



HIGH-LIGHT



ALCOHOL AND DRUG NEWS BRIEF FOR EMPLOYERS

THE ABUSE POTENTIAL OF COMMON OVER- THE COUNTER DRUGS (PART 1)

NOVEMBER 2009

Introduction

Major technological advances over the last few decades have enabled scientists to develop medicinal preparations for a vast array of ailments. Whether these medicines are developed from plants, animals, micro-organisms or a combination of chemicals, they offer relief from or cures for conditions ranging from minor aches and pains to major epidemics. If used sensibly, some of these substances are indeed so safe that they can be used without medical supervision for minor ailments. However, like so many other things in life, these substances are open for abuse, either by the ignorant or those actively pursuing it's recreational possibilities. Medicines differ vastly in their range of application, potency, therapeutic effects as well as side effects so that some system of control is required to ensure they are used for the purpose for which they were designed. In South Africa, access to recognized and tested medicines are controlled and listed under the 9 Schedules under the Medicines and Related Drugs Control Act (Act No 101 of 1965. Those listed under Schedules 1 and 2 are generally regarded as safe enough to be bought over the counter at licensed pharmacies or even at retail outlets. Those classified in Schedules 3- 7 can only be obtained on prescription under strict conditions from a pharmacy. Substances listed under Schedules 8 and 9 are prohibited and may generally only be obtained with special permission from the Director General of Health. In spite of these measures, certain substances across all schedules are abused and this module will focus specifically on those over the counter and some medicines which are sometimes used for recreational purposes.

Over the counter and abused prescription drugs can generally be classified in 4 major groupings :

- Analgesics (Pain relievers)
- Antihistamines and decongestants
- Slimming agents
- Cough medication

Analgesics

From a substance abuse perspective, the analgesics can be classified in two categories, namely, over the counter and prescription analgesics.

Over the counter non-narcotic analgesics

These are drugs designed to alleviate mild to moderate pain and their mechanism of action is at least partially, at the peripheral or local level – the site of origin of pain. At therapeutic doses they do not alter mood or consciousness. Drugs in this category can be divided into the so-called NSAIDS (Non-Steroidal Anti-Inflammatory Drugs) and Paracetamol.

The NSAIDS include drugs like **Acetylsalicylic Acid (Aspirin)** and proprionic acid derivatives such as **Ibuprofen, Fenofen, Ketoprofen** and **Naproxen**.

Aspirin

Aspirin was discovered in the early 19th century when pharmacologists isolated *Salicylic Acid* from the bark of the willow tree. This early product had an irritant effect on the stomach lining, a side effect which was significantly reduced with the synthesis of *Acetylsalicylic Acid*. Aspirin has analgesic, anti-inflammatory and anti-pyretic (reducing fever) actions and as a inexpensive substance it is popular for the treatment of minor

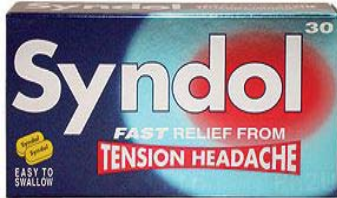


HIGH-LIGHT



ALCOHOL AND DRUG NEWS BRIEF FOR EMPLOYERS

pain like headache, toothache and some acute or chronic inflammatory disorders. It also has the advantage of inhibiting platelet aggregation by blocking the synthesis of prostaglandins (substances which promote inflammation and pain), thus reducing the risk of blood clots. Its analgesic properties can be enhanced when used in combination with



codeine or caffeine. Common trade names which contain only aspirin are **Disprin and Aspro**.



However, for all its remarkable curative properties, aspirin

also has a number of known and fairly serious side-effects. In small and occasional doses, aspirin is a relatively safe drug and adverse effects are normally caused by large or repeated dosage.

The most common adverse effects even at therapeutic doses are gastro-intestinal

disturbances caused by its irritant effect on the mucosal lining, resulting in vomiting, dyspepsia and nausea. It reduces blood clotting which may be



dangerous in the event of injuries. It may also cause tinnitus (ringing in the ears). Attempted intoxication with very large doses of aspirin is accompanied by dizziness, confusion, tinnitus, restlessness, vomiting and potentially fatal respiratory depression. Aspirin overdoses can be seen beginning at 150-300 mg/kg (10,000 mg for a person weighing 160 lb).

It is rare for aspirin to be abused solely for its mood altering effects since the fairly unpleasant, acute side effects occur well below the levels which need to be ingested for recreational purposes.

Ibuprofen, Fenofen, Ketoprofen and Naproxen.

It is commonly accepted that these substances have little or no psychoactive effects. They have little overdose or addictive properties and when taken in accordance to therapeutic dosages, is generally regarded as safe alternatives to aspirin.

The most common side effects from ibuprofen are rash, ringing in the ears (tinnitus), dizziness, drowsiness,

abdominal pain, nausea, constipation and heartburn. Ibuprofen may cause ulceration and bleeding of the stomach or intestine. Sometimes,



ulceration can occur without abdominal pain, and black, tarry stools, weakness, and dizziness upon standing (orthostatic hypotension) due to bleeding may be the only signs of an ulcer. NSAIDs reduce the flow of blood to the kidneys and impair function of the kidneys

The maximum dose is 1.2 g daily. Individuals should not use ibuprofen for more than 10 days for the treatment of pain or more than 3 days for the treatment of a fever unless directed by a physician. Ibuprofen may reduce the blood pressure-lowering effects of drugs that are given to reduce blood pressure.



Like aspirin, large doses of Naproxen can also cause gastro-intestinal complications which may be

aggravated by the intake of alcohol. Alcohol can increase the risk of stomach bleeding caused by naproxen. This medicine can also increase the risk



HIGH-LIGHT



ALCOHOL AND DRUG NEWS BRIEF FOR EMPLOYERS

of serious effects on the stomach or intestines, including bleeding or perforation (forming of a hole). Older adults may have an even greater risk of these serious gastrointestinal side effects. Many medicines available over the counter contain aspirin or other medicines similar to naproxen (such as ibuprofen or ketoprofen)

Paracetamol

Paracetamol is another effective pain reliever which, in similar doses, is equivalent to aspirin in analgesic potency and duration of effects. Although it lacks the anti-inflammatory action of aspirin, it does not cause gastro-intestinal complications and bleeding disorders like its counterpart. Its specific mechanism of action is unknown. Although it lacks some of the troublesome side-effects of aspirin, the ingestion of large single doses can result in more serious hepatic complications: Paracetamol overdose can cause liver necrosis through failure to inactivate one of the highly toxic metabolites of the drug. Acute paracetamol poisoning may at first be fairly asymptomatic. Minor symptoms like nausea, vomiting and abdominal pain may occur during the first 24 hrs with symptoms of liver damage (hypoglycemia, jaundice, lethargy) appearing only after 72 hrs.

Paracetamol has no addictive potential - however, users pursuing the mild psychoactive effects of other ingredients of the medication such as codeine may inadvertently ingest toxic doses of paracetamol. The recommended dose for adults is 500mg to 1000mg - that's usually one or two tablets (depending on tablet size) - every four to six hours with a maximum of 4000mg (usually eight tablets)

Table of some common over the counter pain relievers

Trade Name	Generic Name
Disprin	Acetylsalicylic Acid
Stopayne, (Sinutab with codeine)	Paracetamol, Codeine, Antihistamine
Grandpa	226mg Aspirin + 162mg paracetamol + 32mg caffeine

Propain	400mg Paracetamol + 10mg Codeine + 5mg Diphenhydramine
Panado, Tylenol	500mg paracetamol
Syndol	400mg Paracetamol + 10mg Codeine + 5mg Diphenhydramine
Myprodol	250mg Paracetamol + 200mg Ibuprofen + 10mg Codeine
Adco-dol	450mg Paracetamol + 45mg caffeine + 10mg Codeine
Advil	200mg Ibuprofen + 45 mg caffeine + 10mg Codeine
Nurofen	200mg Ibuprofen

Prescribed Narcotic Analgesics

These are natural, semi-synthetic or wholly synthetic drugs derived from the *Papaver Somniferum* poppy plant. They are generally regarded as the most effective painkillers since they exert their effects more centrally (medulla, limbic system, cerebellum) to alleviate more severe pain. These drugs may cause some sedation and therefore affect the way in which the person functions. If used incorrectly, they may also suppress critical functions such as breathing and temperature regulation which accounts for the fact that the majority of them are only available upon prescription. The most common drugs in this class are: Morphine, Codeine, Meperidine, Methadone, Propoxyphene.





HIGH-LIGHT



ALCOHOL AND DRUG NEWS BRIEF FOR EMPLOYERS

Antihistamines, Decongestants and cold and flu preparations

Antihistamines are drugs which block the release of histamine which is released whenever an allergic reaction takes place. This may occur during hay fever, rhinitis, post nasal drips, asthma, skin rashes, stings and bites. Antihistamines also have anti-emetic properties (prevents nausea and vomiting) and is used in countering the effects of motion sickness.

They are often used in conjunction with stimulant type drugs such as ephedrine to help shrink mucous membranes and narrowing blood vessels in the nose and inhibit nasal secretions. Most of the antihistamines cause sedation with the exception of highly selective antihistamines such as phenindamine. Poisoning is unlikely and occurs more often in children in whom paradoxically a central nervous stimulant response is seen at high doses. Signs of overdose include impaired muscle coordination, balance, fixed dilated pupils, coarse tremors and convulsions. Severe respiratory depression may result in death.



Decongestants work by narrowing blood vessels in the lining of the nose. As a result, less blood is able to flow through the nasal area, and swollen tissue inside the nose shrinks. Pseudoephedrine is the only decongestant used in OTC products.

The main reason why these substances can be abused is that they are all CNS depressants which cause drowsy euphoria, lethargy, poor concentration and slurred speech, all of which may be intensified by the simultaneous intake of alcohol.

Trade name	Generic Name
Benadryl, Sleep-Eze	Diphenhydramine
Tagamet	Cimetidine
Phenergan	Promethazine
Phentamine	Dimethylethylamine
Demazin	Antihistamine + ephedrine
Clarityne	Loratadine + pseudoephedrine
Sudafed (Decongestant)	Norpseudoephedrine
Adco - Sinal	Paracetamol +Codeine + Phenylpropanolamine

In the next edition: Slimming tablets and cough medication.

For more information or assistance if you are concerned about your own or someone else's use of substances:

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