26 USE OF AN ANAPHYLAXIS CARE BUNDLE TO IMPROVE MANAGEMENT IN THE EMERGENCY DEPARTMENT

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Objectives & Background NICE guidance on anaphylaxis (Dec 2011) focuses on initial emergency management and onward referral. The guideline emphasises 5 main domains; documentation, tryptase sampling, observation, safe discharge and speciality follow up. Poor guidance compliance was highlighted during a departmental audit in 2012. An anaphylaxis care bundle was developed and implemented in response. We aimed to evaluate the impact of this bundle on departmental management of anaphylaxis.

Methods A retrospective case note review of all adult patients diagnosed with anaphylactic shock, identified from electronic records between 8/7/15–13/12/15 (cycle 1) and 30/3/16–17/5/16 (cycle 2) was conducted. A departmental anaphylaxis care bundle was introduced on 14/12/15. The bundle included a diagnostic checklist, clinical pathway, patient information leaflet and covering fax letter for the newly arranged allergy clinic direct referral. Implementation was supported by posters, educational sessions and staff emails. Performance was evaluated against the 5 main domains of the NICE guidance with the required standard of 100% compliance.

Results Cycles 1 and 2 identified 29 and 10 patients respectively. Performance improved across all 5 domains following the care bundle implementation. Documentation of time of onset

	01/09/11-29/01/12	08/07/15-13/12/15	Bundle introduced 14/12/15	30/03/16-17/05/16
1.DOCUMENTATION				
Clinical features	40/41 (98%)	29/29 (100%)		10/10 (100%)
Time of onset	35/41 (85%)	17/29 (59%)		10/10 (100%)
Circumstances surrounding event	24/41 (60%)	28/29 (97%)		10/10 (100%)
2.TRYPTASE				
At presentation	5/41 (12%)	4/29 (14%)		9/10 (90%)
After 1-2 hours	0%	2/29 (7%)		9/10 (90%)
Advice re baseline tryptase	*Not recorded*	0%		9/10 (90%)
3.OBSERVATION for 6-12 hours	37/41 (90%)	24/29 (83%)		10/10 (100%)
4.SAFE DISCHARGE				
Epipen	13/41 (32%)	20/29 (69%)		9/10 (90%)
Patient information leaflet	17/41 (42%)	12/29 (42%)		9/10 (90%)
5.REFERRAL TO SPECIALIST SERVICE	34/41 (83%)	3/29 (10%)		9/10 (90%)

Figure 1

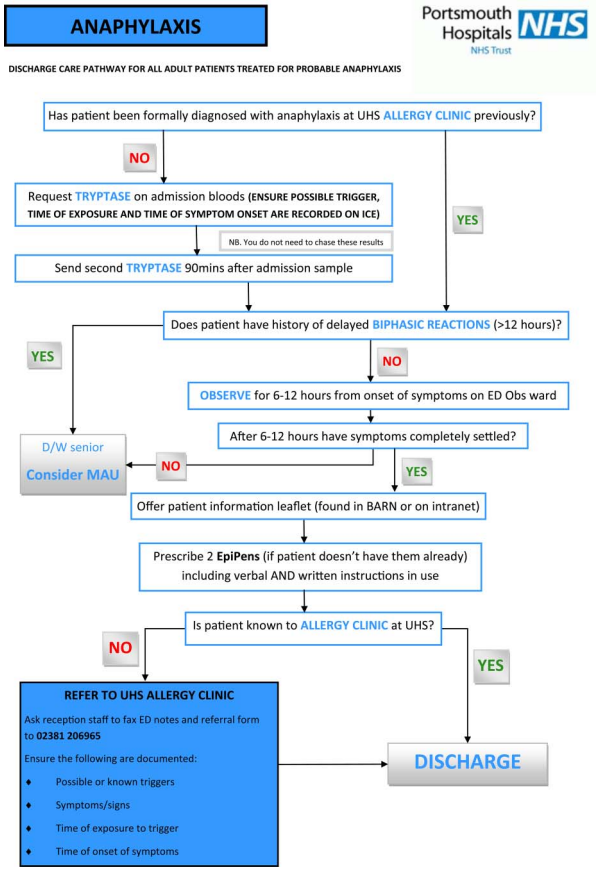

Figure 2

ANAPHYLAXIS

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PATIENT INFORMATION LEAFLET

WHAT IS ANAPHYLAXIS?

Anaphylaxis is a severe form of allergic reaction. It is estimated that there are between 1 and 3 cases of anaphylaxis in every 10,000 people and it is more common in children and young adults. It can be life threatening if it is not recognised and treated quickly.

Common triggers include:

- Food – e.g. nuts, eggs, shellfish or fruit
- Bee or wasp stings
- Medicines – e.g. antibiotics or pain killer

Sometime no cause is found in which case it is termed "idiopathic" anaphylaxis.

WHAT ARE THE SYMPTOMS?

Symptoms of anaphylaxis usually occur within a few minutes of being exposed to the trigger. Common symptoms include:

- A very itchy and raised blotchy rash (called urticarial)
- Lip, tongue and/or eyelid swelling
- A hoarse voice
- A tight or wheezy chest, difficulty breathing
- Feeling faint or passing out
- Vomiting or abdominal pain
- Agitation or anxiousness

HOW CAN I AVOID HAVING ANAPHYALXIS?

If you know or think you know what triggered your anaphylaxis then try and avoid it.

If you are/may be allergic to a medication then always inform doctors, nurses and pharmacists before you are prescribed or buy any medication.

If you are/may be allergic to a type of food then always read the ingredients on the packet or ask staff in a restaurant to ensure food you are about to eat does not contain the trigger.

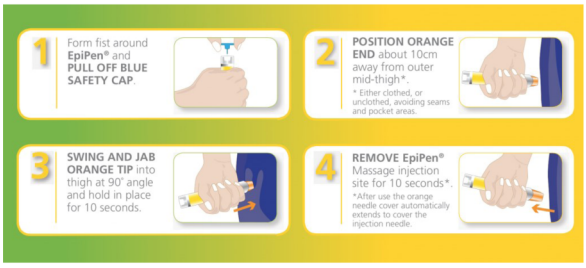
Figure 3

WHAT SHOULD I DO IF I HAVE ANAPHYLAXIS AGAIN?

If you think you are having another anaphylactic reaction then you need to act **quickly**.

You should have been discharged with 2 adrenaline auto-injectors (EpiPen®). These contain adrenaline which is the best treatment for anaphylaxis and might save your life. If your symptoms include tongue or throat swelling, difficulty breathing or feeling faint then use you EpiPen® and **call 999 immediately**.

The nurse or pharmacist giving you the EpiPen® should show you how to use it and may have allowed you to practice with a training device. Below are instructions on how to use an EpiPen®. Instructions are also on the EpiPen® packaging and you can visit http://www.epipen.co.uk/ for further information and a demonstration video. Please tell your friends and family about your anaphylaxis episode and show them about when and how to use an EpiPen®.



WHAT HAPPENS NEXT?

If you have not already been seen at the University Hospital Southampton allergy team, you will be referred to them. You should receive an appointment through the post within the next 18 weeks – if not, please contact 02381 20 8790 or 02381 204001 to chase this appointment.

The doctors and nurses at the allergy clinic will ask you some more questions about this episode and any others like this that you have experienced in the past. It is important that you take any medication or food wrappers (with the ingredients list) of food that you think may have caused the reaction.

As well as looking at the results of the blood tests you've had in the Emergency Department, they may well decide to do some further blood tests or skin prick tests to try and identify the type of reaction you had and what may have caused it. If you take antihistamine tablets, you should try and stop these for 5 days before the appointment so skin prick tests can be performed.

By the end of this clinic appointment you will have more information about the cause of your reaction

Figure 4

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REFERRAL TO ALLERGY CLINIC UNIVERSITY HOSPITAL SOUTHAMPTON

INSERT PATIENT LABEL HERE
Please ensure patient address is correct

Dear Allergy Team

Many thanks for accepting this referral for the above patient who as presented to the Emergency Department at Queen Alexandra Hospital with probable **ANAPHYLAXIS**.

The following have been documented (*ED clinician to tick if appropriate*):

- Known or possible trigger of symptoms ☐
- Time of exposure to trigger ☐
- Time of onset of symptoms ☐

Tryptase levels have been sent:

- At presentation ☐
- 90 mins after presentation ☐

They have been issued with the following:

- Patient information leaflet ☐
- 2 x EpiPen® ☐

Please fax **this form** plus **A COPY OF THE PATIENT'S NOTES** to the UHS allergy clinic secretaries on **02381 206965**

Figure 5

improved from 17/29 to 10/10. Tryptase sampling at presentation and after 1–2 hours improved 4/29 and 2/29 respectively during cycle 1 to 9/10 and 9/10 during cycle 2. None of the patients in cycle 1 received advice regarding baseline tryptase compared to 9/10 in cycle 2. All 10 patients in cycle 2 were observed for at least 6 hours compared to 24/29 in cycle 1. In cycle 2 safe discharge was achieved in 9/10 patients compared to cycle 1 where 20/29 received epipens and 12/29 received information leaflets. Referral to specialist allergy services improved from 3/29 to 9/10.

Conclusion Following the introduction of the departmental anaphylaxis care bundle, more adult patients presenting with anaphylaxis are being managed, discharged and followed up in accordance with NICE guidelines. The concise algorithm could be an invaluable resource in other busy and high pressure departments. The importance of education, awareness, reinforcement and accessibility was important in achieving the improvements seen. Due to the rotational nature of junior staff on-going education is needed to ensure sustainability of the improved performance.