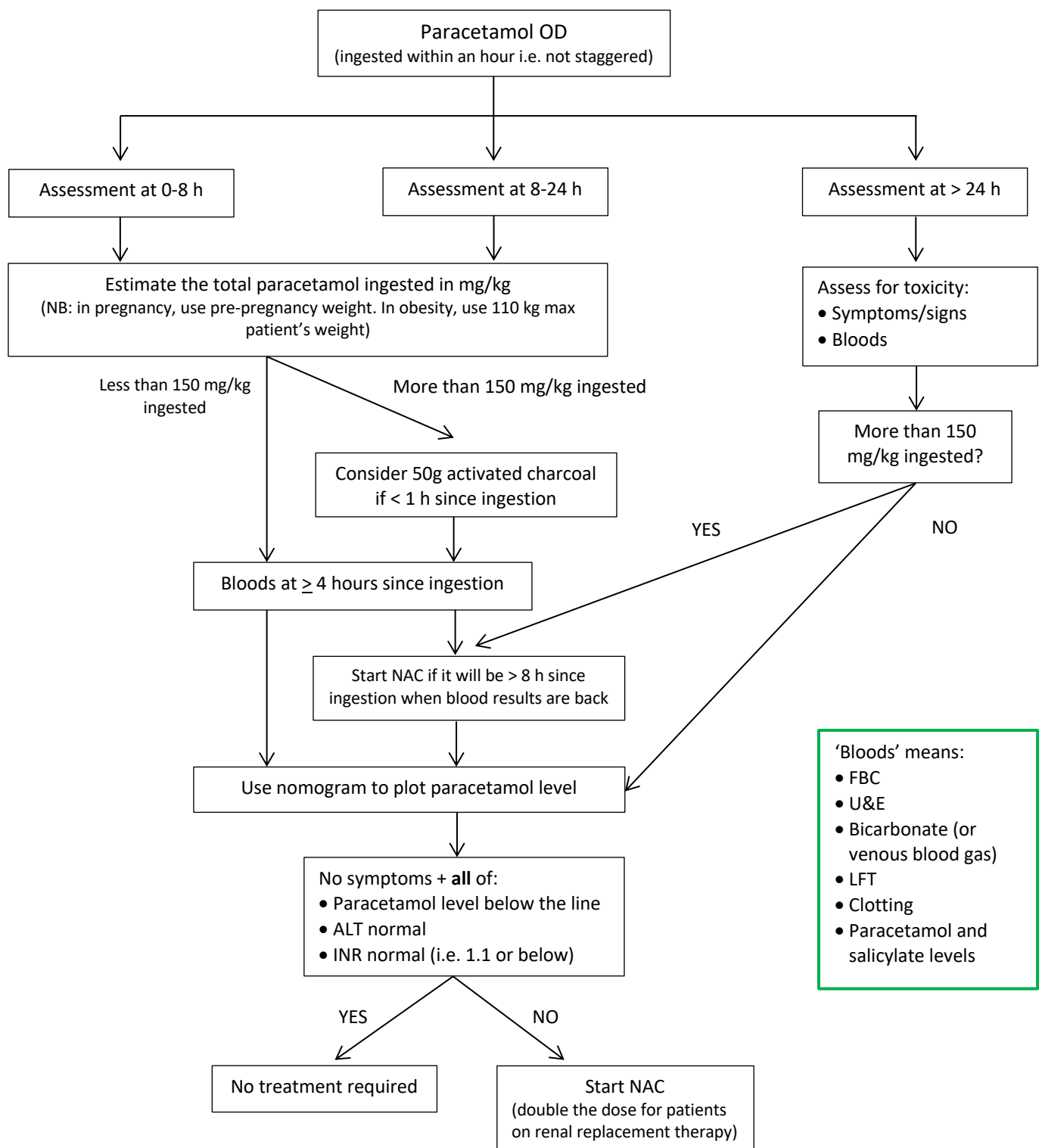


### 37. Paracetamol poisoning

This quick reference guideline is based on the information provided by the National Poisons Information Service at [www.toxbase.org](http://www.toxbase.org). There are two separate guidelines: one for overdoses ingested within an hour, and one for staggered overdoses.

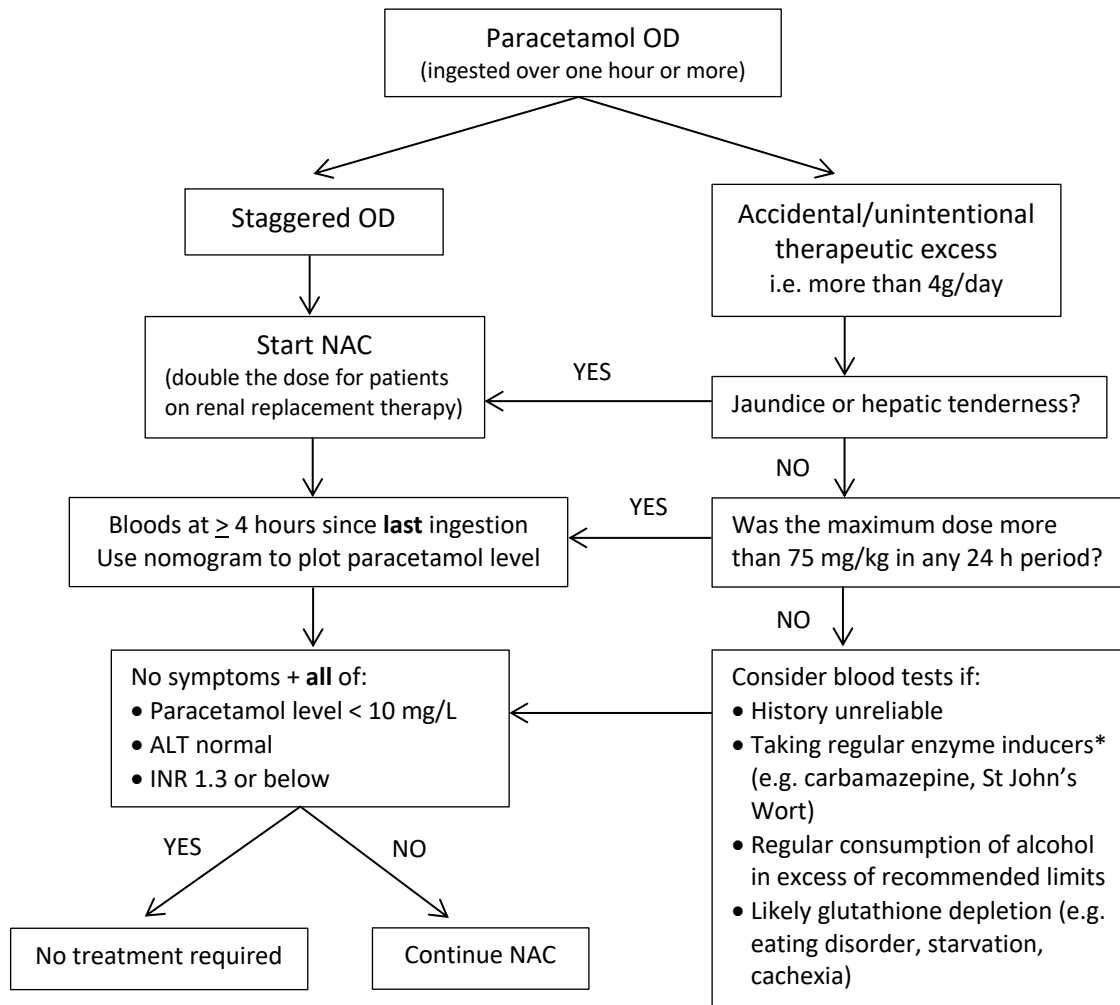
INITIAL MANAGEMENT: overdose ingested within an hour i.e. not staggered



### 37. Paracetamol poisoning

This quick reference guideline is based on the information provided by the National Poisons Information Service at [www.toxbase.org](http://www.toxbase.org). There are two separate guidelines: one for overdoses ingested within an hour, and one for staggered overdoses.

#### INITIAL MANAGEMENT: Staggered overdose

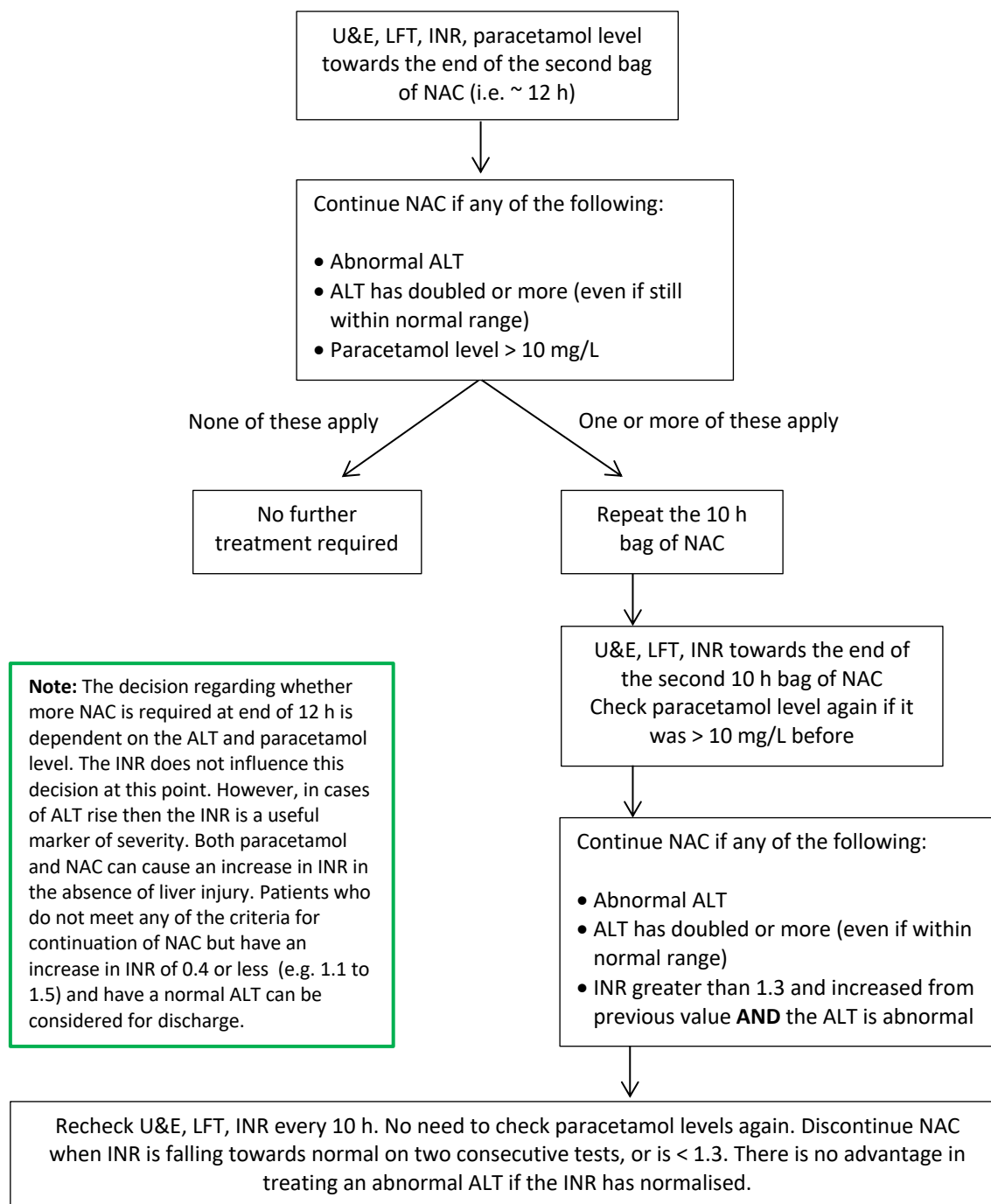


### 37. Paracetamol poisoning

The doses, regimen, and details for administration of NAC using the SNAP (12 h) protocol for adults weighing over 40kg can be found here: <https://www.toxbase.org/Chemical-incidents/Management-Pages/SNAP/>. The SNAP protocol consists of a 2 h bag followed by a 10 h bag of NAC.

If the 21 h NAC regimen has been used, please refer to Toxbase and **not** this guideline.

#### ASSESSMENT FOLLOWING TREATMENT with NAC using the SNAP protocol



### 37 Paracetamol poisoning – notes

1. The Scottish and Newcastle Anti-emetic Pre-treatment for Paracetamol Poisoning (SNAP) Study investigated the effects of pre-treatment with ondansetron and a shorter, 12 h NAC regimen on nausea/vomiting and adverse reactions to NAC. It demonstrated that a 12 h NAC regimen in which the dose is more evenly spread over time was associated with fewer adverse drug reactions compared with the standard 21 h regimen. Nausea/vomiting was further reduced by pre-treatment with ondansetron but was associated with an unexpected increase in aminotransferase – although this did not seem to be clinically important, routine pre-treatment with ondansetron is not currently routinely recommended.
2. Patients taking staggered overdoses and those who start treatment with NAC later than 8 h after a single overdose are at greater risk of liver injury.
3. Patients with a chronically elevated ALT (e.g. chronic liver disease) may not require NAC if the ALT and INR have not significantly changed from previously documented values. If in doubt, discuss.
4. Renal replacement therapy may be indicated in addition to NAC if a patient has very high paracetamol concentrations (greater than 700 mg/L) associated with coma and elevated lactate. Intermittent haemodialysis is the preferred modality but continuous renal replacement therapy (e.g. on ICU) is a valid alternative if intermittent HD is not available or feasible. In all cases of liver failure, discuss with the nearest liver transplant unit.
5. In accidental/unintentional therapeutic excess, asymptomatic patients who present more than 7 days after the last dose of paracetamol was ingested, who have had no new symptoms since the time of ingestion, and who have no history of chronic kidney or liver disease, will not normally require further assessment, providing the timing of ingestion is certain.
6. **Adverse reactions to NAC are common.** Flushing, urticarial rash, and wheezing is usually an anaphylactoid reaction due to histamine release, not anaphylaxis. It occurs in up to 30% of patients on the standard 21 h regimen as NAC concentrations are higher in the first bag. Adverse effects are more likely in women and those with a history of asthma or atopy. A history of anaphylactoid reactions is not a contraindication to NAC. If a reaction occurs, temporarily stop the NAC and give a H1 antihistamine (e.g. chlorpheniramine 10mg IV) and nebulised salbutamol for wheeze. Re-start the infusion at half the rate. Other measures may be needed as per the patient's condition.
7. Advice on discharge: following single acute ingestions of paracetamol where patients did not meet the criteria for NAC, but had an initial paracetamol concentration above 20 mg/L, they should be advised to avoid paracetamol for the next 12 hours. When NAC has been stopped, but the patient has ongoing abnormal LFTs, the patient would be expected to have normal liver function within 2 weeks, and should therefore be advised to avoid paracetamol for this 2 week period. Patients with normal liver function following treatment with NAC may recommence therapeutic paracetamol. All patients should be given the patient advice leaflet that can be downloaded from Toxbase: <https://www.toxbase.org/Chemical-incidents/Miscellaneous/Paracetamol/Paracetamol-Patient-Information-Sheets/>
8. If the patient re-presents following assessment and discharge, manage as per a new presentation.