

CLINICAL INVESTIGATION

DALES, Drug Allergy Labels in Elective Surgical patients: a prospective multicentre cross-sectional study of incidence, risks, and attitudes in penicillin de-labelling strategies

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Abstract

Background: We sought to define the prevalence and nature of patient-reported drug allergies, determine their impact on prescribing, and explore drug allergy knowledge and attitudes amongst anaesthetists.

Methods: We performed a prospective cross-sectional study in 213 UK hospitals in 2018. Elective surgical patients were interviewed, with a detailed allergy history taken in those self-reporting drug allergy. Anaesthetists completed a questionnaire concerning perioperative drug allergy.

Results: Of 21 219 patients included, 6214 (29.3 %) (95% confidence interval [CI]: 28.7–29.9) reported drug allergy. Antibiotics, NSAIDs, and opioids were the most frequently implicated agents. Of a total of 8755 reactions, 2462 (28.1%) (95% CI: 29.2–31.1) were categorised as high risk for representing genuine allergy after risk stratification. A history suggestive of chronic spontaneous urticaria significantly increased the risk of reporting drug allergy (odds ratio 2.68; 95% CI: 2.4–3; $P < 0.01$). Of 4756 anaesthetists completing the questionnaire, 1473 (31%) (95% CI: 29.7–32.3) routinely discuss perioperative allergy risk with patients. Prescribing habits in the presence of drug allergy labels differ depending on the implicated agent. Most anaesthetists (4678/4697; 99.6%) (95% CI: 99.4–99.8) prescribe opioids when reactions are consistent with side-effects, although 2269/4697 (48%) (95% CI: 46.9–49.7) would avoid the specific opioid reported.

Conclusions: Almost 30% of UK elective surgical patients report a history of drug allergies, but the majority of reported reactions are likely to be non-allergic reactions. Allergy labels can impact on perioperative prescribing through avoidance of important drugs and use of less effective alternatives. We highlight important knowledge gaps about drug allergy amongst anaesthetists, and the need for improved education around allergy.

Keywords: allergy; drug allergy labels; hospital wristbands; patient-reported drug allergy; perioperative allergy; safety

Editor's key points

- The prevalence and nature of patient-reported drug allergies and their impact on prescribing by anaesthetists is unclear.
- A prospective cross-sectional study of the detailed allergy history of 21 219 elective surgical patients, together with a questionnaire concerning knowledge and practise of anaesthetists concerning perioperative drug allergy, was performed in 213 UK hospitals.
- Almost 30% of patients self-reported a history of perioperative drug allergy, with 28% of reactions considered high risk.
- Despite this high prevalence, most anaesthetists do not discuss perioperative drug allergy risk with patients, even though many alter prescribing through avoidance of important drugs and use of less effective alternatives.
- Important knowledge gaps about drug allergy exist amongst anaesthetists.

The World Allergy Organization classifies adverse drug reactions (ADRs) as predictable reactions related to the pharmacological actions of a drug (side-effects), or idiosyncratic and unpredictable reactions or drug allergy.^{1,2} Idiosyncratic reactions may be severe or recur on re-exposure to the drug. Drug allergy is a specific term referring to immunoglobulin E-mediated Type 1 hypersensitivity or, more rarely, delayed Type 4 T-cell-mediated reactions, such as toxic epidermal necrolysis. The term *hypersensitivity* encompasses reproducible symptoms or signs resulting from effects beyond the predicted pharmacological targets (intended therapeutic or side-effects) of a compound, and implies involvement of the immune system or inflammatory mechanisms. Non-allergic hypersensitivity implies involvement of immune cells and release of mediators by direct mechanisms, but does not include the adaptive (specific) immune system response. Allergic hypersensitivity implies specific involvement of the adaptive immune system and can be further categorised according to the Gell and Coombs classification. Stratification of Type IV (T-cell-mediated) reactions has also been undertaken. From a clinical point of view, hypersensitivity reactions may be categorised as immediate or non-immediate. Immediate reactions occur within 2 h (usually within minutes), and the clinical presentation varies from single-organ system features (e.g. urticaria and bronchospasm) to anaphylaxis.³

The term *allergy*, however, is frequently applied to reactions that lack any clinical features of allergy and which have not been subject to specialist investigation. The consequences of an incorrect allergy diagnosis may be significant if important drugs are avoided and substituted by less effective alternatives. The potential for harm has been demonstrated for the penicillin allergy label.^{4–7} The prevalence of patient-reported drug allergy is high. In a study of the electronic healthcare records of 1.7 million patients in the USA, 35.5% of records indicated an allergy to at least one drug.⁸ Other studies suggest a prevalence ranging from 7% to 38%, with antibiotics, NSAIDs, and opioids the most frequently reported culprits.^{9–15}

It is widely accepted that a significant proportion of drug allergy labels are incorrect, with side-effects or other non-allergic phenomena misattributed to allergy by patients or

their healthcare providers.^{16–18} We aimed to determine the prevalence of patient-reported drug allergies in the UK elective surgical population and to risk stratify the reported reactions for likelihood of genuine allergy. We further examined the impact of penicillin and opioid allergy labels on perioperative prescribing. The results of the penicillin sub-study have been reported.¹⁹ This paper covers all reported drug allergies and opioid prescribing. We also examined the use of wristbands to denote drug allergy to determine whether there was variation in use across the UK. We sought to understand anaesthetists' knowledge and attitudes towards perioperative drug allergy, including prescribing habits in the presence of specific allergy labels.

Methods**Study design and participants**

A UK-wide cross-sectional observational study was conducted across 213 NHS hospitals (subsequently referred to as 'sites'). Participating sites were identified through the Research and Audit Federation of Trainees²⁰ network. Individual sites selected three data collection days between March 21 and August 31, 2018. The study comprised a semi-structured patient interview, a site survey detailing local guidelines and practices, and an anaesthetist survey. For inclusion and exclusion criteria, see [Supplementary materials 1](#). Study data were collected using Research Electronic Data Capture (REDCap)²¹ hosted by Anaesthesia. Audit on Scotland's Health on the Web secure servers. The study received ethics (REC reference 17/LO/2106) and Health Research Authority (IRAS ID 232512) approval. Electronically verified informed consent was obtained. The Strengthening the Reporting of Observational Studies in Epidemiology checklist for cross-sectional studies was used to guide reporting.²²

Patient study

A semi-structured interview was conducted using an electronic device (typically a mobile phone or tablet) held by the data collector. Questions were logic gated and further stems presented according to the previous response. The term 'sensitivity' was taken to indicate allergy, as these terms are used interchangeably by patients and healthcare professionals. In our subsequent analysis, we use the term 'allergy' to indicate Type I (immunoglobulin E-mediated) hypersensitivity reactions. We collected data on age, sex, history of atopy, urticaria, or angioedema, and self-reported drug allergies. For the patient interview and follow-up data collection tool, see [Supplementary materials 2 and 3](#).

Patients reporting an opioid allergy were followed up on the day of surgery, except for those undergoing cataract surgery, because opioid use is rare for this procedure. Anaesthetic charts were examined postoperatively by local investigators using a structured *pro forma* to determine whether opioids had been administered intraoperatively and whether any degree of significant perioperative hypersensitivity was likely to have occurred. This was defined as the use of epinephrine, corticosteroids, or antihistamines; unplanned admission to intensive care; documentation on the anaesthetic chart that an allergic reaction was suspected to have occurred; or evidence of perioperative mast cell tryptase sampling.

Drug allergy histories were subsequently risk stratified by the study team according to criteria defined *a priori* ([Supplementary materials 4](#)). Adverse reactions were defined as

being at low risk of genuine allergy, where reported symptoms were consistent with known side-effects of the drug and included no clinical features of allergy. If a patient reported symptoms consistent with genuine allergy or severe delayed Type IV hypersensitivity reactions, such as Stevens–Johnson syndrome, they were categorised as high risk. A third category was used for patients who described non-allergic, but nevertheless serious adverse reactions, for example, malignant hyperthermia, or avoidance of NSAIDs in the presence of renal impairment. Patients could list multiple symptoms or reasons for wishing to avoid a particular drug, but if they reported any high-risk symptoms, they were categorised as high risk irrespective of other adverse reactions. The options for reporting a reaction varied with the culprit drug to reflect variation in side-effects, and an expanded list of options was available for beta lactams to allow further reporting on penicillin allergy.¹⁹ The option of reporting a reaction as anaphylaxis or another life-threatening reaction was given consistently.

Site survey

Baseline data were collected from 213 sites on the number of patients eligible for inclusion on study days and on the use of wristbands for patients with drug allergies ([Supplementary materials 5](#)).

Anaesthetist study

All anaesthetists working on elective surgery lists on study days were invited to complete the anaesthetist survey ([Supplementary materials 6](#)). Knowledge about drug allergy was explored using closed and scenario-based questions. Prescribing habits in the presence of opioid allergy labels were identified. All responses were anonymised, and linkage to patient data collected during the study was not attempted.

Statistical analysis and data management

Patient characteristics were summarised and differences between groups compared using χ^2 tests. Univariable logistic regression was used to assess associations between predictor variables and binary outcomes. All statistical analyses were

carried out in R (R Foundation for Statistical Computing, Vienna, Austria).²³ Significance tests were two-sided, and P-values <0.05 were considered significant. For information on REDCap and data handling, see [Supplementary materials 7](#).

Results

Patient data

From 21 770 uploads, complete data were obtained from 21 219 patients. See [Supplementary materials 8](#) for patient characteristics and study flow chart. The age range and sex distribution of patients who reported allergies are shown in [Figure 1](#).

Classification of reactions

Amongst 6214 (29.3 %) patients, there were 9487 separate reports of a reaction to a drug or dressing. Reactions to penicillin, NSAIDs, and opioids were the most commonly reported. For a complete list of all reported allergies, see [Supplementary materials 9](#). There was sufficient information to enable risk stratification of 8755 reactions. Of these, 28.1% (2462) were high risk of genuine allergy; 69.3% (6066/8755) were classified as low risk of genuine allergy; and 2.6% (227/8755) reactions were reported as serious, non-allergic reactions (or potential serious non-allergic adverse reactions). [Table 1](#) shows the most frequently reported drugs and other drugs of specific interest to anaesthetists.

Univariable logistic regression identified that increasing age was associated with increased likelihood of reporting a reaction, with those 26–50 yr (odds ratio [OR] 1.57; 95% confidence interval [CI]: 1.3–1.8), 51–75 yr and >75 yr old (OR 1.57; 95% CI: 1.3–1.8 for both groups) more likely to report an allergy than those in the 18–25 yr age group. Patients in the 51–75 yr age group were more likely to report high-risk reactions than those in the 18–25 yr age group (OR 1.41, 95% CI: 1.13–1.79). Females were more likely to report an allergy than males (OR 2.31; 95% CI: 2.2–2.5) and more likely to report a high-risk reaction than males (OR 2.11; 95% CI: 1.92–2.33). The reporting of multiple (two or more) allergies was more common amongst females (OR 1.92; 95% CI: 1.69–2.18; P-value <0.001), with 34% of females but only 21% of males reporting multiple allergies.

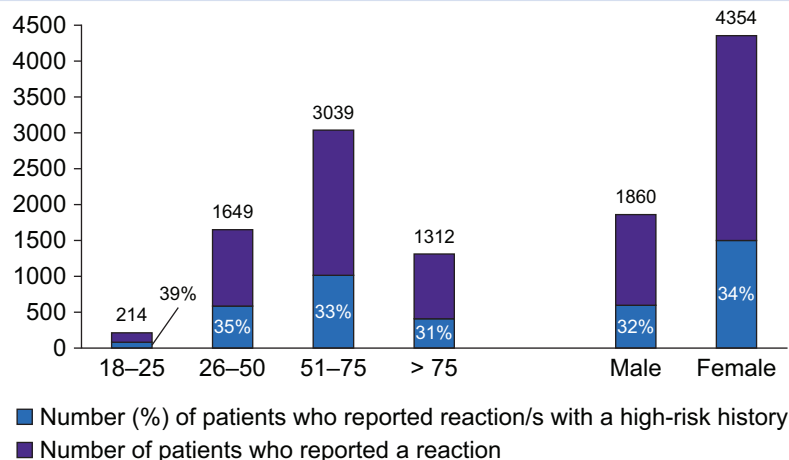


Fig 1. Age and sex distribution of patients reporting allergies to drugs or dressings.

Table 1 Number of reactions reported by drug or dressing categories; 10 most frequently reported agents and further drugs of anaesthetic interest. *Patients reported reactions to more than one drug in this group. [†]Iodine source was unidentified. [‡]Patients reported reactions that could not be reliably classified.

Implicated substance	Number of patients reporting a reaction	Number (%) of high-risk reactions	Number (%) of low-risk reactions	Number (%) of serious non-allergic reactions or avoided
Penicillin	2626	1418 (54)	1208 (46)	0
NSAIDs*	1044	389 (34)	540 (47)	211 (19)
Opioids*	1002	70 (5)	1244 (94)	2 (0.2)
Other antibiotics*	923	142 (13)	966 (86)	3 (0.3)
Dressings or tapes	844	3 (0.4)	841 (99.6)	0
Latex	261	116 (44)	145 (56)	0
Other analgesics*	173	42 (24)	131 (74)	3 (2)
Statins	143	4 (3)	139 (97)	0
Angiotensin-converting enzyme inhibitors	134	36 (27)	98 (73)	0
Iodine [†]	101	66 (65)	35 (35)	0
Further drugs of anaesthetic interest				
Antihistamines	62	6 (10)	56 (90)	0
Contrast media	46	34 (74)	11 (24)	1 (2)
Local anaesthetics	30	18 (60)	12 (40)	0
Neuromuscular blocking agents*	21	7 (26)	16 (59)	4 (15)
Medical dyes	20	14 (70)	6 (30)	0
Chlorhexidine	15	11 (73)	4 (27)	0
I.V. anaesthetics [‡]	14	2 (20)	7 (70)	1 (10)
Colloids	3	0	3 (100)	0
Syntometrine®	1	0	1 (100)	0
Sugammadex	0	0	0	0

The likelihood of reporting multiple allergies also increased with age; OR 1.48 (95% CI: 1.05–2.13) in the 26–50 yr age group, 1.82 (95% CI: 1.30–2.59) in the 51–75 yr age group, and 1.95 (95% CI: 1.38–2.81) in the >75 yr age group.

Urticaria/angioedema and atopy

We identified patients who reported a tendency to develop urticaria (hives) or angioedema. This history indicates a possible underlying diagnosis of chronic spontaneous urticaria, a common condition resulting in episodes of urticaria/angioedema that are non-allergic in origin, with flares typically precipitated by infection, heat, or stress.²⁴ It is extremely common for these symptoms to be misattributed to allergy by patients and clinicians. We found that a history consistent with chronic spontaneous urticaria was reported by 5.7% of the total study population (1215 of 21 219), and was associated with a more than doubling of the risk of reporting drug allergy (OR 2.68; 95% CI: 2.4–3; $P < 0.01$).

We also sought to determine the incidence of self-reported drug allergy in the presence of atopy (defined as hay fever, eczema, rhinitis, asthma, or dust allergy) to explore the widely held belief that atopy increases the likelihood of drug allergy. Of all patients, 35.0% (7419 of 21 219) gave a history of atopy, and within this group the likelihood of reporting a drug allergy was increased (OR 1.5; 95% CI: 1.4–1.6).

Effect of reported reactions on perioperative prescribing

There were 1002 patients reporting 1316 reactions to opioid drugs, with many reporting allergies to multiple opioid drugs.

The most frequently reported culprits were codeine (434; 32.9%), tramadol (291; 22.0%), morphine (275; 20.9%), and co-codamol (147; 11.2%). A total of 37 patients reported reactions that were high risk for genuine allergy. Of these, 29 were reports of anaphylaxis or a potentially life-threatening reaction, and 10 were reports of blistering or skin peeling (see Table 2 for the nature of reported opioid reactions).

Amongst 916 patients eligible for follow-up, data were returned for 832 (91.0%). Of these, 655 (78.7%) received an opioid perioperatively and within this group 76 (9.1%) were given the specific opioid to which they had reported a previous reaction. Of the 37 patients (4.4%) who had reported a previous life-threatening reaction, 32 (86.5%) were given an opioid perioperatively. After structured chart review, no patient with a reported opioid allergy suffered suspected anaphylaxis perioperatively.

Table 2 Nature of reported opioid reactions.

Nature of opioid reaction	Frequency of report
Gastrointestinal symptoms	571
Confusion and hallucinations	269
Other reactions	182
Rash or itching	154
Anaphylaxis or potentially life-threatening reaction	29
Unknown reaction	22
Respiratory depression	22
Blisters or skin peeling	10
Advised to avoid	8

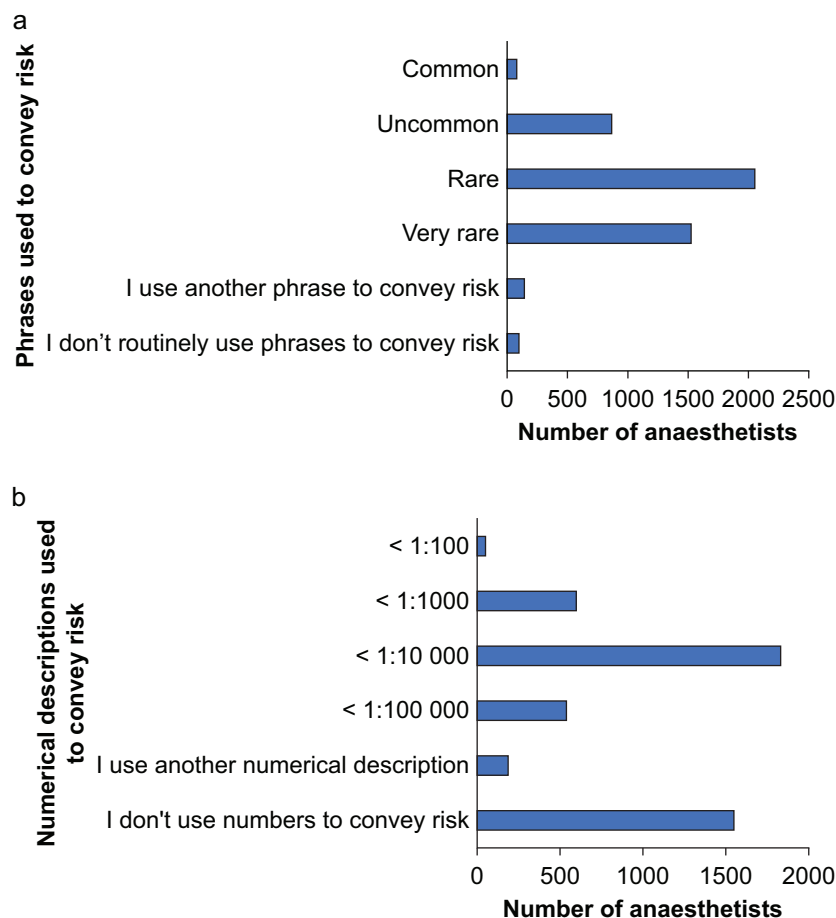


Fig 2. Anaesthetist's use of (a) phrases and (b) numerical descriptions to convey the risk of perioperative allergy.

Terminology used to describe reactions

We recorded the terminology used by patients when describing their reactions to drugs or dressings. Of the 2462 reactions stratified as high risk, 2409 were reported as either allergy or sensitivity. Of the 2409, 2305 (96%) were reported as an allergy and 104 (4%) were reported as a sensitivity. Of the 6066 reactions stratified as low risk, 5715 were reported as either allergy or sensitivity. Of the 5715, 4459 (78%) were reported as allergy, and 1256 (22%) were reported as sensitivity. Those reactions not documented as either allergy or sensitivity were recorded in that part of the survey as both or neither, and were excluded from this analysis.

Site data on wristband use

The National Patient Safety Agency has issued guidance around the use of wristbands to denote patient alerts, including allergy.²⁵ Of 213 sites, 112 (52.6%) used wristbands to indicate an allergy, but without displaying the reported allergen on the wristband; 56 (26.3%) used wristbands displaying a named allergen, and 45 sites (21.1%) did not use wristbands to indicate allergy. At 165/168 (98%) sites that use

wristbands to indicate allergy, wristbands are red, but at three (1.8%) they are white.

Anaesthetist data

Questionnaire responses were returned by 4798 anaesthetists. Not all questions were answered by all anaesthetists; variation in the denominator represents the number answering the question. There were no additional unreported responses, e.g. 'don't know'. Of 4793 returning data on seniority, 3051 (63.6%) were consultant grade, 1129 (23.6%) were in training posts, 590 (12.3%) were in non-training posts, and 23 (0.49%) were anaesthetic practitioners.

Variation existed in the preoperative discussion of allergy. Of 4756 anaesthetists, 1473 (31.0%) stated they routinely discuss the risk of allergy with patients, 1407 (29.6%) discuss this only if describing rare complications of anaesthesia, and 1876 (39.4%) only discuss this if a patient specifically asks about allergy. Anaesthetists were asked how they would convey the risk of perioperative allergy. Of 4763 respondents, 2052 (42.8%) describe the risk as 'rare', and of 4752 respondents, 1831 (38.5%) describe the risk as less than 1:10 000 (Fig. 2).

Anaesthetists' prescribing habits in the presence of egg, soy, and nut allergies were explored. There are historical reports linking these food allergies to anaesthetic drug allergies, subsequently proved to be incorrect.²⁶ Nevertheless, 1537/4745 (32.4%) respondents would avoid propofol in the presence of these specific food allergies.

Anaesthetists were asked about prescribing habits in the context of patients undergoing a painful procedure who report an opioid allergy, where reported symptoms are consistent with side-effects (nausea, constipation, and minor itching). Of 4697 respondents, 2382 (50.7%) would prescribe opioids, but with additional prophylaxis, such as an anti-emetic; 2269 (48.3%) would 'always' avoid the specific opioid(s) detailed, but would prescribe alternative opioids; 1850 (39.4%) would prescribe opioids as usual; 619 (13.2%) would prescribe synthetic/semi-synthetic opioids, and 19 (0.4%) would avoid all opioids regardless of the nature of the allergy label.

Discussion

This study identifies for the first time the incidence and potential impact of patient-reported drug allergies in a large elective surgical cohort in the UK. We determined that nearly one-third of elective surgical patients carry a drug allergy label, and that even using a cautious risk assessment process the majority of reported allergies are at low risk of being genuine. This supports previous work suggesting that many or most reported allergies are not found to be genuine when tested.^{16–18} Drug allergies were most commonly reported to antibiotics, NSAIDs, and opioids, and were more common in older, female patients. These findings are in keeping with previous studies,^{9–15} but the reasons are unknown. One possibility is that older patients have had a greater number of potentially sensitising drug exposures with antibiotics and analgesics, some of the most frequently used drugs. Once a label has been applied to a patient, it is unlikely to be removed, and therefore, drug allergy labels tend to accumulate over a patient's lifetime. In addition, older patients are more likely to be subject to polypharmacy, which increases the likelihood of ADRs. We also found that reactions were more commonly described as a sensitivity rather than an allergy by patients if the reaction was subsequently stratified as being at low risk of representing genuine allergy.

We aimed to determine how drug allergy labels affect patient outcomes by examining the specific impact of opioid allergy labels on perioperative prescribing. We found that the majority of anaesthetists still administer opioids to patients with an opioid allergy label who are undergoing a painful surgical procedure, although half would avoid the specific opioid to which the patient has reported a reaction. In contrast, penicillin allergy labels are almost always upheld and alternative non-penicillin antibiotics used.¹⁹ This might reflect the greater familiarity anaesthetists have with common opioid side-effects, such as nausea and transient, localised flushing at the injection site secondary to histamine release, combined with a lack of suitable alternatives for painful surgery. By comparison, there is usually a readily available alternative for penicillin, and therefore few immediately obvious downsides to avoiding it.

We found that almost 6% of our study population gave a history suggestive of chronic spontaneous urticaria, in keeping with the literature.²⁴ Amongst this group, the likelihood of reporting drug allergy was more than doubled. In such patients, reported drug allergies typically result from non-allergic triggers

for the symptoms of their underlying condition, such as concurrent infection or stress. Chronic spontaneous urticaria is widely unrecognised by patients and their healthcare providers, with symptoms commonly misattributed to allergy. Our findings illustrate the potential impact of this diagnosis on false reporting of drug allergy, and highlight the need to improve awareness of the condition. We also found increased reporting of drug allergy amongst those with a history of atopy. The reasons for this are not clear, as atopy is not a risk factor for drug allergy.¹

Of the 213 sites, 112 (52.6%) use wristbands to indicate the presence of allergy, but not to detail the allergen or nature of reaction. This is in line with the National Institute for Health and Care Excellence and the National Patient Safety Agency guidance. However, we found potentially dangerous variation in practice across the UK, in particular the inconsistent use of red wristbands to denote this serious patient safety issue.

Knowledge and behaviour around drug allergy are poor amongst healthcare professionals, with deficiencies in education at all levels.^{27–29} We found variation in anaesthetists' discussion of the risk of allergy with patients, with only 31% doing so routinely. The incidence of anaphylaxis is typically quoted as 1:10 000, but this is likely to be a significant underestimate.³⁰ We explored other key attitudes and behaviours amongst one-third of practising anaesthetists in the UK and identified important knowledge gaps, for example, the persistent belief that particular food allergies preclude the use of propofol. This historical concern has long been proved to be unfounded, yet perpetuates within anaesthetic practice.²⁶ This may reflect the length of time required for knowledge to disseminate through the anaesthetic community, or may indicate disproportionate concern about perioperative drug allergy. Our findings highlight the need for education around this and other aspects of perioperative drug allergy. This adds to findings from the 6th National Audit Project,³¹ in which knowledge gaps, such as the relative risk of allergy from different drugs and various aspects of anaphylaxis management, were identified.

When making prescribing decisions in the presence of a drug allergy label, there is an apparent discrepancy in the perception of risk between different drugs. Our data suggest that nearly 80% of patients with an opioid allergy label are prescribed intraoperative opioids, although often a different one to the suspected culprit. In contrast, data from this study presented elsewhere showed that only 6% of patients with a penicillin allergy label received penicillin when this was the first-line prophylactic antimicrobial choice. It is of note that no patient receiving either penicillin or opioid, in the presence of an allergy label to this, suffered a suspected perioperative allergic reaction.

Limitations

The most significant limitation is the lack of long-term follow-up data to determine the impact of allergy labels on patient outcomes. Secondly, the risk stratification process was necessarily brief, lacking sufficient detail to confirm or refute any diagnosis of hypersensitivity in the participants. The options for reporting a reaction in the patient study varied to reflect varying drug-specific side-effects, and there is the possibility of misclassification. Only with further diagnostic evaluation by an allergist could the true incidence of allergy be determined. However, it is probable that an even greater proportion of labels would be identified as false after

investigation. Thirdly, we were unable to risk stratify all reported allergic reactions, as some drugs/substances were not included within the patient questionnaire.

Conclusions

The prevalence of patient-reported drug allergy in the UK elective surgical population is almost 30%, with antibiotics and analgesics the most commonly implicated drugs. The majority of labels are incorrect, but their presence may nevertheless impact negatively on perioperative prescribing in ways that have not yet been fully elucidated. Prescribing behaviour amongst anaesthetists appears to vary depending on the drug reported and the nature of the reaction, and this inconsistency has the potential to lead to unsafe prescribing. Further research is needed to understand the long-term impact of drug allergy labels in the surgical population and to identify effective pathways for preoperative allergy testing.

Authors' contributions

All aspects of the study: CT, LS, SC, DF

Statistical analysis: MW

Writing of paper: PMH, SS

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Declarations of interest

PMH is a member of the board of the *British Journal of Anaesthesia*. The other authors have no conflicts of interest to declare.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.bja.2021.05.026>.

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Handling editor: Hugh C Hemmings Jr

Supplementary Materials 1: Exclusion and inclusion criteria

Patient Inclusion criteria	Patient Exclusion criteria	Withdrawal criteria
Present for elective surgery during the three-day study period	Lacking capacity to consent	Any patient who removes their consent to the study
>18	Refusal to consent	Any patient who no longer has capacity to consent to the study
Capacity to give informed consent	Patients admitted from prison	
Informed consent given		

Anaesthetist inclusion criteria
Doctors/prescribing nurse practitioners who are working as an anaesthetist during the study period, and willing to complete the survey

DALES Primary Patient Survey

Thank you for your time and effort with DALES, please confirm your registration then complete the form below.

Please also note:

-we recommend having copies of the BNF and your Trust / Board antibiotic guidelines to hand to help categorise drugs without leaving the survey

-if the patient is eligible for follow-up you will be asked for a standardised pseudoanonymiser at the end

-you can click [here](#) to open the study guide in a new window

Registered Data Collector

-confirm details before proceeding

GMC / NMC

(-prefilled via sign-up)

NHS Email

(-prefilled via sign-up)

UIN

(-prefilled via sign-up)

NIHR CC

(-prefilled via sign-up)

Hashtag

(-prefilled via sign-up)

Consent / Pre-Screening

please ensure patient already admitted by nursing staff and wearing any / all wristbands

TO THE PATIENT:

☐ Yes
☐ No

"We would like to ask you some questions about allergies and review your notes, is that ok?"

TO THE PATIENT:

☐ Yes
☐ No

"This will involve sharing non-identifiable data with other medical staff at other hospitals to help understand these kinds of problems, is that ok?"

Patient's age range?

- ☐ 18-25
☐ 26-50
☐ 51-75
☐ >75

Gender?

- ☐ Male
☐ Female

PRE-SCREENING QUESTION 1, TO THE PATIENT:

- ☐ Yes, allergy / sensitivity reported
☐ No

"Do you have ANY allergies?"

-if the patient reports any allergies OR sensitivities check 'Yes'

PRE-SCREENING QUESTION 2:

Does the patient have an allergy wristband with ANY allergy labels OR added non-drug allergy issues?

- ☐ Yes, allergy wristband with listed allergies
☐ Wristband indicates no allergies
☐ Our centre does not use allergy wristbands / uses allergy wristbands without details

'Added non-drug allergy issues' = e.g. 'needlephobic', 'falls risk'

Warning! You are indicating that either your Trust / Board either does not apply allergy wristbands OR that the wristbands applied do NOT list the specific allergy(-ies) in question.

Please confirm your selection before continuing.

please now use the Pre-Assessment record to confirm the patients' allergies

PRE-SCREENING QUESTION 3, TO THE PATIENT:

- ☐ Yes
☐ No

"Do you have hay fever, rhinitis, asthma, eczema or dust allergy

AND / OR

a general tendency to hives, urticaria, angioedema, itchy rashes or facial swelling?"

WARNING! If the patient indicates they have asthma alone and no other conditions e.g. eczema please confirm that this is not 'asthma caused by smoking'.

If this is the case / the patient says they have COPD then code the answer above as 'No'.

PRE-SCREENING MATRIX:

	Patient reports	On wristband +/- notes
Hay fever, rhinitis, asthma, eczema, dust allergy	☐	☐
Hives, urticaria, angioedema, tendency to swelling	☐	☐

WARNING! You have indicated that the patient has atopy or urticaria but have not provided details.

Please confirm your selections before continuing.

1. Operative Demographics

Speciality?

- ☐ Breast
- ☐ Cardiac
- ☐ Chronic Pain
- ☐ Colorectal
- ☐ Dental
- ☐ ENT / Head & Neck
- ☐ General Surgery (UGI / HPB)
- ☐ Gynae
- ☐ Obstetrics
- ☐ Ophthalmology
- ☐ Orthopaedics
- ☐ Neuro
- ☐ Plastics
- ☐ Spinal
- ☐ Thoracics
- ☐ Transplant
- ☐ Urology
- ☐ Vascular
- ☐ Non-theatre

WARNING! You appear to have selected an unusual combination: [speciality] Surgery in the [age_range] age group

Please confirm your selections before continuing.

WARNING! You appear to have selected an unusual combination: [gen] [speciality] Surgery

Please confirm your selections before continuing.

2. Patient Survey Data -PATIENT HISTORY AND WRISTBAND ONLY UNLESS WRISTBAND ISSUES

-under 'Patient reports...' please simply record the patient's response; do NOT try and decode if the allergy is 'real' or just a sensitivity

-as per study protocol, ONLY refer to the patient's Pre-Assessment notes if your centre doesn't use wristbands OR doesn't list allergies on them AND the patient cannot recall their allergies

Subsection A: Study Allergy Matrix -patient-reported AND / OR on wristband

	Patient reports 'allergy'	Patient reports 'sensitivity'	On wristband +/- notes?
Penicillins e.g. Amoxicillin, Flucloxacillin	☐	☐	☐
Other antibiotics e.g. Cefuroxime, Teicoplanin	☐	☐	☐
NSAIDs e.g. Aspirin, Diclofenac	☐	☐	☐
Opioids e.g. Morphine (inc Tramadol)	☐	☐	☐
Other analgesics e.g. Paracetamol, Gabapentin	☐	☐	☐
Muscle relaxants e.g. Suxamethonium, Rocuronium	☐	☐	☐
Propofol	☐	☐	☐
Sugammadex	☐	☐	☐
Contrast media	☐	☐	☐
Chlorhexidine	☐	☐	☐
Iodine	☐	☐	☐
Nickel	☐	☐	☐
Latex	☐	☐	☐
Medical dyes e.g. Methylene Blue	☐	☐	☐
Local anaesthetics e.g. Lidocaine, Bupivacaine	☐	☐	☐
General anaesthetics	☐	☐	☐
Colloids e.g. Gelofusine	☐	☐	☐
Cardiac drugs e.g. Amlodipine, statins	☐	☐	☐
Obstetric drugs e.g. Oxytocin, Carboprost	☐	☐	☐
Antiemetics e.g. Cyclizine, Ondansetron	☐	☐	☐
Dressings / tapes e.g. Mefix, Micropore	☐	☐	☐
Any other NON-STUDY drug, i.e. not above	☐	☐	☐
Any added NON-DRUG issues e.g. 'needlephobia', 'falls risk'	☐	☐	☐
Other classified drugs	☐	☐	☐

MATRIX ERROR - PLEASE RE-CHECK INPUT

WARNING! You have ticked that the patient gives no history of allergy but have checked a +ve history of allergy and / or sensitivity in the Matrix.

WARNING! You have ticked that the patient gives a history of allergy AND sensitivity within the same category.

Subsection B: Allergy Details

Please fill in additional details below USING PATIENT HISTORY ONLY:

-Penicillin History

Nature of penicillin reaction (tick all that apply):

- ☐ Rash
- ☐ Blisters / skin peeling
- ☐ Difficult to breathe and / or became wheezy
- ☐ Swelling
- ☐ Dizzy or faint
- ☐ Sick / vomited / had a sore stomach / had diarrhoea
- ☐ Thrush
- ☐ Anaphylaxis or a serious reaction
- ☐ Stevens-Johnson syndrome / DRESS / AGEP
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Don't know / can't remember' plus one or more other options

Please confirm your selections before continuing.

WARNING! You have selected a very rare antibiotic allergy; please confirm with the patient that this was a specific diagnosis, i.e.:

- Stevens-Johnson Syndrome
- Drug Reaction with Eosinophilia and Systemic Symptoms
- Acute Generalized Exanthematous Pustulosis

☐ Confirm SJS / DRESS / AGEP

Please then confirm this before continuing; if not, un-code this reaction.

Nature of rash:

- ☐ Itchy and / or raised (hives, urticaria, 'nettle rash')
- ☐ Non-itchy, non-raised
- ☐ Unknown

TO THE PATIENT

Which of the following pictures best resembles the rash the antibiotic caused?

- ☐ A
- ☐ B
- ☐ C
- ☐ I don't know / can't remember

A.



B.



C.



Nature of swelling:

- ☐ Face / lips / tongue / eyes or whole body swelling
- ☐ Localised swelling at site of infection ONLY e.g. dental abscess
- ☐ Unknown

How soon did the reaction happen after taking the Penicillin?

- ☐ Immediately / with the first dose
- ☐ 2nd dose onwards
- ☐ Unknown

Approximately how long ago did all this happen?

- ☐ In the last 6 months
☐ In the last 10 years
☐ More than 10 years ago

-Delabelling *QUESTIONS TO PATIENT*

Did you have penicillin allergy testing performed after your reaction?

- ☐ Yes
☐ No

What was the result of your test?

- ☐ Negative test / not allergic
☐ Positive test / allergic
☐ I don't remember

Why do you still call yourself penicillin allergic?

- ☐ I would never take penicillin again whatever the result
☐ I'm worried about the safety of testing
☐ I'm not sure how reliable the testing results are
☐ It's safer to report the allergy
☐ There are other better antibiotics than Penicillin
☐ I was only tested against one penicillin and there are many of them
☐ Other reasons

Please tell us more:

Have you had penicillin again since you had the reaction?

- ☐ No
☐ Yes, no problems
☐ Yes, with the same or worse reactions

Would you be interested in having testing to see if you are truly allergic to penicillin?

- ☐ Yes
☐ No

If no, please tell us your reason why? (tick all that apply)

- ☐ I would never take penicillin again whatever the result
☐ I'm worried about the safety of testing
☐ I'm not sure how reliable the testing results are
☐ It's inconvenient to come in for an additional appointment
☐ I've already taken it since without problems
☐ I've had a bad reaction already
☐ Other reasons

***WARNING!* You appear to have selected an incompatible combination: 'Not had penicillin since' and 'I've already taken it since without problems'**

Please confirm your selections before continuing.

***WARNING!* You appear to have selected an incompatible combination: 'Not had penicillin since' and 'I've had a bad reaction already'**

Please confirm your selections before continuing.

***WARNING!* You appear to have selected an incompatible combination: 'I've already taken it since without problems' and 'I've had a bad reaction already'**

Please confirm your selections before continuing.

Please tell us more:

If your reaction to penicillin was assessed by an allergy specialist and judged to be a side-effect rather than an allergy, would you be happy to have your allergy label taken off without any testing?

- ☐ Yes
☐ No

If no, please tell us your reason why? (tick all that apply)

- ☐ I would not be confident taking penicillin without some sort of testing first
☐ I don't know what happened when I took penicillin, so I wouldn't be able to tell the allergy specialist about it
☐ Other reasons

Please tell us more:

-Other Antibiotics

Which other antibiotics (tick all that apply):

- ☐ Aminoglycosides e.g. Gentamicin
☐ Carbapenems e.g. Meropenem
☐ Cephalosporins e.g. Cefuroxime
☐ Chloramphenicol
☐ Clindamycin
☐ Glycopeptides e.g. Vancomycin, Teicoplanin
☐ Linezolid
☐ Macrolides e.g. Clarithromycin, Erythromycin
☐ Metronidazole
☐ Monobactams e.g. Aztreonam
☐ Nitrofurantoin
☐ Quinolones e.g. Ciprofloxacin, Ofloxacin
☐ Co-Trimoxazole (Septrin) / Trimethoprim / sulphonamides
☐ Tetracyclines
☐ Other NON-STUDY antibiotic(s)
☐ Unknown antibiotic

WARNING! You have selected the 'Other NON-STUDY antibiotic(s)' option:

- ☐ Confirm drug(s) are not listed above

Please ensure this is intentional before continuing.

WARNING! You have selected a very rare antibiotic allergy.

Please confirm your selection before continuing.

Nature of cephalosporin reaction (tick all that apply):

- ☐ Rash
☐ Blisters / skin peeling
☐ Difficult to breathe and / or became wheezy
☐ Swelling
☐ Dizzy or faint
☐ Sick / vomited / had a sore stomach / had diarrhoea
☐ Thrush
☐ Anaphylaxis or a serious reaction
☐ Stevens-Johnson syndrome / DRESS / AGEP
☐ Other side-effect
☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

WARNING! You have selected a very rare antibiotic allergy; please confirm with the patient that this was a specific diagnosis, i.e.:

-Stevens-Johnson Syndrome
-Drug Reaction with Eosinophilia and Systemic Symptoms

-Acute Generalized Exanthematous Pustulosis

Please then confirm this before continuing; if not, un-code this reaction.

Nature of rash:

☐ Confirm SJS / DRESS / AGEP

- ☐ Itchy and / or raised (hives, urticaria, 'nettle rash')
☐ Non-itchy, non-raised
☐ Unknown

Nature of swelling:

- ☐ Face / lips / tongue / eyes or whole body swelling
☐ Localised swelling at site of infection ONLY e.g. dental abscess
☐ Unknown

Nature of carbapenem reaction:

- ☐ Rash
☐ Blisters / skin peeling
☐ Difficult to breathe and / or became wheezy
☐ Swelling
☐ Dizzy or faint
☐ Sick / vomited / had a sore stomach / had diarrhoea
☐ Thrush
☐ Anaphylaxis or a serious reaction
☐ Stevens-Johnson syndrome / DRESS / AGEP
☐ Other side-effect
☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

WARNING! You have selected a very rare antibiotic allergy; please confirm with the patient that this was a specific diagnosis, i.e.:

-Stevens-Johnson Syndrome
-Drug Reaction with Eosinophilia and Systemic Symptoms

-Acute Generalized Exanthematous Pustulosis

Please then confirm this before continuing; if not, un-code this reaction.

Nature of rash:

☐ Confirm SJS / DRESS / AGEP

- ☐ Itchy and / or raised (hives, urticaria, 'nettle rash')
☐ Non-itchy, non-raised
☐ Unknown

Nature of swelling:

- ☐ Face / lips / tongue / eyes or whole body swelling
☐ Localised swelling at site of infection ONLY e.g. dental abscess
☐ Unknown

Nature of Chloramphenicol reaction:

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Non-urticarial rash
- ☐ Simple GI upset / diarrhoea
- ☐ Other side-effect
- ☐ Unknown

Nature of monobactam reaction:

- ☐ Rash
- ☐ Blisters / skin peeling
- ☐ Difficult to breathe and / or became wheezy
- ☐ Swelling
- ☐ Dizzy or faint
- ☐ Sick / vomited / had a sore stomach / had diarrhoea
- ☐ Thrush
- ☐ Anaphylaxis or a serious reaction
- ☐ Stevens-Johnson syndrome / DRESS / AGEP
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

WARNING! You have selected a very rare antibiotic allergy; please confirm with the patient that this was a specific diagnosis, i.e.:

-Stevens-Johnson Syndrome

-Drug Reaction with Eosinophilia and Systemic Symptoms

-Acute Generalized Exanthematous Pustulosis

- ☐ Confirm SJS / DRESS / AGEP

Please then confirm this before continuing; if not, un-code this reaction.

Nature of rash:

- ☐ Itchy and / or raised (hives, urticaria, 'nettle rash')
- ☐ Non-itchy, non-raised
- ☐ Unknown

Nature of swelling:

- ☐ Face / lips / tongue / eyes or whole body swelling
- ☐ Localised swelling at site of infection ONLY e.g. dental abscess
- ☐ Unknown

Nature of Co-Trimoxazole (Septrin) / Trimethoprim reaction:

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Non-urticarial rash
- ☐ Simple GI upset / diarrhoea
- ☐ Other side-effect
- ☐ Unknown

Nature of aminoglycoside reaction:

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Non-urticarial rash
- ☐ Simple GI upset / diarrhoea
- ☐ Other side-effect
- ☐ Unknown

Nature of Clindamycin reaction:

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Non-urticarial rash
- ☐ Simple GI upset / diarrhoea
- ☐ Other side-effect
- ☐ Unknown

Nature of Linezolid reaction:

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Non-urticarial rash
- ☐ Simple GI upset / diarrhoea
- ☐ Other side-effect
- ☐ Unknown

Nature of Metronidazole reaction:

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Non-urticarial rash
- ☐ Simple GI upset / diarrhoea
- ☐ Other side-effect
- ☐ Unknown

Nature of Nitrofurantoin reaction:

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Non-urticarial rash
- ☐ Simple GI upset / diarrhoea
- ☐ Other side-effect
- ☐ Unknown

Nature of quinolone reaction:

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Non-urticarial rash
- ☐ Simple GI upset / diarrhoea
- ☐ Other side-effect
- ☐ Unknown

Nature of tetracycline reaction:

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Non-urticarial rash
- ☐ Simple GI upset / diarrhoea
- ☐ Other side-effect
- ☐ Unknown

Nature of macrolide reaction:

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Non-urticarial rash
- ☐ Simple GI upset / diarrhoea
- ☐ Other side-effect
- ☐ Unknown

Nature of other antibiotic reaction:

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Non-urticarial rash
- ☐ Simple GI upset / diarrhoea
- ☐ Other side-effect
- ☐ Unknown

Nature of unknown antibiotic reaction:

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Non-urticarial rash
- ☐ Simple GI upset / diarrhoea
- ☐ Other side-effect
- ☐ Unknown

Nature of glycopeptide reaction:

- ☐ Rash
- ☐ Blisters / skin peeling
- ☐ Difficult to breathe and / or became wheezy
- ☐ Swelling
- ☐ Dizzy or faint
- ☐ Sick / vomited / had a sore stomach / had diarrhoea
- ☐ Thrush
- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Stevens-Johnson syndrome / DRESS / AGEP
- ☐ Red Man syndrome
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

Nature of rash:

- ☐ Itchy and / or raised (hives, urticaria, 'nettle rash')
☐ Non-itchy, non-raised
☐ Unknown

Nature of swelling:

- ☐ Face / lips / tongue / eyes or whole body swelling
☐ Localised swelling at site of infection ONLY e.g. dental abscess
☐ Unknown

WARNING! You have selected a very rare antibiotic allergy; please confirm with the patient that this was a specific diagnosis, i.e.:

- Stevens-Johnson Syndrome
- Drug Reaction with Eosinophilia and Systemic Symptoms
- Acute Generalized Exanthematous Pustulosis

☐ Confirm SJS / DRESS / AGEP

Please then confirm this before continuing; if not, un-code this reaction.

-NSAIDs

Which NSAIDs (tick all that apply):

- ☐ Aspirin
☐ Diclofenac
☐ Etodolac
☐ Ibuprofen
☐ Indomethacin
☐ Ketorolac
☐ Meloxicam
☐ Mefenamic acid
☐ Naproxen
☐ Selective COX-II inhibitors e.g. Celecoxib, Parecoxib
☐ Multiple NSAIDs / class-effect

WARNING! You appear to have selected a rarely-used NSAID.

Please confirm your selection(s) before continuing.

WARNING! You have selected the 'Multiple' option.

Please also tick any drugs specifically named by the patient and / or wristband.

Were they told by medical staff to avoid NSAIDs for any of the following reasons? (tick all that apply)

- ☐ Because of potential to precipitate asthma
☐ Because of potential risk of bleeding
☐ Because of â†‘BP / cardiovascular risk / on Aspirin / blood thinners
☐ Because of a known / previous renal problem
☐ None of the above

WARNING! You appear to have selected an incompatible combination: 'None' plus one or more other options

Please confirm your selections before continuing.

What symptoms / issues did the patient encounter?
(tick all that apply)

- ☐ GI upset
- ☐ Previous NSAID-associated GI bleed
- ☐ Previous NSAID-associated bronchospasm
- ☐ Itchy and / or raised rash (hives, urticaria, 'nettle rash')
- ☐ Blisters / skin peeling
- ☐ Face / lips / tongue / eyes or whole-body swelling
- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Stevens-Johnson syndrome / DRESS / AGEP
- ☐ Reye's syndrome
- ☐ Other side-effect
- ☐ Unknown
- ☐ The patient has not had a reaction, they were simply warned not to take it

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

WARNING! You appear to have selected an incompatible combination: 'The patient has not had a reaction, they were simply warned not to take it' plus one or more other options

Please confirm your selections before continuing.

WARNING! You have selected a very rare NSAID allergy; please confirm with the patient that this was a specific diagnosis, i.e.:

- Stevens-Johnson syndrome
- Drug Reaction with Eosinophilia and Systemic Symptoms
- Acute Generalized Exanthematous Pustulosis
- Reye's syndrome

☐ Confirm SJS / DRESS / AGEP / RS

Please then confirm this before continuing; if not, un-code this reaction.

-Opioids Including Tramadol

Which opioid analgesic(s):

- ☐ Buprenorphine
- ☐ Co-Dydramol
- ☐ Co-Codamol
- ☐ Codeine
- ☐ Dihydrocodeine
- ☐ Diamorphine
- ☐ Fentanyl
- ☐ Morphine
- ☐ Oxycodone
- ☐ Pethidine
- ☐ Remifentanyl
- ☐ Tramadol
- ☐ Multiple opioids / class-effect

WARNING! You have selected the 'Multiple' option.

Please also tick any drugs specifically named by the patient and / or wristband.

For Co-Codamol / Co-Dydramol can you clarify the allergic / sensitive component:

- ☐ Opioid
- ☐ Paracetamol
- ☐ Unclear

Nature of opioid reaction (tick all that apply):

- ☐ GI upset / nausea and / or vomiting / constipation
- ☐ Told to avoid by medical staff secondary to known / previous renal / liver problem(s)
- ☐ CNS / confusion / hallucinations
- ☐ Respiratory depression
- ☐ Rash / itch
- ☐ Blisters / skin peeling
- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

Nature of Tramadol reaction (tick all that apply):

- ☐ GI upset / nausea and / or vomiting / constipation
- ☐ Told to avoid by medical staff secondary to known / previous renal / liver problem(s)
- ☐ CNS / confusion / hallucinations
- ☐ Respiratory depression
- ☐ Rash / itch
- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Blisters / skin peeling
- ☐ Told to avoid by medical staff secondary to potential risk of seizures
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

-Other Analgesics

Which other non-opioid analgesics (tick all that apply):

- ☐ Amitriptyline / Nortriptyline
- ☐ Gabapentin
- ☐ Nefopam
- ☐ Pregabalin
- ☐ Paracetamol
- ☐ Other NON-STUDY analgesic(s)

WARNING! You have selected the 'Other NON-STUDY analgesic' option.

- ☐ Confirm drug(s) are not listed above

Please ensure this is intentional before continuing.

Nature of neuropathic medication reaction (tick all that apply):

- ☐ GI upset / nausea and / or vomiting / constipation
- ☐ Told to avoid by medical staff secondary to known / previous renal / liver problem(s)
- ☐ CNS / confusion / hallucinations
- ☐ Respiratory depression
- ☐ Rash / itch
- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

Nature of Paracetamol reaction (tick all that apply):

- ☐ GI upset / nausea and / or vomiting / constipation
- ☐ Told to avoid by medical staff secondary to known / previous renal / liver problem(s)
- ☐ CNS / confusion / hallucinations
- ☐ Respiratory depression
- ☐ Rash / itch
- ☐ Blisters / skin peeling
- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

-Muscle Relaxants

Which muscle relaxant(s) (tick all that apply):

- ☐ Suxamethonium
- ☐ Atracurium
- ☐ Cisatracurium
- ☐ Rocuronium
- ☐ Vecuronium
- ☐ Mivacurium
- ☐ Pancuronium

WARNING! You appear to have selected a muscle relaxant not widely used.

Please confirm your selections before continuing.

Nature of non-depolarising muscle relaxant reaction:

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Other side-effect
- ☐ Unknown

Nature of Suxamethonium reaction:

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Sux Apnoea
- ☐ Malignant Hyperpyrexia
- ☐ Non-specific muscle pains
- ☐ Other side-effect
- ☐ Unknown

-Propofol

Nature of Propofol reaction (tick all that apply):

- ☐ Anaphylaxis
- ☐ Patient told to avoid because of egg / soya allergy
- ☐ Seizures / myoclonus
- ☐ Hypotension
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

-Sugammadex

Nature of Sugammadex reaction:

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Headache or nausea
- ☐ Other side-effect
- ☐ Unknown

-Contrast Media

Nature of contrast reaction:

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Wheeze / short of breath
- ☐ Swelling / angioedema
- ☐ Dizziness / feeling faint
- ☐ Rash
- ☐ Blisters / skin peeling
- ☐ Kidney injury
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

Nature of rash:

- ☐ Itchy and / or raised (hives, urticaria, 'nettle rash')
- ☐ Non-itchy, non-raised
- ☐ Unknown

-Chlorhexidine

Nature of Chlorhexidine reaction:

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Wheeze / short of breath
- ☐ Swelling / angioedema
- ☐ Dizziness / feeling faint
- ☐ Rash
- ☐ Blisters / skin peeling
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

Nature of rash:

- ☐ Itchy and / or raised (hives, urticaria, 'nettle rash')
- ☐ Non-itchy, non-raised
- ☐ Unknown

-Iodine

Nature of Iodine reaction (tick all that apply):

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Wheeze / short of breath
- ☐ Swelling / angioedema
- ☐ Dizziness / feeling faint
- ☐ Rash
- ☐ Blisters / skin peeling
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

Nature of rash:

- ☐ Itchy and / or raised (hives, urticaria, 'nettle rash')
- ☐ Non-itchy, non-raised
- ☐ Unknown

-Nickel

Nature of Nickel reaction:

- ☐ Anaphylaxis or a serious reaction
- ☐ Rash / contact dermatitis
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected a very rare allergy: 'Anaphylaxis or a serious reaction'

Please confirm your selection before continuing.

-Latex

Nature of Latex reaction (tick all that apply):

- ☐ Anaphylaxis or a serious reaction
- ☐ Wheeze / short of breath
- ☐ Swelling / angioedema
- ☐ Dizziness / feeling faint
- ☐ Rash
- ☐ Blisters / skin peeling
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

Nature of rash:

- ☐ Itchy and / or raised rash (hives, urticaria, 'nettle rash')
- ☐ Non-itchy, non-raised
- ☐ Unknown

-Medical Dyes

Nature of dye reaction (tick all that apply):

- ☐ Anaphylaxis or a serious reaction
- ☐ Wheeze / short of breath
- ☐ Swelling / angioedema
- ☐ Dizziness / feeling faint
- ☐ Rash
- ☐ Blisters / skin peeling
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

Nature of rash:

- ☐ Itchy and / or raised (hives, urticaria, 'nettle rash')
- ☐ Non-itchy, non-raised
- ☐ Unknown

-Local Anaesthetics

Nature of local anaesthetic reaction (tick all that apply):

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Wheeze / short of breath
- ☐ Swelling / angioedema
- ☐ Dizziness / feeling faint
- ☐ Rash
- ☐ Blisters / skin peeling
- ☐ Palpitations
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

Nature of rash:

- ☐ Itchy and / or raised (hives, urticaria, 'nettle rash')
- ☐ Non-itchy, non-raised
- ☐ Unknown

-General Anaesthetics

Nature of general anaesthetic reaction (tick all that apply):

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ PONV
- ☐ MH
- ☐ Other side-effect
- ☐ Unknown

-Colloids

'Anaphylaxis / potentially life-threatening reaction' = reaction requiring emergency treatment with drugs including Chlorphenamine (Piriton), Steroids and / or Adrenaline, severe urticarial rash, angiodema, collapse, shortness of breath, wheeze

Nature of colloid reaction:

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Intolerance of meat products
- ☐ Other side-effect
- ☐ Unknown

-Cardiac Drugs

Which cardiac drugs (tick all that apply):

- ☐ ACE-inhibitors e.g. Lisinopril, Ramipril
- ☐ Alpha-blockers e.g. Doxazosin, Prazosin
- ☐ Amiodarone
- ☐ Angiotensin-II-blockers e.g. Losartan, Candesartan
- ☐ Beta-blockers e.g. Atenolol, Bisoprolol
- ☐ Calcium channel-blockers e.g. Amlodipine, Verapamil
- ☐ Loop diuretics e.g. Furosemide, Bumetanide
- ☐ Nitrates e.g. GTN, Isosorbide mononitrate
- ☐ Nodal-blockers e.g. Ivabradine
- ☐ Potassium channel-activators e.g. Nicorandil
- ☐ Potassium-sparing diuretics e.g. Amiloride
- ☐ Statins e.g. Simvastatin, Atorvastatin
- ☐ Thiazide diuretics
- ☐ Adrenaline
- ☐ Other NON-STUDY cardiac drug(s)
- ☐ Unknown cardiac med

WARNING! You have selected the 'Other NON-STUDY cardiac drug(s)' option.

- ☐ Confirm drug(s) are not listed above

Please ensure this is intentional before continuing.

Nature of ACE-I reaction (tick all that apply):

- ☐ Dizzy / collapse
- ☐ Cough
- ☐ Kidney injury
- ☐ Non-urticarial rash
- ☐ GI upset
- ☐ Angioedema / anaphylaxis / potentially life-threatening reaction
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

Nature of alpha-blocker reaction (tick all that apply):

- ☐ Dizzy / collapse
- ☐ Non-urticarial rash
- ☐ GI upset
- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

Nature of Amiodarone reaction (tick all that apply):

- ☐ Dizzy / collapse / bradycardia
- ☐ Pneumonitis
- ☐ Eye problems
- ☐ Non-urticarial rash / skin changes
- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

Nature of AT-II-blocker reaction (tick all that apply):

- ☐ Dizzy / collapse
- ☐ Kidney injury
- ☐ Non-urticarial rash
- ☐ GI upset
- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

Nature of beta-blocker reaction (tick all that apply):

- ☐ Dizzy / collapse / bradycardia
- ☐ Wheeze
- ☐ Tiredness
- ☐ Non-urticarial rash
- ☐ GI upset
- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

Nature of Ca channel-blocker reaction:

- ☐ Dizzy / collapse / bradycardia
- ☐ Non-urticarial rash
- ☐ GI upset
- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

Nature of Loop diuretic reaction (tick all that apply):

- ☐ Salt / electrolyte imbalance
- ☐ Dizzy / collapse
- ☐ Kidney injury
- ☐ Non-urticarial rash
- ☐ GI upset
- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

Nature of nitrate reaction (tick all that apply):

- ☐ Headache
- ☐ Dizzy / collapse
- ☐ Non-urticarial rash
- ☐ GI upset
- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

Nature of nodal-blocker reaction (tick all that apply):

- ☐ Visual brightness
- ☐ Bradycardia / palpitations
- ☐ Headache
- ☐ Dizzy / collapse
- ☐ GI upset
- ☐ Non-urticarial rash
- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

Nature of Potassium activator reaction (tick all that apply):

- ☐ Headache
- ☐ Dizzy / collapse
- ☐ Non-urticarial rash
- ☐ GI upset
- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

Nature of Potassium-sparing diuretic reaction (tick all that apply):

- ☐ Salt / electrolyte imbalance
- ☐ Kidney injury
- ☐ Non-urticarial rash
- ☐ GI upset
- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

Nature of statin reaction (tick all that apply):

- ☐ Muscle aches
- ☐ Deranged liver function
- ☐ GI upset
- ☐ Non-urticarial rash
- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

Nature of thiazide diuretic reaction (tick all that apply):

- ☐ Salt / electrolyte imbalance
- ☐ Dizzy / collapse
- ☐ Kidney injury
- ☐ Non-urticarial rash
- ☐ GI upset
- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Other side-effect
- ☐ Unknown

Nature of Adrenaline reaction (tick all that apply):

- ☐ Palpitations / dizzy / faint
- ☐ GI upset
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

Nature of other cardiac med reaction:

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Non-urticarial rash
- ☐ Simple GI upset / diarrhoea
- ☐ Other side-effect
- ☐ Unknown

Nature of unknown cardiac med reaction:

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Non-urticarial rash
- ☐ Simple GI upset / diarrhoea
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an unusual reaction: 'Anaphylaxis / potentially life-threatening reaction'

Please confirm your selection(s) before continuing.

-Obstetric Drugs

Which Obstetric drug(s) (tick all that apply):

- ☐ Oxytocin (Syntocinon)
- ☐ Ergometrine
- ☐ Syntometrine
- ☐ Carboprost (Haemabate)
- ☐ Misoprostol
- ☐ Other NON-STUDY Obs drug(s)

WARNING! You have selected the 'Other NON-STUDY Obstetric drug(s)' option.

- ☐ Confirm drug(s) are not listed above

Please ensure this is intentional before continuing.

Nature of Oxytocin reaction (tick all that apply):

- ☐ Hypotension / tachycardia
- ☐ Flushing
- ☐ Headache
- ☐ GI upset
- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

Nature of Ergometrine reaction (tick all that apply):

- ☐ Hypertension / chest pain / palpitations
- ☐ Seizures
- ☐ Headache / dizziness / tinnitus
- ☐ GI upset
- ☐ Flushing
- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

Nature of Syntometrine reaction (tick all that apply):

- ☐ Hypertension / chest pain / palpitations
- ☐ Seizures
- ☐ Headache / dizziness / tinnitus
- ☐ Hypotension
- ☐ GI upset
- ☐ Flushing
- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

Nature of Carboprost reaction (tick all that apply):

- ☐ Flushing / fever / sweats
- ☐ Hypertension / chest pain / palpitations
- ☐ Headache / dizziness
- ☐ Bronchospasm / wheeze
- ☐ GI upset
- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

Nature of Misoprostol reaction:

- ☐ Flushing / fevers / sweats
- ☐ Headache / dizziness
- ☐ GI upset
- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

WARNING! You appear to have selected an unusual reaction: Anaphylaxis / potentially life-threatening reaction

Please confirm your selection(s) before continuing.

-Antiemetics

Which antiemetic(s) (tick all that apply):

- ☐ 5-HT3-antagonists e.g. Ondansetron, Granisetron
- ☐ Antihistamines e.g. Cyclizine
- ☐ Antimuscarinics e.g. Hyoscine
- ☐ Dopamine-antagonists e.g. Droperidol, Prochlorperazine (Stemetil)
- ☐ Steroids e.g. Dexamethasone
- ☐ Other NON-STUDY antiemetic

WARNING! You have selected the 'Other NON-STUDY antiemetic(s)' option.

- ☐ Confirm drug(s) are not listed above

Please ensure this is intentional before continuing.

Nature of 5-HT3-antagonist reaction (tick all that apply):

- ☐ Drowsiness
- ☐ Dry mouth
- ☐ GI upset
- ☐ Headache
- ☐ Muscle spasms, restlessness
- ☐ Urinary retention
- ☐ Non-urticarial rash
- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

Nature of antihistamine reaction (tick all that apply):

- ☐ Drowsiness
- ☐ Dry mouth
- ☐ GI upset
- ☐ Headache
- ☐ Muscle spasms, restlessness
- ☐ Urinary retention
- ☐ Non-urticarial rash
- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

Nature of antimuscarinic reaction (tick all that apply):

- ☐ Drowsiness
- ☐ Dry mouth
- ☐ GI upset
- ☐ Headache
- ☐ Muscle spasms, restlessness
- ☐ Urinary retention
- ☐ Non-urticarial rash
- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

Nature of Dopamine-antagonist reaction (tick all that apply):

- ☐ Drowsiness
- ☐ Dry mouth
- ☐ GI upset
- ☐ Headache
- ☐ Muscle spasms, restlessness
- ☐ Urinary retention
- ☐ Non-urticarial rash
- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

Nature of steroid reaction (tick all that apply):

- ☐ Mania / sleeplessness
- ☐ Seizures
- ☐ GI upset
- ☐ Pancreatitis
- ☐ Headache
- ☐ Acne / skin problems
- ☐ Non-urticarial rash
- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Other side-effect
- ☐ Unknown

WARNING! You appear to have selected an incompatible combination: 'Unknown' plus one or more other options

Please confirm your selections before continuing.

WARNING! You appear to have selected an unusual reaction: 'Anaphylaxis / potentially life-threatening reaction'

Please confirm your selection(s) before continuing.

-Dressings / Tapes

Nature of reaction to dressings / tape:

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Rash / local dermatitis reaction
- ☐ Other side-effect
- ☐ Unknown

-Other Drug Reactions NOT in List

WARNING! Only use the boxes below if you are sure the patient has a NON-STUDY drug allergy, i.e. NOT listed in the categories below and / or NOT specifically named:

Penicillins
Other named antibiotics
NSAIDs
Opioids
Other named analgesics
Muscle relaxants
Propofol
Sugammadex
Contrast media
Chlorhexidine
Iodine
Nickel
Latex
Medical dyes
Local anaesthetics
Colloids
Named Cardiac drugs
Named Obstetric drugs
Named antiepileptic drugs

Dressings / tapes

If the drug(s) belongs in any of the above categories please go back up to Subsection A and ensure they are properly coded by category before proceeding.

Please confirm that the drug(s) are not covered by any of the classes above:

☐ NOT in classes above

Please type in the name of any drug allergy NOT in study list above:

Please BRIEFLY describe the allergy:

Nature of reaction to 'other':

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Rash unspecified
- ☐ Side-effect
- ☐ Unknown

Any more to add?

- ☐ Yes
- ☐ No

Please type in the name of any drug allergy NOT in study list above:

Please BRIEFLY describe the allergy:

Nature of reaction to 'other':

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Rash unspecified
- ☐ Side-effect
- ☐ Unknown

Any more to add?

- ☐ Yes
- ☐ No

Please type in the name of any drug allergy NOT in study list above:

Please BRIEFLY describe the allergy:

Nature of reaction to 'other':

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Rash unspecified
- ☐ Side-effect
- ☐ Unknown

Any more to add?

- ☐ Yes
- ☐ No

Please type in the name of any drug allergy NOT in study list above:

Please BRIEFLY describe the allergy:

Nature of reaction to 'other':

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Rash unspecified
- ☐ Side-effect
- ☐ Unknown

Any more to add?

- ☐ Yes
- ☐ No

Please type in the name of any drug allergy NOT in study list above:

Please BRIEFLY describe the allergy:

Nature of reaction to 'other':

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Rash unspecified
- ☐ Side-effect
- ☐ Unknown

Any more to add?

- ☐ Yes
- ☐ No

MULTIPLE ALLERGIES:

-please type in the name(s) of any remaining drug allergies NOT already entered above

-please include a brief description of the reaction on the same line

-please separate drugs on separate lines

-Non-Drug Allergy Issue

What were the non-drug allergy issue(s)? (tick all that apply)

- ☐ Insects / insect stings
- ☐ Needle-phobia
- ☐ Falls risk
- ☐ Anxiety
- ☐ Food
- ☐ Pets
- ☐ Hay fever, rhinitis, asthma, eczema or dust allergy
- ☐ Hives, urticaria or angioedema
- ☐ Perfume / fragrances
- ☐ Other

Other:

Coded 'Other' Drugs

Coded 'Other' Drugs

- ☐ Benzodiazepines
- ☐ DOACs
- ☐ H2-blockers
- ☐ Non-Aspirin antiplatelets
- ☐ Other sulfas
- ☐ Proton-pump inhibitors
- ☐ Thiopentone
- ☐ Warfarin
- ☐ 'unknown drug'
- ☐ Other anaesthetic drug

Nature of benzodiazepine reaction:

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Non-urticarial rash
- ☐ Simple GI upset / diarrhoea
- ☐ Other side-effect
- ☐ Unknown

Nature of DOAC reaction:

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Non-urticarial rash
- ☐ Simple GI upset / diarrhoea
- ☐ Other side-effect
- ☐ Unknown

Nature of H2-blocker reaction:

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Non-urticarial rash
- ☐ Simple GI upset / diarrhoea
- ☐ Other side-effect
- ☐ Unknown

Nature of Non-Aspirin antiplatelet reaction:

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Non-urticarial rash
- ☐ Simple GI upset / diarrhoea
- ☐ Other side-effect
- ☐ Unknown

Nature of other sulfas reaction:

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Non-urticarial rash
- ☐ Simple GI upset / diarrhoea
- ☐ Other side-effect
- ☐ Unknown

Nature of PPI reaction:

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Non-urticarial rash
- ☐ Simple GI upset / diarrhoea
- ☐ Other side-effect
- ☐ Unknown

Nature of Thiopentone reaction:

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Non-urticarial rash
- ☐ Simple GI upset / diarrhoea
- ☐ Other side-effect
- ☐ Unknown

Nature of Warfarin reaction:

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Non-urticarial rash
- ☐ Simple GI upset / diarrhoea
- ☐ Other side-effect
- ☐ Unknown

Nature of 'unknown drug' reaction:

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Non-urticarial rash
- ☐ Simple GI upset / diarrhoea
- ☐ Other side-effect
- ☐ Unknown

Nature of other anaesthetic drug reaction:

- ☐ Anaphylaxis / potentially life-threatening reaction
- ☐ Non-urticarial rash
- ☐ Simple GI upset / diarrhoea
- ☐ Other side-effect
- ☐ Unknown

3. Follow-Up Screening

Does local policy indicate systemic (non-topical) antibiotic prophylaxis for the procedure?

- ☐ Yes
- ☐ No

for operations where antibiotics MAY be given semi-electively, e.g. lap cholecystectomy, please check 'Yes'

First-line PRIMARY antibiotic:

- ☐ Penicillin e.g. Amoxicillin, Tazocin
- ☐ Cephalosporin e.g. Cefuroxime, Ceftriaxone
- ☐ Quinolone e.g. Ciprofloxacin, Ofloxacin
- ☐ Aminoglycoside e.g. Gentamicin
- ☐ Glycopeptide e.g. Vancomycin, Teicoplanin
- ☐ Clindamycin
- ☐ Doxycycline
- ☐ Metronidazole
- ☐ Macrolides e.g. Azithromycin, Clarithromycin
- ☐ Local transplant protocol

WARNING! You have NOT selected transplant antibiotics for what appears to be transplant patient.

Please confirm your selections before continuing.

WARNING! You have selected transplant antibiotics for what appears to be a NON-TRANSPLANT patient.

Please confirm your selections before continuing.

Does your local transplant protocol include
β²-LACTAM antibiotics as first-line prophylaxis?
E.g. penicillins, cephalosporins, carbapenems

- ☐ Yes
- ☐ No

First-line ADDED antibiotic(s):

- ☐ Gentamicin
- ☐ Gentamicin, Metronidazole
- ☐ Metronidazole
- ☐ Glycopeptide e.g. Vancomycin, Teicoplanin
- ☐ Quinolone e.g. Ciprofloxacin, Levofloxacin
- ☐ Other
- ☐ None

WARNING! You appear to have selected an unusual combination of antibiotics.

Please confirm your selections before continuing.

Second-line PRIMARY antibiotic for
β²-LACTAM-allergy:

- ☐ Quinolone e.g. Ciprofloxacin, Ofloxacin
- ☐ Aminoglycoside e.g. Gentamicin
- ☐ Glycopeptide e.g. Vancomycin, Teicoplanin
- ☐ Clindamycin
- ☐ Doxycycline
- ☐ Macrolides e.g. Azithromycin, Clarithromycin
- ☐ Carbapenem e.g. Meropenem
- ☐ Metronidazole

Second-line ADDED antibiotic(s):

- ☐ Gentamicin
- ☐ Gentamicin, Metronidazole
- ☐ Metronidazole
- ☐ Glycopeptide e.g. Vancomycin, Teicoplanin
- ☐ Quinolone e.g. Ciprofloxacin, Levofloxacin
- ☐ Other
- ☐ None

WARNING! You appear to have selected an unusual combination of antibiotics.

Please confirm your selections before continuing.

Is the patient having cataract surgery?

- ☐ Yes
- ☐ No

End of Pre-Op Survey / Follow-Up

The patient's history and / or wristband appear to indicate NO drug allergies or non-drug issues, further information not required.

The patient's history and / or notes appear to indicate NO requirement for β^2 -LACTAM antibiotics in the context of β^2 -LACTAM allergy NOR any OPIOID allergy label(s) in the context of non-cataract surgery; further information NOT required.

This patient appears to have either a β^2 -LACTAM requirement with a β^2 -lactam allergy AND / OR opioid allergy label(s) in the context of non-cataract surgery; they are therefore suitable for inclusion for DALES follow-up.

Please use standard DALES pseudo-identifiers as below:

-Study day 1, 2 or 3 (D1, D2 or D3)

-Theatre number (TH1, TH2, TH3...)

-Theatre complex code if your hospital has more than one 'Theatre 1' (A-F)

-Patient order on list (P1, P2, P3...)

WARNING! Ensure pseudo-identifier is correctly coded or patient will be lost to follow-up:

Study day

☐ D1

☐ D2

☐ D3

Theatre

- ☐ TH1
- ☐ TH2
- ☐ TH3
- ☐ TH4
- ☐ TH5
- ☐ TH6
- ☐ TH7
- ☐ TH8
- ☐ TH9
- ☐ TH10
- ☐ TH11
- ☐ TH12
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- ☐ TH38
- ☐ TH39
- ☐ TH40
- ☐ TH41
- ☐ TH42
- ☐ TH43
- ☐ TH44
- ☐ TH45

Theatre complex
(select 'A' by default / if only one complex)

- ☐ A
- ☐ B
- ☐ C
- ☐ D
- ☐ E
- ☐ F
- ☐ G
- ☐ H

Patient order

- ☐ P1
- ☐ P2
- ☐ P3
- ☐ P4
- ☐ P5
- ☐ P6
- ☐ P7
- ☐ P8
- ☐ P9
- ☐ P10
- ☐ P11
- ☐ P12
- ☐ P13
- ☐ P14
- ☐ P15
- ☐ P16
- ☐ P17
- ☐ P18
- ☐ P19
- ☐ P20

You're finished! Ensure you are online / have signal then hit 'Submit'

?partial entry / duplicate

☐ Yes

Rationale

Matching entry(-ies)

Mark for deletion?

- ☐ Yes
- ☐ No

?valid entry but follow-up not required / valid

☐ Yes

DALES Opioid Analgesia Follow-Up

Please confirm the case then complete the form below.

Case [pseudo_day]-[pseudo_th]-[pseudo_complex]-[pseudo_order] ([speciality])

-patient's history and / or wristband includes allergy to certain antibiotics

-patient's history and / or wristband includes allergy to certain analgesics

-patient's history and / or wristband includes allergy to non-antibiotic, non-analgesic drugs OR non-drug allergies

Cancellation?

-was the case cancelled BEFORE theatre?

- ☐ Yes
☐ No

Confirm cancellation and end survey?

- ☐ Yes

WARNING! This cannot be undone!

1. Opioids Given / Prescribed

Which opioid(s) did they receive OR were they prescribed?

Please include take home medications.

- ☐ Alfentanil
☐ Buprenorphine
☐ Co-codamol
☐ Co-dydramol
☐ Codeine
☐ Diamorphine
☐ Dihydrocodeine
☐ Fentanyl
☐ Morphine
☐ Oxycodone
☐ Remifentanil
☐ Tramadol
☐ None

WARNING! You appear to have ticked 'None' but have also selected other opioids.

Please review your answers above.

2. Prophylactic Treatments

How many anti-emetics did the patient receive?
(counting GA with TIVA as +1)

- ☐ One
☐ Two
☐ Three or more
☐ None

Did the patient take or receive PROPHYLACTIC
antihistamines PRE-OP? E.g. Piriton

- ☐ Yes
☐ No

3. Anaesthetic Documentation

Did an anaesthetist document OPIOID allergy / sensitivity themselves on the anaesthetic chart?

- ☐ Yes
☐ No
☐ Anaesthetist not present

-if so, did the anaesthetist make any specific documentation that they were NOT concerned about the allergy?

- ☐ Yes -allergy scored out on anaesthetic sheet
☐ Yes -allergy scored out on drug chart
☐ Yes -added details suggesting non-allergic GI symptoms
☐ Yes -added details suggesting other (non-GI) non-allergic symptoms
☐ Yes -added details indicating uneventful use of opioid(s) in question in theatre today
☐ No

WARNING! You appear to have selected 'No' but with other selections also.

Please confirm your selections before continuing.

4. Adverse Events on Day of Surgery -Allergy-Related ONLY

Did a clinician explicitly document that a suspected anaphylactic reaction had occurred?

- ☐ Yes
☐ No

This does NOT include, e.g. simple cardiovascular instability.

WARNING! You have selected a very rare event; please confirm this before continuing, if not, un-code this reaction.

- ☐ Yes

This statement refers to an allergic reaction involving this operation NOT past ones.

Did any of the following things happen during the case?

- ☐ Unplanned use of Chlorphenamine (Piriton)
☐ Unplanned use of Hydrocortisone
☐ Adrenaline given
☐ Post-op plan for Tryptase levels
☐ Patient unexpectedly admitted to hospital / Critical Care
☐ None of the above

WARNING! You appear to have selected 'None of the above' but with other selections also.

Please confirm your selections before continuing.

End of Opioid Follow-Up

You're finished! Ensure you are online / have signal then hit 'Submit'

Anaphylaxis concerns confirmed?

- ☐ Yes
☐ No

Anaphylaxis details

1. Antibiotics:

Antibiotic	Low risk of anaphylactic or serious reaction includes:	High risk of anaphylactic or serious reaction includes:	Other non-allergic serious reaction includes:
Penicillin	Sick / vomited / had a sore stomach / had diarrhoea, thrush, 'other' side effect, rash that is non-itchy, non-raised or unknown rash, localised swelling at site of infection only e.g. dental abscess or unknown swelling, unknown reaction	Blisters/skin peeling, Stevens Johnson syndrome/DRESS/AGEP, anaphylaxis or serious reaction, difficult to breathe/and or became wheezy, dizzy or faint, swelling, rash that is itchy or raised (hives, urticaria, nettle rash), swelling of face, lips, tongue, eyes, whole body	
Aminoglycosides e.g. gentamicin	Simple GI upset, diarrhoea, 'other' side effect, non-urticarial rash, unknown reaction	Anaphylaxis or potentially life threatening reaction	
Carbapenems e.g. meropenem	Sick / vomited / had a sore stomach / had diarrhoea, thrush, 'other' side effect, rash that is non-itchy, non-raised or unknown rash, localised swelling at site of infection only e.g. dental abscess or unknown	Blisters/skin peeling, Stevens Johnson syndrome/DRESS/AGEP, anaphylaxis or serious reaction, difficult to breathe/and or became wheezy, dizzy or faint, swelling, rash that is itchy or raised (hives, urticaria, nettle rash), swelling of face, lips, tongue, eyes, whole body	

	swelling, unknown reaction		
Cephalosporins e.g. cefuroxime	Sick / vomited / had a sore stomach / had diarrhoea, thrush, 'other' side effect, rash that is non- itchy, non- raised or unknown rash, localised swelling at site of infection only e.g. dental abscess or unknown swelling, unknown reaction	anaphylaxis or serious reaction, difficult to breathe/and or became wheezy, dizzy or faint, swelling of face, lips, tongue, eyes, whole body, rash that is itchy or raised (hives, urticaria, nettle rash), Blisters/ skin peeling, Stevens Johnson syndrome/DRESS/AGEP,	
Chloramphenicol	Simple GI upset, diarrhoea, 'other' side effect, Non- urticarial rash, unknown reaction	Anaphylaxis or potentially life threatening reaction	
Clindamycin	Simple GI upset, diarrhoea, 'other' side effect, Non- urticarial rash, unknown reaction	Anaphylaxis or potentially life threatening reaction	
Glycopeptides eg vancomycin, teicoplanin	Sick / vomited / had a sore stomach / had diarrhoea, thrush, 'other' side effect, rash that is non- itchy, non- raised or unknown rash, localised swelling at site of infection	anaphylaxis or serious reaction, difficult to breathe/and or became wheezy, dizzy or faint, swelling of face, lips, tongue, eyes, whole body, rash that is itchy or raised (hives, urticaria, nettle rash), Blisters/ skin peeling, Stevens Johnson syndrome/DRESS/AGEP/	Red Man syndrome

	only e.g. dental abscess or unknown swelling, unknown reaction		
Linezolid	Simple GI upset, diarrhoea, 'other' side effect, Non-urticarial rash, unknown reaction	Anaphylaxis or potentially life threatening reaction	
Macrolides e.g. clarithromycin, erythromycin	Simple GI upset, diarrhoea, 'other' side effect, Non-urticarial rash, unknown reaction	Anaphylaxis or potentially life threatening reaction	
Metronidazole	Simple GI upset, diarrhoea, 'other' side effect, Non-urticarial rash, unknown reaction	Anaphylaxis or potentially life threatening reaction	
Monobactams e.g. aztreonam	Sick / vomited / had a sore stomach / had diarrhoea, thrush, 'other' side effect, rash that is non-itchy, non-raised or unknown rash, localised swelling at site of infection only e.g. dental abscess or unknown swelling, unknown reaction	anaphylaxis or serious reaction, difficult to breathe/and or became wheezy, dizzy or faint, swelling of face, lips, tongue, eyes, whole body, rash that is itchy or raised (hives, urticaria, nettle rash), Blisters/ skin peeling, Stevens Johnson syndrome/DRESS/AGEP,	
Nitrofurantoin	Simple GI upset,	Anaphylaxis or potentially life threatening reaction	

	diarrhoea, 'other' side effect, Non- urticarial rash, unknown reaction		
Quinolones e.g. ciprofloxacin, ofloxacin	Simple GI upset, diarrhoea, 'other' side effect, Non- urticarial rash, unknown reaction	Anaphylaxis or potentially life threatening reaction	
Co-trimoxazole (Septrin) Trimethoprim sulphonamides	Simple GI upset, diarrhoea, 'other' side effect, Non- urticarial rash unknown reaction	Anaphylaxis or potentially life threatening reaction	
Tetracyclines	Simple GI upset, diarrhoea, 'other' side effect, Non- urticarial rash, unknown reaction	Anaphylaxis or potentially life threatening reaction	
Other non-study antibiotic	Simple GI upset, diarrhoea, 'other' side effect, Non- urticarial rash, unknown reaction	Anaphylaxis or potentially life threatening reaction	
Unknown antibiotic	Simple GI upset, diarrhoea, 'other' side effect, Non- urticarial rash, unknown reaction	Anaphylaxis or potentially life threatening reaction	

2. NSAIDS

NSAID	Low risk includes:	High risk includes:	Avoided because of	Other non- allergic
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			potential problems includes:	serious reaction includes:
Aspirin	GI upset, other side effect, unknown reaction	itchy or raised rash (hives, urticaria, nettle rash), blisters or skin peeling, face/lips/tongue/eyes/whole body swelling, anaphylaxis or potentially life threatening reaction, Stevens Johnson syndrome, DRESS, AGEP	Because of potential risk of asthma, because of potential risk of bleeding, because of cardiovascular risk or other blood thinners, because of a renal problem, none of the above, the patient has not had a reaction, they were simply warned not to take it	Previous NSAID associated GI bleed, previous NSAID associated bronchospasm, Reye's syndrome,
Diclofenac	GI upset, other side effect, unknown reaction	itchy or raised rash (hives, urticaria, nettle rash), blisters or skin peeling, face/lips/tongue/eyes/whole body swelling, anaphylaxis or potentially life threatening reaction, Stevens Johnson syndrome, DRESS, AGEP	Because of potential risk of asthma, because of potential risk of bleeding, because of cardiovascular risk or other blood thinners, because of a renal problem, none of the above, the patient has not had a reaction, they were simply warned not to take it	Previous NSAID associated GI bleed, previous NSAID associated bronchospasm, Reye's syndrome
Etodolac	GI upset, other side effect,	itchy or raised rash (hives, urticaria, nettle rash), blisters or skin peeling, face/lips/tongue/eyes/whole	Because of potential risk of asthma, because of	Previous NSAID associated GI bleed,

	unknown reaction	whole body swelling, anaphylaxis or potentially life threatening reaction, , Stevens Johnson syndrome, DRESS, AGEP	potential risk of bleeding, because of cardiovascular risk or other blood thinners, because of a renal problem, none of the above, the patient has not had a reaction, they were simply warned not to take it	previous NSAID associated bronchospasm, Reye's syndrome
Ibuprofen	GI upset, other side effect, unknown reaction	itchy or raised rash (hives, urticaria, nettle rash), blisters or skin peeling, face/lips/tongue/eyes/whole body swelling, anaphylaxis or potentially life threatening reaction, , Stevens Johnson syndrome, DRESS, AGEP	Because of potential risk of asthma, because of potential risk of bleeding, because of cardiovascular risk or other blood thinners, because of a renal problem, none of the above, the patient has not had a reaction, they were simply warned not to take it	Previous NSAID associated GI bleed, previous NSAID associated bronchospasm, Reye's syndrome
Indomethacin	GI upset, other side effect, unknown reaction	itchy or raised rash (hives, urticaria, nettle rash), blisters or skin peeling, face/lips/tongue/eyes/whole body swelling, anaphylaxis or potentially life threatening reaction, , Stevens Johnson syndrome, DRESS, AGEP	Because of potential risk of asthma, because of potential risk of bleeding, because of cardiovascular risk or other blood thinners,	Previous NSAID associated GI bleed, previous NSAID associated bronchospasm, Reye's syndrome,

			because of a renal problem, none of the above, the patient has not had a reaction, they were simply warned not to take it	
Ketorolac	GI upset, other side effect, unknown reaction	itchy or raised rash (hives, urticaria, nettle rash), blisters or skin peeling, face/lips/tongue/eyes/whole body swelling, anaphylaxis or potentially life threatening reaction, , Stevens Johnson syndrome, DRESS, AGEP	Because of potential risk of asthma, because of potential risk of bleeding, because of cardiovascular risk or other blood thinners, because of a renal problem, none of the above, the patient has not had a reaction, they were simply warned not to take it	Previous NSAID associated GI bleed, previous NSAID associated bronchospasm, , Reye's syndrome,
Meloxicam	GI upset, other side effect, unknown reaction	itchy or raised rash (hives, urticaria, nettle rash), blisters or skin peeling, face/lips/tongue/eyes/whole body swelling, anaphylaxis or potentially life threatening reaction, , Stevens Johnson syndrome, DRESS, AGEP	Because of potential risk of asthma, because of potential risk of bleeding, because of cardiovascular risk or other blood thinners, because of a renal problem, none of the above, the patient has not had a	Previous NSAID associated GI bleed, previous NSAID associated bronchospasm, Reye's syndrome,

			reaction, they were simply warned not to take it	
Mefenamic acid	GI upset, other side effect, unknown reaction	itchy or raised rash (hives, urticaria, nettle rash), blisters or skin peeling, face/lips/tongue/eyes/whole body swelling, anaphylaxis or potentially life threatening reaction, , Stevens Johnson syndrome, DRESS, AGEP	Because of potential risk of asthma, because of potential risk of bleeding, because of cardiovascular risk or other blood thinners, because of a renal problem, none of the above, the patient has not had a reaction, they were simply warned not to take it	Previous NSAID associated GI bleed, previous NSAID associated bronchospasm, Reye's syndrome,
Naproxen	GI upset, other side effect, unknown reaction	itchy or raised rash (hives, urticaria, nettle rash), blisters or skin peeling, face/lips/tongue/eyes/whole body swelling, anaphylaxis or potentially life threatening reaction, , Stevens Johnson syndrome, DRESS, AGEP	Because of potential risk of asthma, because of potential risk of bleeding, because of cardiovascular risk or other blood thinners, because of a renal problem, none of the above, the patient has not had a reaction, they were simply warned not to take it	Previous NSAID associated GI bleed, previous NSAID associated bronchospasm, Reye's syndrome
Selective COX-2 inhibitors eg	GI upset, other side	itchy or raised rash (hives, urticaria, nettle rash), blisters or skin peeling,	Because of potential risk of asthma,	Previous NSAID associated GI

parecoxib, celecoxib	effect, unknown reaction	face/lips/tongue/eyes/whole body swelling, anaphylaxis or potentially life threatening reaction, , Stevens Johnson syndrome, DRESS, AGEP	because of potential risk of bleeding, because of cardiovascular risk or other blood thinners, because of a renal problem, none of the above, the patient has not had a reaction, they were simply warned not to take it	bleed, previous NSAID associated bronchospasm , Reye's syndrome,
Multiple NSAIDs or class effect	GI upset, other side effect, unknown reaction	itchy or raised rash (hives, urticaria, nettle rash), blisters or skin peeling, face/lips/tongue/eyes/whole body swelling, anaphylaxis or potentially life threatening reaction, , Stevens Johnson syndrome, DRESS, AGEP	Because of potential risk of asthma, because of potential risk of bleeding, because of cardiovascular risk or other blood thinners, because of a renal problem, none of the above, the patient has not had a reaction, they were simply warned not to take it	Previous NSAID associated GI bleed, previous NSAID associated bronchospasm , Reye's syndrome,

3. Opioids

Opioid	Low risk includes:	High risk includes:	Avoided because of potential problems includes:

Buprenorphine	GI upset/ nausea/vomiting/constipation CNS/confusion/hallucinations Rash/itch, Respiratory depression Other side effect, unknown reaction	Anaphylaxis or potentially life threatening reaction Blisters/skin peeling	Told to avoid because of renal or liver problems
Co-codamol – where opioid or unclear checked for ‘can you clarify the allergic/sensitive component’	GI upset/ nausea/vomiting/constipation CNS/confusion/hallucinations Rash/itch, Respiratory depression Other side effect, unknown reaction	Anaphylaxis or potentially life threatening reaction Blisters/skin peeling	Told to avoid because of renal or liver problems
Co-dydramol - where opioid or unclear checked for ‘can you clarify the allergic/sensitive component’	GI upset/ nausea/vomiting/constipation CNS/confusion/hallucinations Rash/itch, Respiratory depression Other side effect, unknown reaction	Anaphylaxis or potentially life threatening reaction Blisters/skin peeling	Told to avoid because of renal or liver problems
Codeine	GI upset/ nausea/vomiting/constipation CNS/confusion/hallucinations Rash/itch, Respiratory depression Other side effect, unknown reaction	Anaphylaxis or potentially life threatening reaction Blisters/skin peeling	Told to avoid because of renal or liver problems
Dihydrocodeine	GI upset/ nausea/vomiting/constipation CNS/confusion/hallucinations Rash/itch, respiratory depression Other side effect, unknown reaction	Anaphylaxis or potentially life threatening reaction Blisters/skin peeling	Told to avoid because of renal or liver problems
Diamorphine	GI upset/ nausea/vomiting/constipation CNS/confusion/hallucinations Rash/itch, Respiratory depression	Anaphylaxis or potentially life threatening reaction Blisters/skin peeling	Told to avoid because of renal or liver problems

	Other side effect, unknown reaction		
Fentanyl	GI upset/ nausea/vomiting/constipation CNS/confusion/hallucinations Rash/itch, Respiratory depression Other side effect, unknown reaction	Anaphylaxis or potentially life threatening reaction Blisters/skin peeling	Told to avoid because of renal or liver problems
Morphine	GI upset/ nausea/vomiting/constipation CNS/confusion/hallucinations Rash/itch, Respiratory depression Other side effect, unknown reaction	Anaphylaxis or potentially life threatening reaction Blisters/skin peeling	Told to avoid because of renal or liver problems
Oxycodone	GI upset/ nausea/vomiting/constipation CNS/confusion/hallucinations Rash/itch, Respiratory depression Other side effect, unknown reaction	Anaphylaxis or potentially life threatening reaction Blisters/skin peeling	Told to avoid because of renal or liver problems
Pethidine	GI upset/ nausea/vomiting/constipation CNS/confusion/hallucinations Rash/itch, Respiratory depression Other side effect, unknown reaction	Anaphylaxis or potentially life threatening reaction Blisters/skin peeling	Told to avoid because of renal or liver problems
Remifentanyl	GI upset/ nausea/vomiting/constipation CNS/confusion/hallucinations Rash/itch, Respiratory depression Other side effect, unknown reaction	Anaphylaxis or potentially life threatening reaction Blisters/skin peeling	Told to avoid because of renal or liver problems
Tramadol	GI upset/ nausea/vomiting/constipation CNS/confusion/hallucinations	Anaphylaxis or potentially life	Told to avoid because of

	Rash/itch, Respiratory depression Other side effect, unknown reaction	threatening reaction Blisters/skin peeling	renal or liver problems Told to avoid due to risk of seizures
Multiple opioids/class effect	GI upset/nausea/vomiting/constipation CNS/confusion/hallucinations Rash/itch, Respiratory depression Other side effect, unknown reaction	Anaphylaxis or potentially life threatening reaction Blisters/skin peeling	Told to avoid because of renal or liver problems

4. Other analgesics

Other analgesic	Low risk includes:	High risk includes:	Avoided because of potential problems includes:
Amitryptiline/nortryptiline	GI upset/nausea/vomiting/constipation CNS confusion/ Hallucinations Respiratory depression, unknown reaction	Anaphylaxis/ Potentially life threatening Reaction, Rash/itch,	Told to avoid due to previous liver or renal problems
Gabapentin	GI upset/nausea/vomiting/constipation CNS confusion/ Hallucinations Respiratory depression unknown reaction	Anaphylaxis/ Potentially life threatening Reaction, Rash/itch,	Told to avoid due to previous liver or renal problems
Nefopam	GI upset/nausea/vomiting/constipation CNS confusion/ Hallucinations Respiratory	Anaphylaxis/ Potentially life threatening Reaction, Rash/itch	Told to avoid due to previous liver or renal problems

	depression unknown reaction		
Pregabalin	GI upset/ nausea/vomiting/ constipation CNS confusion/ Hallucinations Respiratory depression unknown reaction	Anaphylaxis/ Potentially life threatening Reaction, Rash/itch,	Told to avoid due to previous liver or renal problems
Paracetamol	GI upset/ nausea/vomiting/ constipation CNS confusion/ Hallucinations Respiratory depression Other reaction, unknown reaction	Blisters/ skin peeling Anaphylaxis/ Potentially life threatening Reaction, Rash/itch	Told to avoid due to previous liver or renal problems

5. Muscle relaxants

Muscle relaxant	Low risk includes:	High risk includes:	Other non-allergic serious reaction includes:
Suxamethonium	Non-specific muscle pains, other side effect, unknown reaction	Anaphylaxis, potentially life threatening reaction	Sux apnoea MH
Atracurium	Other side effect, unknown reaction	Anaphylaxis, potentially life threatening reaction	
Cisatracturium	Other side effect, unknown reaction	Anaphylaxis, potentially life threatening reaction	
Rocuronium	Other side effect, unknown reaction	Anaphylaxis, potentially life threatening reaction	
Vecuronium	Other side effect, unknown reaction	Anaphylaxis, potentially life threatening reaction	
Mivacurium	Other side effect, unknown reaction	Anaphylaxis, potentially life threatening reaction	
Pancuronium	Other side effect, unknown reaction	Anaphylaxis, potentially life threatening reaction	

6. Further drugs

Drug	Low risk includes:	High risk includes:	Avoided because of potential problems includes:	Other non-allergic serious and drug-specific reaction includes:
Propofol	Other side effect, hypotension, Unknown reaction	Anaphylaxis, potentially life threatening reaction	Told to avoid due to egg/soy allergy	seizures, myoclonus,
Sugammadex	Headache or nausea, other side effect, unknown reaction	Anaphylaxis, potentially life threatening reaction		
Contrast media	Non-itchy, non-raised rash, unknown rash, other side effect, Unknown reaction	Anaphylaxis/potentially life threatening reaction, wheeze/short of breath, swelling/angioedema, dizziness/feeling faint, itchy and/or raised rash (hives, urticaria, nettle rash) blisters, skin peeling		Kidney injury,
Chlorhexidine	Non-itchy, non-raised rash, unknown rash, other side effect, Unknown reaction	Anaphylaxis, potentially life threatening reaction, wheeze, short of breath, swelling/ angioedema, dizziness, feeling faint, itchy and/or raised rash (hives, urticaria, nettle rash) blisters, skin peeling		
Iodine	Non-itchy, non-raised rash, unknown rash, other side effect, Unknown reaction	Anaphylaxis, potentially life threatening reaction, wheeze, short of breath, swelling/ angioedema dizziness, feeling faint, itchy and/or raised rash (hives, urticaria, nettle rash) blisters, skin peeling		

Nickel	Rash, contact dermatitis, other side effect, Unknown reaction	Anaphylaxis, potentially life threatening reaction		
Latex	Non-itchy, non-raised rash, Unknown reaction unknown rash, other side effect, Unknown reaction	Anaphylaxis, potentially life threatening reaction, wheeze, short of breath, swelling/ angioedema, dizziness, feeling faint, itchy and/or raised rash (hives, urticaria, nettle rash) blisters, skin peeling		
Medical dyes eg methylene blue	Non-itchy, non-raised rash, unknown rash, other side effect, Unknown reaction	Anaphylaxis, potentially life threatening reaction, wheeze, short of breath, swelling/ angioedema dizziness/ feeling faint, itchy and/or raised rash (hives, urticaria, nettle rash) blisters, skin peeling		
Local anaesthetics e.g. lignocaine, bupivacaine	Non-itchy, non-raised rash, unknown rash, other side effect, Unknown reaction, palpitations	Anaphylaxis, potentially life threatening reaction, wheeze, short of breath, swelling/ angioedema dizziness, feeling faint, itchy and/or raised rash (hives, urticaria, nettle rash) blisters, skin peeling,		
General anaesthetics	PONV, other side effect, Unknown reaction	Anaphylaxis, potentially life threatening reaction,		MH
Colloid eg gelofusin	Other side effect Unknown reaction, intolerance of meat product	Anaphylaxis, potentially life threatening reaction,		
ACE-inhibitors eg ramipril, lisinopril	Cough, kidney injury, non-urticarial rash, GI upset, other side effect, tiredness, headache, visual brightness, muscle aches, unknown reaction	Dizzy/ collapse, angioedema/anaphylaxis / potentially life threatening reaction		
Alpha blockers	Non-urticarial rash, GI upset, other side effect, unknown reaction	Dizzy/collapse, anaphylaxis/potentially life threatening reaction		
Amiodarone	non-urticarial rash/skin changes, other side effect, unknown reaction	Dizzy/collapse/bradycardia, anaphylaxis/potentially life threatening reaction		Pneumonitis, eye problems
Angiotensin – 2 blocker	GI upset, kidney injury, non-urticarial rash, other side effect, unknown reaction	Dizzy/ collapse, anaphylaxis/ potentially life threatening reaction		

Beta blocker	Tiredness, non-urticarial rash, GI upset, other side effect, unknown reaction	Dizzy/collapse/bradycardia, wheeze, anaphylaxis/potentially life threatening reaction		
Calcium channel blocker	Non-urticarial rash, GI upset, other side effect, unknown reaction	Dizzy/collapse, anaphylaxis/potentially life threatening reaction		
Loop diuretic	Non-urticarial rash, salt/electrolyte imbalance, kidney injury, GI upset, other side effect, unknown reaction	Dizzy/collapse, anaphylaxis/potentially life threatening reaction		
Nitrates	Headache, Non-urticarial rash, GI upset, other side effect, unknown reaction	Dizzy/collapse, anaphylaxis/potentially life threatening reaction		
Nodal blockers	Visual brightness, bradycardia/palpitations, headache, GI upset, non-urticarial rash, other side effect, unknown reaction	Dizzy/collapse, anaphylaxis/potentially life threatening reaction		
Potassium channel activators	Non-urticarial rash, GI upset, other side effect, unknown reaction	Dizzy/collapse, anaphylaxis/potentially life threatening reaction		
Potassium sparing diuretics	Salt/electrolyte imbalance, kidney injury, non-urticarial rash, GI upset, other side effect, unknown reaction	anaphylaxis/potentially life threatening reaction		
Statins	Muscle aches, deranged liver function, GI upset, non-urticarial rash, other side effect, unknown	anaphylaxis/potentially life threatening reaction		
Thiazide diuretics	Salt/electrolyte imbalance, kidney injury, non-urticarial rash, GI upset, other side effect, other reaction	Dizzy/collapse, anaphylaxis/potentially life threatening reaction		
Adrenaline	Palpitations/dizzy/faint, GI upset, other side effect, unknown reaction			
Other non-study cardiac drug	Non-urticarial rash, GI upset, other side effect, unknown reaction	anaphylaxis/potentially life threatening reaction		
Unknown cardiac drug	Non-urticarial rash, GI upset, other side effect, unknown reaction	anaphylaxis/potentially life threatening reaction		
Oxytocin (syntocinon)	Hypotension/tachycardia, flushing, headache, GI upset, other side effect, unknown reaction	anaphylaxis/potentially life threatening reaction		
Ergometrine	Hypertension/chest pain/palpitations, seizures, headache/dizziness/tinnitus	anaphylaxis/potentially life threatening reaction		

	, GI Upset, flushing, other side effect, unknown reaction			
Syntometrine	Hypertension/chest pain/palpitations, hypotension, seizures headache/dizziness/tinnitus , GI Upset, flushing, other side effect, unknown reaction	anaphylaxis/potentially life threatening reaction		
Carboprost	Flushing/fever/sweats, Hypertension/chest pain/palpitations, headache/dizziness, GI Upset, other side effect, unknown reaction	anaphylaxis/potentially life threatening reaction, bronchospasm/wheeze		
Misoprostol	Flushing/fever/sweats, headache/dizziness, GI Upset, other side effect, unknown reaction	anaphylaxis/potentially life threatening reaction,		
5-HT3 antagonists	Drowsiness, dry mouth, GI upset, headache, muscle spasms/restlessness, urinary retention, non-urticarial rash, other side effect, unknown reaction	Anaphylaxis, potentially life threatening reaction,		
Antihistamine	Drowsiness, dry mouth, GI upset, headache, muscle spasms/restlessness, urinary retention, non-urticarial rash, other side effect, unknown reaction	Anaphylaxis, potentially life threatening reaction		
Antimuscarinic	Drowsiness, dry mouth, GI upset, headache, muscle spasms/restlessness, urinary retention, non-urticarial rash, other side effect, unknown reaction	Anaphylaxis, potentially life threatening reaction		
Dopamine antagonist	Drowsiness, dry mouth, GI upset, headache, muscle spasms/restlessness, urinary retention, non-urticarial rash, other side effect, unknown reaction	Anaphylaxis, potentially life threatening reaction		
Steroid	Mania/sleeplessness, seizures, GI upset, headache, acne/skin problems, non-urticarial rash, other side effect, unknown reaction	Anaphylaxis, potentially life threatening reaction		pancreatitis

Dressings, tapes eg mefix, micropore	Local rash/dermatitis, other side effect, unknown reaction	Anaphylaxis, potentially life threatening reaction		
Any other non study drug	Local rash, unknown reaction, other	Anaphylaxis, potentially life threatening reaction		
Any other non-drug issues	Insects/insect stings, needlephobia, falls risk, food, anxiety, pets, hayfever/asthma/eczema/dust allergy/ rhinitis, hives/urticaria/angioedema, perfume/fragrances			
Other classified drug		Anaphylaxis, potentially life threatening reaction		

RAFT DALES Denominator Data

This form is for local site leads only

Please complete AFTER data collection is complete, ONCE PER SITE.

Thank you for your help with this, it will ensure that your data (and the study data overall) is validated.

Registered Site Lead:

NHS Email

NIHR CC

1. Data Collection Areas and Patient Denominators

We need to ask you about:

- the number of theatre and non-theatre areas in your hospital involved in data collection
- the number of eligible patients in each area (NOT including those cancelled pre-op / pre-survey)

Eligible patients = patients who met criteria for inclusion who either:

- were surveyed
- said no to being surveyed
- were missed

Please tell us the number of clinical areas / complexes actively involved in data collection (as per the DALES pseudoanonymiser code):

- ☐ 1 (A)
- ☐ 2 (A & B)
- ☐ 3 (A, B & C)
- ☐ 4 (A, B, C & D)
- ☐ 5 (A, B, C, D & E)
- ☐ 6 (A, B, C, D, E & F)
- ☐ 7 (A, B, C, D, E, F & G)
- ☐ 8 (A, B, C, D, E, F, G & H)

Please now tell us more about each data collection area.

-Area / Complex A

What kind of clinical area is A?

- ☐ Operating theatre(s)
- ☐ Interventional radiology
- ☐ Pain clinic
- ☐ Endoscopy suite
- ☐ Other

Please tell us what kind of area:

Please tell us how many theatres / procedure rooms in A:

Please tell us how many ELIGIBLE patients there were on Day 1:

Please tell us how many ELIGIBLE patients there were on Day 2:

Please tell us how many ELIGIBLE patients there were on Day 3:

-Area / Complex B

What kind of clinical area is B?

- ☐ Operating theatre(s)
- ☐ Interventional radiology
- ☐ Pain clinic
- ☐ Endoscopy suite
- ☐ Other

Please tell us what kind of area:

Please tell us how many theatres / procedure rooms in B:

Please tell us how many ELIGIBLE patients there were on Day 1:

Please tell us how many ELIGIBLE patients there were on Day 2:

Please tell us how many ELIGIBLE patients there were on Day 3:

-Area / Complex C

What kind of clinical area is C?

- ☐ Operating theatre(s)
- ☐ Interventional radiology
- ☐ Pain clinic
- ☐ Endoscopy suite
- ☐ Other

Please tell us what kind of area:

Please tell us how many theatres / procedure rooms in C:

Please tell us how many ELIGIBLE patients there were on Day 1:

Please tell us how many ELIGIBLE patients there were on Day 2:

Please tell us how many ELIGIBLE patients there were on Day 3:

-Area / Complex D

What kind of clinical area is D?

- ☐ Operating theatre(s)
- ☐ Interventional radiology
- ☐ Pain clinic
- ☐ Endoscopy suite
- ☐ Other

Please tell us what kind of area:

Please tell us how many theatres / procedure rooms in D:

Please tell us how many ELIGIBLE patients there were on Day 1:

Please tell us how many ELIGIBLE patients there were on Day 2:

Please tell us how many ELIGIBLE patients there were on Day 3:

-Area / Complex E

What kind of clinical area is E?

- ☐ Operating theatre(s)
- ☐ Interventional radiology
- ☐ Pain clinic
- ☐ Endoscopy suite
- ☐ Other

Please tell us what kind of area:

Please tell us how many theatres / procedure rooms in E:

Please tell us how many ELIGIBLE patients there were on Day 1:

Please tell us how many ELIGIBLE patients there were on Day 2:

Please tell us how many ELIGIBLE patients there were on Day 3:

-Area / Complex F

What kind of clinical area is F?

- ☐ Operating theatre(s)
- ☐ Interventional radiology
- ☐ Pain clinic
- ☐ Endoscopy suite
- ☐ Other

Please tell us what kind of area:

Please tell us how many theatres / procedure rooms in F:

Please tell us how many ELIGIBLE patients there were on Day 1:

Please tell us how many ELIGIBLE patients there were on Day 2:

Please tell us how many ELIGIBLE patients there were on Day 3:

-Area / Complex G

What kind of clinical area is G?

- ☐ Operating theatre(s)
- ☐ Interventional radiology
- ☐ Pain clinic
- ☐ Endoscopy suite
- ☐ Other

Please tell us what kind of area:

Please tell us how many theatres / procedure rooms in G:

Please tell us how many ELIGIBLE patients there were on Day 1:

Please tell us how many ELIGIBLE patients there were on Day 2:

Please tell us how many ELIGIBLE patients there were on Day 3:

-Area / Complex H

What kind of clinical area is H?

- ☐ Operating theatre(s)
- ☐ Interventional radiology
- ☐ Pain clinic
- ☐ Endoscopy suite
- ☐ Other

Please tell us what kind of area:

Please tell us how many theatres / procedure rooms in H:

Please tell us how many ELIGIBLE patients there were on Day 1:

Please tell us how many ELIGIBLE patients there were on Day 2:

Please tell us how many ELIGIBLE patients there were on Day 3:

Totals

Total eligible patients: _____

Patients accrued _____

Percent of eligible patients covered: _____

2. Non-Recruiting Hospital Areas, please enter:

-the TOTAL number of adult elective theatres /
procedure rooms NOT involved in data collection: _____

I.e. if you had 2 potentially eligible areas not
involved, one with 4 theatres and the other with 3
procedure rooms you should enter 7

Percent of eligible theatres / procedure rooms
covered: _____

3. Pre-Survey / Pre-Op Cancelled Patients, Exclusions

TOTAL number of patients cancelled pre-survey /
pre-op over all 3 study days: _____

TOTAL number of patients excluded pre-survey over all
3 study days, i.e. those not able to consent (e.g.
dementia), private patients and prisoners: _____

-this does NOT include patients who refused to give
consent (this data is generated from the survey)

4. Anaesthetist Denominator, please enter:

-the TOTAL number of ELIGIBLE anaesthetists at your
hospital for all 3 study days: _____

(this is the number of anaesthetists that were
anaesthetising in ALL elective areas over the 3
days; please only count each individual anaesthetist
once no matter how many times in 3 days they were
working)

Anaesthetists accrued _____

Percent of eligible anaesthetists covered: _____

5. Local Drug Data

please confirm the following questions as accurately as possible

Which of the following opioids are available at your hospital for *routine* perioperative use? (tick all that apply)

- ☐ IV Morphine
- ☐ Oral Morphine
- ☐ Diamorphine
- ☐ Fentanyl
- ☐ Alfentanil
- ☐ Remifentanyl
- ☐ Buprenorphine
- ☐ Pethidine
- ☐ IV Oxycodone
- ☐ Oral Oxycodone
- ☐ Tapentadol

Which NSAIDs are available at your centre for *routine* perioperative use? (tick all that apply)

- ☐ Celecoxib
- ☐ Diclofenac IV
- ☐ Diclofenac Oral / PR
- ☐ Etoricoxib
- ☐ Ibuprofen
- ☐ Ketorolac
- ☐ Meloxicam
- ☐ Parecoxib

In your hospital how do anaesthetists access antibiotic guidelines? (tick all that apply)

- ☐ Intranet / online
- ☐ App-based, e.g. MicroGuide
- ☐ Paper-based

Does your centre have surgical antibiotic guidelines that clearly stratify when or when not to give penicillin prophylaxis based on the specific nature of a penicillin allergy label?

- ☐ Yes
- ☐ No

E.g. giving penicillin to patients with GI upset as their 'allergy' but not to those with a rash

Does your hospital have a guideline for surgical antibiotic prophylaxis that covers whether or not to give cephalosporins if the patient has a penicillin allergy label?

- ☐ Yes
- ☐ No

-if so, what aspects does the policy cover (tick all that apply)?

- ☐ Situations where cephalosporins would be first-line but the patient has a penicillin allergy label, i.e. using 1st-lactams vs non-1st-lactams
- ☐ Semi-second-line use of cephalosporins as an alternative to penicillin for 'non-severe' penicillin allergy i.e. if the allergy label represents side-effects e.g. GI upset

Any additional comments?

6. De-Labeling

Does your hospital have a mechanism to facilitate formal antibiotic allergy de-labelling (either internal or external)?

- ☐ Yes
☐ No

-if so, what is the mechanism?

- ☐ Internal / at this hospital
☐ Referral to another site IN this Board / Trust
☐ Referral to another site OUTSIDE this Board / Trust
☐ GP-related

Any additional comments?

7. Wristband Data

Please confirm your hospital's allergy wristband usage:

- ☐ Allergy wristband with named allergies on wristband
☐ Allergy wristbands without details
☐ Our centre does not use allergy wristbands

Any additional comments?

Does your hospital have combination wristbands for allergies and patient ID?

- ☐ Yes
☐ No

What colour is your allergy wristband?

- ☐ Blue
☐ Green
☐ Orange
☐ Red
☐ Purple
☐ White
☐ Yellow

Regarding wristbands, does your hospital have a wristband policy for separating allergy alerts (e.g. anaphylaxis) from sensitivities (e.g. GI upset)?

- ☐ Yes, we have separate allergy and sensitivity wristbands
☐ Yes, it's policy not to list sensitivity on a wristband
☐ No, we don't have a policy

What colour is your sensitivity wristband?

- ☐ Blue
☐ Green
☐ Orange
☐ Red
☐ Purple
☐ White
☐ Yellow

Does your hospital have a policy regarding the use of allergy / sensitivity wristbands to indicate risks (e.g. falls, needlephobia)?

- ☐ Yes, policy says DO NOT list risks
☐ Yes, policy says list risks
☐ No, no such policy exists

I.e. this is standard practice, not simply as an ad hoc measure by individual staff

Denom duplicate?

- ☐ Yes

Dup record

DALES Anaesthetist Survey

PLEASE ONLY COMPLETE THIS SURVEY IF ADULT ANAESTHESIA IS PART OF YOUR PRACTICE

Thank you for taking part in DALES. This a study about drug allergy labels in elective surgical patients and should take around 15 minutes to complete.

In this survey we will ask for your views on some common allergy labels relevant to anaesthetists and your approach to prescribing in a variety of clinical scenarios. We will also ask your opinions on how to solve the problems posed by incorrect drug allergy labelling.

Your data is anonymous and you will not be contacted again after completing the survey. Your answers will not be directly linked to patients involved in the study.

For further information, please go to the DALES website.

-if you would like to watch a short YouTube clip about DALES please click below:

Demographics

1. Anaesthetist Seniority

- ☐ Consultant
- ☐ Associate Specialist / Staff Grade
- ☐ ST 5-7
- ☐ ST 3-4
- ☐ CT 1-2
- ☐ FY1 / 2
- ☐ Medical Training Initiative doctor
- ☐ Physician's Assistant (Anaesthesia) (prescribers only)

Consent

2. When consenting a patient for anaesthesia, do you routinely discuss the risk of anaesthetic allergy?

- ☐ Yes, routinely for all patients
- ☐ Only if discussing rare complications of anaesthesia
- ☐ No, only if the patient asks specifically about allergy

3a. If asked by a patient about the risk of anaesthetic allergy which of the following best matches how you would explain that risk in WORDS? (choose one)

- ☐ Common
- ☐ Uncommon
- ☐ Rare
- ☐ Very rare
- ☐ I use an alternate non-numeric description
- ☐ I don't routinely use non-numeric descriptors

-alternate non-numerical description: _____

3b. If asked by a patient about the risk of anaesthetic allergy which of the following NUMBERS best matches how you would explain that risk? (choose one)

- ☐ < 1:100
- ☐ < 1:1,000
- ☐ < 1:10,000
- ☐ < 1:100,000
- ☐ I use an alternate numerical description
- ☐ I don't routinely use numerical descriptors

-alternate numerical description: _____

WARNING! You appear to have ticked the 'don't use non-numerics' AND the 'don't use numerics' option.

Please check your answers.

Food Allergy

4. Do you avoid Propofol in association with any of the following food allergies?

- ☐ Egg
- ☐ Soya
- ☐ I don't avoid Propofol in either of the above allergies

WARNING! You appear to ticked the 'avoid' box(es) AND the 'don't avoid' option.

Please check your answers.

Penicillin Allergy

The following questions concern ELECTIVE patients who require penicillin prophylaxis but who also have penicillin allergy labels.

5a. Patients report a variety of different reactions to penicillins.

On the following list, please indicate on a scale of 1-5 how likely you consider the following reactions to represent true allergy:

(1 = Highly unlikely, 5 = Highly likely)

-the topic of whether or not to actually give penicillins to such patients will be covered in the subsequent question

-anaphylaxis

- ☐ 1 (Highly unlikely to represent true allergy)
- ☐ 2
- ☐ 3 (Possibly)
- ☐ 4
- ☐ 5 (Highly likely to represent true allergy)

-swelling of lips / face / tongue / body

- ☐ 1 (Highly unlikely to represent true allergy)
☐ 2
☐ 3 (Possibly)
☐ 4
☐ 5 (Highly likely to represent true allergy)

-non-itchy rash

- ☐ 1 (Highly unlikely to represent true allergy)
☐ 2
☐ 3 (Possibly)
☐ 4
☐ 5 (Highly likely to represent true allergy)

-rash of unknown nature

- ☐ 1 (Highly unlikely to represent true allergy)
☐ 2
☐ 3 (Possibly)
☐ 4
☐ 5 (Highly likely to represent true allergy)

-widespread urticarial rash ('hives')

- ☐ 1 (Highly unlikely to represent true allergy)
☐ 2
☐ 3 (Possibly)
☐ 4
☐ 5 (Highly likely to represent true allergy)

-GI upset (nausea and / or diarrhoea)

- ☐ 1 (Highly unlikely to represent true allergy)
☐ 2
☐ 3 (Possibly)
☐ 4
☐ 5 (Highly likely to represent true allergy)

-the patient doesn't know / can't remember what happened

- ☐ 1 (Highly unlikely to represent true allergy)
☐ 2
☐ 3 (Possibly)
☐ 4
☐ 5 (Highly likely to represent true allergy)

-the reaction occurred ONLY after the second or subsequent dose

- ☐ 1 (Highly unlikely to represent true allergy)
☐ 2
☐ 3 (Possibly)
☐ 4
☐ 5 (Highly likely to represent true allergy)

-since the index allergic reaction, the patient has received a penicillin without any problems

- ☐ 1 (Highly unlikely to represent true allergy)
☐ 2
☐ 3 (Possibly)
☐ 4
☐ 5 (Highly likely to represent true allergy)

Additional Penicillin Allergy Questions

5b. An elective patient with a penicillin allergy label is due a penicillin for surgery...

-if you consider the label HIGHLY UNLIKELY to represent true allergy, which of the following is your normal practice?

- ☐ I give penicillin (with / without a test dose)
☐ I would not give penicillin to anyone with the allergy label

-if you consider the label to POSSIBLY represent true allergy, which of the following is your normal practice?

- ☐ I give penicillin (with / without a test dose)
☐ I would not give penicillin to anyone with the allergy label

A|B

-if the patient had no reaction after the penicillin was administered, which of the following best describes your practice? (tick all that apply)

- ☐ I amend the anaesthetic chart
☐ I amend the patient notes to remove the allergy label
☐ I remove 'penicillin allergy' from the drug allergy wristband
☐ I inform the surgeon
☐ I inform the patient's GP
☐ None of the above

WARNING! You appear to have ticked an incompatible combination: '(an amendment)' and 'None of the above'

-if either: 'None of the above'

or:

'I amend the anaesthetic chart' alone

...which of the following reasons apply (tick all that apply)?

- ☐ Because there is no pathway in my Trust / Board to help me to reliably escalate this information to the patient's other care providers
☐ Because I don't believe that tolerating a single dose of intra-operative penicillin constitutes definitive proof
☐ Other reason(s)

-if you would like to tell us more about your rationale do so here:

-do you routinely inform the patient that they have received a penicillin without ill effect?

- ☐ Yes
☐ No

-if 'No' which of the following reasons apply (tick all that apply)?

- ☐ Patients don't have a reliable way to pass the information to their GP or other care providers
- ☐ I don't think patient reliably retain information post-op
- ☐ I don't believe that tolerating a single dose of intra-operative penicillin constitutes definitive proof
- ☐ Other reason(s)

-if you would like to tell us more about your rationale do so here:

-if you routinely avoid penicillins in all patients with the allergy label, is this because (tick all that apply):

- ☐ There is a risk of a bad reaction
- ☐ Alternative antibiotics are available
- ☐ Patients are not always reliable with their history
- ☐ Formal testing for penicillin allergy is available and this is more appropriate than 'testing' in a theatre setting
- ☐ Other reason(s)

-if you would like to tell us more about your rationale do so here:

Additional Penicillin Allergy Questions 5c-e

5c. Does your Trust / Board have guidance for the use of penicillins in patients with penicillin allergy labels?

I.e. guidance on when it may be appropriate to give penicillins despite the label.

- ☐ Yes
- ☐ No
- ☐ Unsure / don't know

5d. Do you routinely administer cephalosporin prophylaxis to surgical patients you consider to have true penicillin allergy?

- ☐ Yes
- ☐ I seek microbiology guidance
- ☐ No, I use an alternative
- ☐ Our local guidance covers cephalosporin use and penicillin allergy, I follow this

5e. Do you routinely administer test doses when giving antibiotics?

- ☐ Yes, routinely
- ☐ No, never
- ☐ Not routinely but I do if I believe the patient is reporting a side-effect / unlikely to be reporting true allergy

-if no, which of the following reasons apply (tick all that apply)?

- ☐ I understand anaphylaxis to be an all-or-nothing response
- ☐ In anaesthetised patients, the early signs of allergic reaction might be missed
- ☐ Other reason(s)

-if you would like to tell us more about your rationale do so here:

Formal Penicillin Allergy De-Labeling

'De-labelling' refers to the formal removal of a patient's allergy label for a drug.

6. If a patient previously labelled as 'penicillin allergic' undergoes an Oral Challenge Test with a penicillin and tolerates it without problems, would you be happy to administer penicillin intra-operatively?

(an Oral Challenge Test involves supervised administration of an oral dose of the penicillin which caused the index reaction (or Amoxicillin if index penicillin not known))

- ☐ Yes
☐ No
☐ Unsure

-if 'No' or 'Unsure', please tell us your reasons (tick all that apply):

- ☐ My understanding is that patients should also be skin tested
☐ The penicillin received during testing might not be the same one I give in theatre
☐ I will be giving IV penicillin during surgery but the testing was oral
☐ I would never give penicillin to someone previously labelled as allergic, whatever the result of testing
☐ I would require clear local guidelines to support the use of penicillin in this situation
☐ Other reason(s)

-if you would like to tell us more about your rationale do so here:

-if 'Yes', if the patient had been formally assessed by a drug allergy specialist and had their label removed without ANY testing, would you still be happy to give penicillin intra-operatively?

I.e. the label could be removed by a specialist without testing on the basis the reaction represents side-effect not allergy

E.g. a patient who suffers from nausea with penicillin

- ☐ Yes
☐ No
☐ Unsure

-if 'No' or 'Unsure', please tell us your reasons (tick all that apply):

- ☐ I believe allergy label removal should always include some form of testing
☐ I would require clear local guidelines to support the use of penicillin in this situation
☐ Other reason(s)

-if you would like to tell us more about your rationale do so here:

Opioids

7. Consider the case of a patient with an allergy label to one or more opioids which you believe to represent side-effects, e.g. nausea, constipation, minor histamine itch.

If asked to anaesthetise this patient for a painful procedure requiring opioids which of the following best describes your practice? (tick all that apply)

- ☐ I give opioids as usual; I don't specifically avoid any named opioids
- ☐ I always avoid the specific opioid(s) the patient reports (but give others)
- ☐ I give additional prophylaxis, e.g. added antiemetic
- ☐ I use synthetic / semi-synthetic opioids only
- ☐ I avoid all opioids in such cases regardless of the nature of the allergy label

WARNING! You appear to have ticked an incompatible combination: 'giving opioids' and 'not giving any opioids'

WARNING! You appear to have ticked an incompatible combination: 'giving opioids as usual' with an avoid opioid option

Suggestions for Improvement

8a. Which of the following might help reduce the number of incorrect or unsubstantiated drug allergy labels in elective surgical patients? (tick all that apply)

- ☐ 'Medical sign-off' of drug allergy labels (i.e. only a doctor can write the label)
- ☐ Sign-off from senior clinical staff only (i.e. Consultant, ST6+)
- ☐ Sign-off from specialist staff (i.e. Pharmacist, Pre-Assessment nurse practitioner)
- ☐ More anaesthetists in Pre-Assessment
- ☐ A structured allergy proforma available to help assess drug allergies in Pre-Assessment
- ☐ Rapid access to specialist allergy opinion / de-labelling clinic
- ☐ Additional information provided from patient's GP
- ☐ Alternative colour wristbands to denote side-effect / sensitivity VS true allergy

Anything else that you think would practically help?

8b. Would you feel comfortable using a penicillin allergy smartphone app / web app to decide whether or not to give penicillin to a patient with a penicillin allergy label?

I.e. would you give penicillin if the app recommended this course of action based on the patient symptoms you inputted?

- ☐ Yes
- ☐ No
- ☐ Unsure

-if 'No' or 'Unsure' is this because:

- ☐ I would not feel confident relying on a computer-based tool to help make a clinical decision
- ☐ Smartphone apps aren't integrated into hospitals systems / patient records
- ☐ I don't think patients' histories are accurate enough
- ☐ I'm concerned about medico-legal aspects if there was a bad outcome
- ☐ Any such tool needs clear backing at local Trust / Board level
- ☐ Any such tool needs clear backing from the RCoA / AAGBI / NICE / SIGN
- ☐ I would never prescribe penicillin to a patient with the allergy label regardless
- ☐ Something else?

Could you tell us more?

THE END

Thank you for taking the time to complete this survey!

Ensure you are online / have signal then hit 'Submit'

?partial entry / duplicate

☐ Yes

Rationale

Matching entry(-ies)

Mark for deletion?

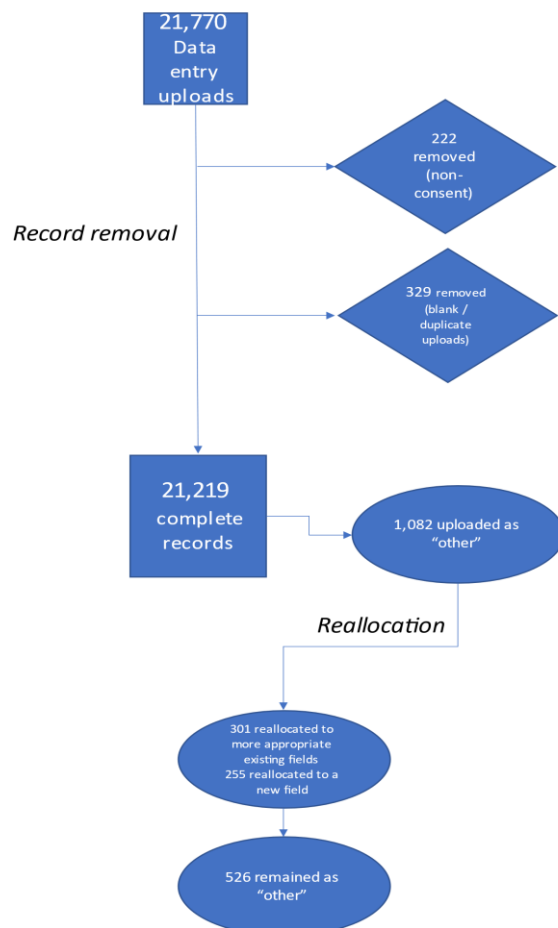
☐ Yes
☐ No

Supplementary Materials 7: REDCap information and data management procedures

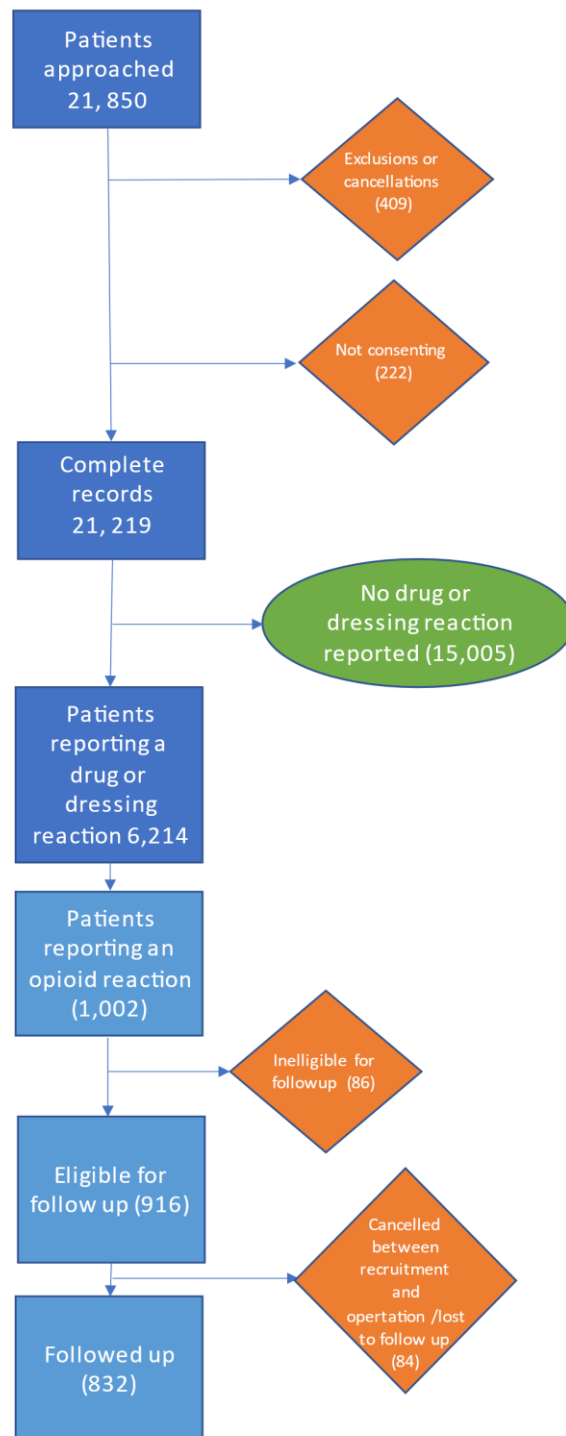
An agreed process was followed to deal with the entries returned to the central dataset via electronic upload as blank or duplicate survey entries. All those with unchecked boxes in the two consent fields were removed. Follow up data numbers/missing. 1082 records were uploaded indicating an 'other' patient reported allergy. 556 of these were moved to more appropriate categories.

Study data were collected and managed using REDCap electronic data capture tools hosted at Anaesthesia.Audit on Scotlands Health on the Web secure servers. REDCap (Research Electronic Data Capture) is a secure, web-based software platform designed to support data capture for research studies, providing 1) an intuitive interface for validated data capture; 2) audit trails for tracking data manipulation and export procedures; 3) automated export procedures for seamless data downloads to common statistical packages; and 4) procedures for data integration and interoperability with external sources.

Data Cleaning Flowchart:



Supplementary Materials 8: Study subject flowchart



Demographic data study population. Total complete records for 21, 219 patients.

Age Range	Number of patients
18-25	1108
26-50	6029
51-75	9846
>75	4236
Sex	
Male	9315
Female	11, 904

Frequency of all reported drug and dressing reactions

6214 patients made 9487 reports of a reaction to a drug or dressing. The frequency of reported reactions are indicated below.

Antibiotics	
Penicillins	2626
Aminoglycosides e.g. Gentamicin	22
Carbapenems e.g. Meropenem	3
Cephalosporins e.g. Cefuroxime	73
Chloramphenicol	13
Clindamycin	15
Glycopeptides e.g. Vancomycin, Teicoplanin	15
Linezolid	1
Macrolides e.g. Clarithromycin, Erythromycin	285
Metronidazole	87
Monobactams e.g. Aztreonam	1
Nitrofurantoin	62
Quinolones e.g. Ciprofloxacin, Ofloxacin	52
Co-Trimoxazole (Septrin) / Trimethoprim / sulphonamides	349
Tetracycline	97
Other NON-STUDY antibiotic(s)	19
Unknown antibiotic	17
Total	3737

NSAIDS	
Aspirin	407
Diclofenac	185
Etodolac	6
Ibuprofen	461
Indomethacin	11
Ketorolac	7
Meloxicam	8

Mefenamic acid	15
Naproxen	102
Selective COX-II inhibitors e.g. Celecoxib, Parecoxib	11
Multiple NSAIDs / class-effect	118
Total	1331

Opioids	
Buprenorphine	4
Co-Dydramol	35
Co-Codamol	147
Codeine	434
Dihydrocodeine	36
Diamorphine	15
Fentanyl	17
Morphine	275
Oxycodone	13
Pethidine	29
Remifentanyl	1
Tramadol	290
Multiple opioids / class-effect	20
Total	1316

Non-opioid analgesics	
Amitriptyline / Nortriptyline	36
Gabapentin	51
Nefopam	6
Pregabalin	21
Paracetamol	68
Other NON-STUDY analgesic(s)	5
Total	187

Muscle Relaxants	
-------------------------	--

Suxamethonium	17
Atracurium	3
Cisatracurium	0
Rocuronium	6
Vecuronium	1
Mivacurium	0
Pancuronium	0
Total	27

Cardiac drugs	
ACE-inhibitors e.g. Lisinopril, Ramipril)	134
Alpha-blockers e.g. Doxazosin, Prazosin	18
Amiodarone	3
Angiotensin-II-blockers e.g. Losartan, Candesartan	16
Beta-blockers e.g. Atenolol, Bisoprolol	69
Calcium channel-blockers e.g. Amlodipine, Verapamil	73
Loop diuretics e.g. Furosemide, Bumetanide	10
Nitrates e.g. GTN, Isosorbide mononitrate	4
Nodal blockers.e.g..Ivabradine.	3
Potassium channel-activators e.g. Nicorandil	3
Potassium-sparing diuretics e.g. Amiloride	6
Statins e.g. Simvastatin, Atorvastatin	143
Thiazide diuretics	6
Adrenaline	14
Other NON-STUDY cardiac drug(s)	12
Unknown cardiac med	5
Total	519

Obstetric Drugs	
Oxytocin (Syntocinon)	0
Ergometrine	0
Syntometrine	1
Carboprost (Haemabate)	0
Misoprostol	0
Other NON-STUDY Obs drug(s)	0

Total	1
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Antiemetic Drugs	
5-HT3-antagonists e.g. Ondansetron, Granisetron	9
Antihistamines e.g. Cyclizine	62
Antimuscarinics e.g. Hyoscine	10
Dopamine-antagonists e.g. Droperidol, Prochlorperizine (Stemetil)	44
Steroids e.g. Dexamethasone	42
Other NON-STUDY antiemetic	1
Total	168

Further grouped drugs	
Benzodiazepines	11
DOACs	6
H2-blockers	5
Non-Aspirin antiplatelets	10
Other sulfas	7
Proton pump inhibitors	31
Unknown drugs	3
Other anaesthetic drugs	24
Contrast media	46
Medical dyes	20
Local anaesthetics	30
Colloids	3
General anaesthetics	9
Total	205

Further individual substances	
Propofol	3
Sugammadex	0
Iodine	101
Chlorhexidine	15
Nickel	230

Latex	261
Thiopentone	2
Warfarin	14
Any other non-study drug	526
Total	1152

Dressings or tapes	
Dressings or tapes	844
Total	844