

Paracetamol: Repeated ingestion of slightly too much can be fatal -- recognize and treat quickly

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Repeatedly taking slightly too much paracetamol over time can cause a dangerous overdose that is difficult to spot, but puts the person at danger of dying. Patients may not come to hospital reporting the overdose, but because they feel unwell. This clinical situation needs to be recognized and treated rapidly because these patients are at even greater danger than people who take single overdoses.

These so-called staggered overdoses can occur when people have pain and repeatedly take a little more paracetamol than they should. "They haven't taken the sort of single-moment, one-off massive overdoses taken by people who try to commit suicide, but over time the damage builds up, and the effect can be fatal," says Dr Kenneth Simpson who publishes the findings of a recent research project in the [British Journal of Clinical Pharmacology](#).

The problem is that doctors normally assess how much danger an overdose patient is in when they arrive at hospital by taking a blood sample and finding out how much paracetamol is present. In the case of a single dose overdose, the blood sample gives valuable information, but people with staggered overdoses may have low levels of paracetamol in their blood even though they are at high risk of [liver failure](#) and death.

Working in the University of Edinburgh and the Scottish [Liver Transplantation](#) Unit, Scotland, Dr Simpson and his team analysed data

from 663 patients who had been admitted to the Royal Infirmary of Edinburgh between 1992 and 2008 with paracetamol-induced [liver injury](#). They found that 161 had taken a staggered overdose, usually to relieve a variety of common pains, such as abdominal or muscular pains, headache and toothache.

"On admission, these staggered overdose patients were more likely to have liver and brain problems, require [kidney dialysis](#) or help with breathing and were at a greater risk of dying than people who had taken single overdoses," says Simpson. The problem is also worse for people who arrive at hospital more than a day after taking an overdose - they are also at high risk of dying or needing a liver transplant.

"Staggered overdoses or patients presenting late after an overdose need to be closely monitored and considered for the paracetamol antidote, N-acetylcysteine, irrespective of the concentration of paracetamol in their blood," says Simpson.

Because measuring the paracetamol in the blood is such a poor assessment of the patient's status in staggered overdoses or delayed presentation, he believes that doctors urgently need to find new ways of assessing whether a patient can be sent home, need medical treatment to counteract the [paracetamol](#), or need to be considered for a liver transplant.

Provided by Wiley

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