



HUMAN ENHANCEMENT DRUGS

INFORMATION PAMPHLET

	Type of HEDs	Description	Examples	General Effects*	High-Risk Groups**
	'Muscle Drugs'	Drugs to enhance the appearance and function of skeletal muscle (e.g. increase strength or muscle mass).	Anabolic Androgenic Steroids (AAS), Human Growth Hormones (hGH), Insulin, Erythropoietin (EPO), Peptide Hormones, Non-steroidal Selective Androgen Receptor Modulators (SARMs).	Intended effects: Muscle growth and to decrease amount of fat. Side-effects: Changes in mood and behavior (e.g. depression and aggression), suppression of the Hypothalamic-pituitary-testicular-axis (HPTA), liver damage, cardiovascular disease, insulin resistance and musculoskeletal disorders.****	Sports competitors (especially power sports), bodybuilders, gym members, high-school students, occupational users (e.g. security guards, police officers and actors), and ageing men.
	Weight-Loss Drugs	Drugs used to enhance weight loss.	Sibutramine, DMAA, Dinitrophenol (DNP), Ephedrine, Liothyronine Sodium (T3), Levothyroxine Sodium (T4), Orlistat, Clenbuterol.	Intended effects: Decreases amount of fat and suppresses appetite. Side-effects: Changes in mood and behavior (e.g. anxiety and aggression), insomnia, cardiovascular disease, and reduces absorption of dietary fat.***	Gym members, students, overweight or obese individuals, young and middle-aged women, bodybuilders, sports competitors, and occupational users (e.g. models).
	Image Enhancing Drugs	Drugs used to enhance the appearance of the skin and hair.	'Cosmetics' containing Mercury compounds or Hydroquinone, Corticosteroids, Melanotan I & II, Birnatoprost, Finasteride, Dermal Fillers (e.g. Restylane), Botulinum Toxin (e.g. Botox), Isotretinoin (e.g. Roaccutane).	Intended effects: Darken or lighten skin color, increase the growth of eyelashes, increases the growth of scalp hair and reduce wrinkles. Side-effects: Nausea, abnormal pigmentation, skin rash and chronic inflammation.***	Occupational users (e.g. erotic dancers, porn actors and celebrities) bodybuilders, ageing men and women, and tanning and beauty salon customers.
	Sexual Enhancers	Drugs used to enhance sexual function and behavior.	Sildenafil citrate (e.g. Viagra), Tadalafil (e.g. Cialis), Vardenafil Hydrochloride (e.g. Levitra), Yohimbe and Bremelanotide (PT-141).	Intended effects: Increases blood flow to penis causing erection Side-effects: Headache and memory problems.***	Night clubbers (incl. women), ageing men, gay communities, and porn industry. Night clubbers (incl. women), ageing men, gay communities,
	Cognitive Enhancers	Cognitive enhancers, also known as 'smart drugs', 'study drugs' and 'brain doping', are used to enhance cognitive functions including short-term memory, concentration, comprehension and alertness.	Modafinil (e.g. Provigil), Methylphenidate (e.g. Ritalin), Amphetamine tablets (Adderall), Piracetam and Atomoxetine Hydrochloride (Strattera).	Intended effects: Promotes wakefulness, increased concentration and focus, improves short-term memory, and suppress physiological sensations. Side effects: Skin reactions, changes in mood and behavior (e.g. anxiety and agitation), suppressed appetite, headaches, suicidal thoughts, psychosis and mania.***	Students, occupational users (e.g. surgeons, pilots and stock traders), and 'stay-at-home moms'.
	Mood & Social Behavior Enhancers	A drug taken for the purpose of altering and/or improving one's state of mind or feeling.	Selective Serotonin Reuptake Inhibitors (SSRIs), Beta-blockers (e.g. Propanolol), Benzodiazepines (e.g. Diazepam), Opiates (e.g. Morphine and OxyContin).	Intended effects: Suppress physiological sensations, pain relief, relieve anxiety or depression. Side-effects: Dizziness, vomiting, insomnia and headache.***	Students, sports competitors, and occupational users (e.g. musicians, public speakers).

* This table has presented HED categories as ridged and fixed, however it is important to note that many of the drugs classified as examples under specific categories may well appear in others. For instance, Clenbuterol may be used as both a weight loss drug and a muscle enhancer. For the sake of this table we have chosen to include Clenbuterol as an example under the weight-loss category as the drug is most often consumed to achieve this goal.
 ** This table serves as a general guideline and as there are numerous drugs available to meet a variety of performance enhancing goals the effects and side effects will vary widely depending on the type, quantity, duration of use and mix of drugs consumed.
 *** Studies and/or media reports have reported that the type of enhancer is frequently found within these groups.
 **** Harms also result from the fact that these drugs often are adulterated, wrongly labeled (under- or over-dosed) and/or not tested for human consumption.

