)	Semisynthetic	Agonist of μ-receptors, δ-receptors, and κ-receptors; predominant binding to μ-receptors
Dihydrocodeine	Semisynthetic	Agonist of μ-receptors
Fentanyl	Fully synthetic	Agonist of μ-receptors, δ-receptors, and κ-receptors; predominant binding to μ-receptors
Hydromorphone	Semisynthetic	Agonist of μ-receptors and κ-receptors; predominant binding to μ-receptors
Methadone	Fully synthetic	Agonist of μ-receptors
Morphine	Natural	Agonist of μ-receptors, δ-receptors, and κ-receptors; predominant binding to μ-receptors
Oxycodone	Semisynthetic	Weak agonist of μ-receptors, δ-receptors, and κ-receptors; predominant binding to μ-receptors
Pentazocine	Fully synthetic	Partial agonist of δ-receptors and κ-receptors; antagonist of μ-receptors
Pethidine (meperidine)	Fully synthetic	Agonist of κ-receptors
Tramadol	Fully synthetic	Weak agonist of μ-receptors

Information presented is from the DrugBank and PubChem databases.
NOP, Nociceptin opioid peptide.
From Fountas A, Van Uum S, Karavitaki N. Opioid-induced endocrinopathies. *Lancet Diabetes Endocrinol*. 2020;8:68–80.

Answer key and teaching notes

01. D | Table 157.1 | PDF p. 1207, printed p. 1194

Why: Solitary use, use before or during school, deteriorating performance, and an accident are all concerning variables in the table.
Closest distractor: Use with peers is less concerning in this table than use alone.

02. B | Table 157.2 | PDF p. 1207, printed p. 1194

Why: Stage 4 includes daily use, loss of control, multiple consequences, and estrangement.
Closest distractor: Stage 5 adds burnout features such as polysubstance cross-addiction and use to feel normal with severe deterioration.

03. E | Table 157.4 | PDF p. 1210, printed p. 1197

Why: Dry skin, urinary retention, diminished bowel sounds, and mydriasis cluster under the anticholinergic syndrome.
Closest distractor: Sympathomimetic toxicity can also cause tachycardia and mydriasis, but diaphoresis is more typical than dry skin.

04. C | Table 157.5 | PDF p. 1210, printed p. 1197

Why: The C in the CRAFFT table asks about riding in a car with an impaired driver, including oneself.
Closest distractor: The other responses correspond to different CRAFFT domains.

05. A | Table 157.6 | PDF p. 1211, printed p. 1198

Why: The table pairs lack of supervision as a family risk factor with parental monitoring as protection.
Closest distractor: Lack of supervision increases rather than reduces concern.

06. D | Table 157.7 | PDF p. 1212, printed p. 1199

Why: Poor impulse control, low perceived risk, and drinking before age 14 appear as individual risk factors.
Closest distractor: Low perceived risk of drinking is listed as a risk, not protection.

07. B | Table 157.9 | PDF p. 1215, printed p. 1202

Why: The acute column lists anxiety/panic and psychotic symptoms at high doses.
Closest distractor: Chronic bronchitis is listed among longer-term harms in regular smokers.

08. E | Table 157.10 | PDF p. 1215, printed p. 1202

Why: The essential criteria include episodic vomiting after prolonged excessive cannabis use with relief after sustained cessation; hot bathing is supportive.
Closest distractor: Food poisoning does not explain the repeated exposure-linked pattern and sustained-abstinence response.

09. C | Table 157.11 | PDF p. 1216, printed p. 1203

Why: The nitrous oxide row identifies vitamin B12 deficiency among its hazards.
Closest distractor: Vitamin C deficiency is not the inhalant-associated complication listed.

10. A | Table 157.12 | PDF p. 1216, printed p. 1203

Why: The stage-3 row specifically includes drowsiness, incoordination, slurred speech, depressed reflexes, and nystagmus.
Closest distractor: Stage 4 centers on unconsciousness and may include seizures.

11. D | Table 157.13 | PDF p. 1216, printed p. 1203

Why: The clinical-presentation table explicitly includes ventricular fibrillation and asystolic arrest.
Closest distractor: The table does not restrict toxicity to gastrointestinal findings.

12. B | Table 157.15 | PDF p. 1219, printed p. 1206

Why: Opioid intoxication is associated with sedation, respiratory depression, and miosis.
Closest distractor: Stimulant intoxication more often causes dilated pupils and increased sympathetic activity.

13. E | Table 157.16 | PDF p. 1221, printed p. 1208

Why: The table classifies buprenorphine as a partial mu-receptor agonist.
Closest distractor: Methadone is listed as a mu-receptor agonist rather than a partial agonist.

Table selection log

01. Table 157.1 | PDF p. 1207 | printed p. 1194 | Completed

02. Table 157.2 | PDF p. 1207 | printed p. 1194 | Completed

03. Table 157.4 | PDF p. 1210 | printed p. 1197 | Completed

04. Table 157.5 | PDF p. 1210 | printed p. 1197 | Completed

05. Table 157.6 | PDF p. 1211 | printed p. 1198 | Completed

06. Table 157.7 | PDF p. 1212 | printed p. 1199 | Completed

07. Table 157.9 | PDF p. 1215 | printed p. 1202 | Completed

08. Table 157.10 | PDF p. 1215 | printed p. 1202 | Completed

09. Table 157.11 | PDF p. 1216 | printed p. 1203 | Completed

10. Table 157.12 | PDF p. 1216 | printed p. 1203 | Completed

11. Table 157.13 | PDF p. 1216 | printed p. 1203 | Completed

12. Table 157.15 | PDF p. 1219 | printed p. 1206 | Completed

13. Table 157.16 | PDF p. 1221 | printed p. 1208 | Completed

Skipped: 157.3 (dated prevalence statistics and a table continued on two pages);
157.8 (adult-focused smoking-cessation dosing and availability by country);
157.14 (extensive chemical/slang-name taxonomy with low decision-making value).

Last completed: Table 157.16, PDF p. 1221. Next eligible table: 159.1, PDF p. 1223.

Review note: source-book categorization is for board study; clinical toxicology management requires current poison-center and local protocol consultation.