**Scottish Parliament Region: Mid Scotland and Fife**

**Cases 200502539 & 200600555: Fife NHS Board and a Medical Practice, Fife NHS Board**

## Summary of Investigation

### *Category*

Health\FHS – GP & GP Practice\Clinical treatment/Diagnosis
Health\Hospitals – Accident & Emergency\Clinical treatment/Diagnosis

### *Overview*

The complainant (Mr C) considered that his daughter (Ms A)'s GP Practice (the Practice), the Out of Hours Service and Accident & Emergency (A&E) at Victoria Hospital, Kirkcaldy, did not properly diagnose and treat her illness.

### *Specific complaints and conclusions*

The complaints which have been investigated are that:

(a) the Practice did not properly diagnose and care for Ms A's illness (*not upheld*); and

(b) the Out of Hours Service and A&E at Victoria Hospital, Kirkcaldy, did not properly diagnose and care for Ms A's illness (*upheld*).

### *Redress and recommendations*

The Ombudsman recommends that the Practice:

(i) review its threshold for considering whether or not a patient might have a subarachnoid haemorrhage, and whether or not early/urgent imaging would be beneficial; and

(ii) consider recording patients' actual blood pressure when a check is made.

The Ombudsman recommends that (Fife NHS Board) the Board:

(iii) apologise to Mr C for the failure of medical staff to reach a differential diagnosis of subarachnoid haemorrhage on 22 and 23 July 2005;

(iv) review its locally agreed indications and process for admission, observation and investigation of patients presenting with acute headache in A&E, including ensuring that the teaching and guidance given to A&E junior doctors is based on current research; and

(v) ensure that Out of Hours records are in line with relevant record-keeping standards, for example as laid down by the General Medical Council.

The Practice have accepted the recommendations. The Board have also accepted the recommendations, and in some respects have already taken action and made procedural changes to address them.

## Main Investigation Report

### Introduction

1. On 9 December 2005, the Ombudsman received a complaint from the uncle (Mr D) of a 21-year-old woman (Ms A) who was a patient at a GP Practice (the Practice), and who was also seen at the Out of Hours Service and at Accident & Emergency (A&E) at Victoria Hospital, Kirkcaldy. The complaint was later pursued by Ms A's father (Mr C).

2. The complaints from Mr C which I have investigated are that:

(a) the Practice did not properly diagnose and care for Ms A's illness; and

(b) the Out of Hours Service and A&E at Victoria Hospital, Kirkcaldy, did not properly diagnose and care for Ms A's illness.

### Investigation

3. In writing this report I have had access to Ms A's clinical records and the complaints correspondence from the Practice and Fife NHS Board (the Board). I obtained advice from the Ombudsman's professional medical advisers, including a GP adviser (Adviser 1) and a Hospital A&E adviser (Adviser 2) regarding the clinical aspects of the complaint. We examined the papers provided by Mr C, the Practice and the Board.

4. In line with the practice of the Ombudsman's office, the standard by which the events were judged was whether they were reasonable, in the circumstances, at the time in question. By reasonable, I mean whether the decisions and actions taken were within the boundaries of what would be considered acceptable by the medical profession in terms of knowledge and practice at the time.

5. I have not included in this report every detail investigated but I am satisfied that no matter of significance has been overlooked. An explanation of the abbreviations used in the report can be found at Annex 1. A glossary of the medical terms used can be found at Annex 2. Mr C, the Practice and the Board were given an opportunity to comment on a draft of this report.

*Medical history*

6. Ms A complained of severe pain in her head and neck, and blurring in her right eye, on 22 July 2005. She attended A&E and was seen by a triage nurse (Nurse 1) and a doctor (A&E Doctor 1). Tests and x-rays were performed, a

migraine was diagnosed and Ms A was discharged with simple analgesia. Ms A continued to experience severe head and neck pain and attended the Out of Hours Service based at A&E on 23 July 2005. She was seen by a doctor (EMS Doctor 1) who also diagnosed migraine and prescribed a sedative to help her sleep.

7. Ms A continued to feel unwell and attended the Practice on 25 July 2005 where she was seen by one of the GPs (GP 1). GP 1 diagnosed a tension headache and prescribed alternative analgesia. Ms A returned to the Practice, this time with Mr C, on 26 July 2005 where a different GP (GP 2) diagnosed a muscle tension headache and prescribed betablockers and Diazepam. GP 2 asked Ms A to return as a follow-up and she saw GP 2 again on 2 August 2005. GP 2 noted that Ms A's symptoms had appeared to improve and so he stopped the betablockers and Diazepam and changed her analgesia.

8. On 7 August 2005 Ms A, who had continued to suffer discomfort in her head and neck, suddenly became severely unwell and was taken to A&E by ambulance. A CT scan showed that Ms A had suffered a large subarachnoid haemorrhage and she was transferred to the Intensive Care Unit (ITU). Her condition deteriorated and Ms A died on 9 August 2005.

**(a) The Practice did not properly diagnose and care for Ms A's illness**

9. Mr D complained to the Board on behalf of Ms A's family on 26 September 2005. Elements of the complaint that related to diagnosis and care at the Practice were passed to the Practice by the Board. The Practice, in the names of GP 1 and GP 2, issued a response to Mr D on 7 November 2005, and the following four paragraphs deal with that response.

10. Ms A attended GP 1 on 25 July 2005. GP 1 said that, following on from her visit to the Out of Hours Service (of which GP 1 had a note) on 23 July 2005, Ms A was continuing to complain of a right-sided headache, painful neck and difficulty sleeping. She said that the headache had started a few days previously and had been coming and going to a certain extent. In addition to this, she had been experiencing some nausea, had lost her appetite, and had blurred vision. GP 1 checked her blood pressure and found that it was normal, and diagnosed a tension headache. He prescribed Tramadol analgesia.

11. Ms A, accompanied by Mr C, saw GP 2 on 26 July 2005. Ms A said that the Tramadol was not eliminating the pain, which she described as being across

her forehead, around her neck and between her shoulder blades. She could not sleep and was very tired, and was still experiencing some nausea. The Practice response at this point said that 'there was no mention of any visual problems when [GP 2] directly asked her at that time'. GP 2 examined Ms A and found that she was tender around the forehead, neck muscles and scalp, but she did not have a temperature or photophobia, and the back of her eyes did not display any abnormality. GP 2 concluded that Ms A was suffering from a 'muscular tension type headache'. GP 2 also noted that on a previous visit to him on 8 July 2005 Ms A complained of difficulty sleeping after a break-in at her work while she was on a night-shift, and he considered whether that incident might still be preying on Ms A's mind on 26 July 2005. GP 2 prescribed Inderal 1 and Diazepam to help her sleep and alleviate the pain, as well as advising her to continue taking the Tramadol.

12. Ms A saw GP 2 again on 2 August 2005 as a follow-up to the 26 July 2005 visit. She reported that the headache and neck pain were better but she did feel the 'occasional twinge of pain'. Ms A asked for a sick line and GP 2 issued one for 'headache' dated 30 July 2005 to 3 August 2005. As her symptoms were improving, GP 2 suggested that Ms A stop taking the Diazepam and Inderal 1, and he changed her analgesia from Tramadol to Co-dydramol.

13. In the response to Mr C of 7 November 2005, the GPs said it was 'most unusual for a GP to see someone suffering from such a condition over such a length of time', and that on reflection they did not think that they would have acted any differently given Ms A's symptoms. They went on to say:

> 'We certainly do not feel that any urgent imaging would have been appropriate given our findings when [Ms A] was seen in General Practice as well as the fact that her headache was settling when last seen'.

14. As noted, I referred this case Adviser 1. Adviser 1 looked at the records for each of Ms A's visits to the Practice in the context of the subarachnoid haemorrhage from which Ms A died. His view of the 25 July 2005 appointment with GP 1 was that there was reasonable attention given to Ms A's history, but there was not much recorded about examination and her actual blood pressure was not recorded. On the 26 July 2005 appointment with GP 2, Adviser 1's view was that there was a reasonable record of both history and examination. He also noted that GP 2 probably felt there were underlying psychological issues relating to the work break-in, although GP 2 did record that Ms A denied feeling stress. In relation to the 2 August 2005 GP appointment, Adviser 1 was

of the view that as this was a third contact with the Practice regarding this problem, and it appeared to be improving, there was no apparent reason to revisit the original diagnosis.

15. In terms of headache and subarachnoid haemorrhage, Adviser 1 said that headache is a very common presenting problem in General Practice, that it is very unusual for it to be due to life-threatening illness such as subarachnoid haemorrhage, and dealing with the acute presentation of subarachnoid haemorrhage is a very unusual event in General Practice. Adviser 1's view was that the possible indicators that might arouse suspicion of subarachnoid haemorrhage are the sudden onset of a particularly severe headache, often at the back of the head, and that associated stiffness of the neck and increasing photophobia might also be features. However, he also said that:

> 'the presentation was by no means a classic one. There seems to have been a significant degree of facial pain with tenderness as well as muscle tenderness in this case.'

He also said that it is likely that the symptoms that started on 22 July 2005 represented a small bleed from the subarachnoid haemorrhage.

16. On reviewing all three appointments, Adviser 1 said:

> 'I think these GPs were trying to find some way of helping the patient but unfortunately did not pick up on those features of the history that might have suggested exploration of the possibility of subarachnoid haemorrhage.'

Given the difficulty of identifying this specific condition in a General Practice setting, Adviser 1 did not feel that the care provided to Ms A fell below a reasonable standard. However, he went on to say:

> 'I would hope this case might have made them discuss matters and resolve to have a lower threshold for thinking about subarachnoid haemorrhage. A better appreciation of the management of the small subarachnoid haemorrhage I hope would lead them to reconsider their assertion that urgent imaging would not have been appropriate given their findings and the fact that a headache was settling down when last seen.'

17. In addition to Adviser 1, I also referred this case to Adviser 2. Adviser 2 said that headache is a very common symptom and the vast majority are minor and not serious. She went on to say that:

'The identification of headaches with an underlying significant cause (termed secondary headaches) is fraught with difficulties. GPs see many, many headaches and the diagnosis of tension headache, migraine, sinusitis and other simple causes is the overwhelming norm.'

*(a) Conclusion*

18. Both Adviser 1 and Adviser 2 have made it clear that it is uncommon for GPs to encounter a subarachnoid haemorrhage in their professional lives, and that the presentation of most headaches and related symptoms in General Practice normally leads to a diagnosis of a non-serious illness. Adviser 1 has also been clear that, while he has some criticism of record-keeping at the Practice, he does not believe that the diagnosis and care provided to Ms A by GP 1 and GP 2 fell below a reasonable standard. Having read all of the evidence, I agree with Adviser 1's conclusions. On this basis I do not uphold the complaint.

*(a) Recommendation*

19. Although this complaint has not been upheld, the Ombudsman recommends that the Practice:

(i) review its threshold for considering whether or not a patient might have a subarachnoid haemorrhage, and whether or not early/urgent imaging would be beneficial.

(ii) consider recording patients' actual blood pressure when a check is made.

**(b) The Out of Hours Service and A&E at Victoria Hospital, Kirkcaldy, did not properly diagnose and care for Ms A's illness**

20. Mr D complained to the Board on behalf of Ms A's family on 26 September 2005. The Board issued a response to Mr D on 11 November 2005, and the following six paragraphs deal with that response.

21. Ms A attended A&E on 22 July 2005 at 11:07, where her fiancé (Mr E) met her. She was initially assessed by Nurse 1 who recorded that Ms A had a pain in the right side of her face and eye, blurred vision in her right eye, and that she did suffer from migraines but had never had pain like this before. Nurse 1 checked Ms A's temperature, pulse, blood pressure and blood oxygen levels. Ms A was prioritised as needing to be seen within one hour. A&E Doctor 1 then saw Ms A at 13:22 and noted that she told him that she had pain in the right side of her face for two days, and on examination Ms A had tenderness over the right side of her face. Ms A did not have a history of toothache, chest infection

or injury, and examination confirmed that there was no abnormality in her teeth and she did not have a temperature. Ms A's jaw and sinus were x-rayed and appeared normal. A&E Doctor 1 prescribed pain relief and she was discharged at 15:35.

22. Ms A attended the Out of Hours Service at A&E on 23 July 2005 where she was seen by EMS Doctor 1, an on-call GP who was not a member of hospital staff. He recalled that Ms A was complaining of continuing right sided headache similar to that described the previous day, and that she had taken a variety of analgesia that had not eased the pain. EMS Doctor 1 said that Ms A told him she had been diagnosed as suffering from migraine the previous day and, given the symptoms he observed, this seemed to him to be the most likely diagnosis. EMS Doctor 1 also said that 'although not documented he would have carried out his standard examination for such a condition', which would include taking blood pressure, pulse, testing nerve reactions and in particular examining the back of the eyes. He described Ms A as walking normally, with no balance problems, did not have a temperature, was not obviously distressed and was emotionally calm. Based on the documents available to him at that time, EMS Doctor 1 felt that an adequate assessment of Ms A's condition had been made during her visit to A&E on 22 July 2005. EMS Doctor 1 did not prescribe any further analgesia given what Ms A was already taking for the pain, but because she felt she could not sleep he gave her a sedative. EMS Doctor 1, via the Board's response to Mr D, said that:

> 'he would have reassured her and advised her that if her symptoms did not settle to contact the Emergency Service again or her own General Practitioner. He also states that he would have advised that if her symptoms persisted into the following week that further investigation would be advisable and that her General Practitioner would be the best person to take this forward.'

23. Ms A, who was with Mr E at his home, collapsed and went into a fit on 7 August 2005. She was taken by ambulance to A&E and arrived at 20:38. She was unresponsive and was immediately seen by a doctor (A&E Doctor 2). She was ventilated and a CT scan arranged. The scan showed that Ms A had suffered a large subarachnoid haemorrhage and she was transferred to ITU. A Consultant Anaesthetist (Consultant Anaesthetist 1) spoke to Mr C and Mr E and explained that the damage to Ms A's brain was severe, but that she was still responding to tests. There is a difference of opinion between the family and the Board over the emphasis in this discussion. The family are of the view that

this gave them the impression that Ms A might still recover. However, the Board's records say that the family were advised that the subarachnoid haemorrhage had cause significant brain damage from which Ms A would not recover.

24. On 8 August 2005 Ms A was examined by a Consultant Physician (Consultant Physician 1) and Ms A's family were spoken to by a Consultant Anaesthetist (Consultant Anaesthetist 2) who explained that it was premature to carry out brain stem tests as Ms A was still showing responses. The family have said that this gave them false hope regarding Ms A's condition. The Board's response also said that

> 'It was also [Consultant Anaesthetist 2]'s clinical opinion that it would have been very difficult to predict this event from [Ms A]'s history of headache over the previous two weeks.'

25. On 9 August 2005 at 11:00, a Consultant Anaesthetist (Consultant Anaesthetist 3) explained to Ms A's family that provisional tests indicated that Ms A was brain stem dead and that formal tests would be conducted later by him and Consultant Physician 1. The family asked Consultant Anaesthetist 3 if there was a link between Ms A's recent headaches and the subarachnoid haemorrhage. Consultant Anaesthetist 3 said that it was possible they were related, however, as he did not examine Ms A prior to her admission he could not confirm this. Consultant Anaesthetist 3 and Consultant Physician 1 carried out two sets of brain stem tests at 13:00 and 14:00 respectively, and Ms A was pronounced dead at 14:20.

26. A&E Doctor 1's initial assessment of Ms A was reviewed by two A&E Consultants as part of the Board's response to Mr C's complaint. This review found that:

> 'in retrospect [Ms A] had possibly suffered a small bleed at the time of her presentation to Accident and Emergency on 22 July 2005. However, the attending doctor does not seem to have found signs or symptoms typical of this condition at the time. Subarachnoid haemorrhage can be variable in severity and may be mistaken for a simple headache or migraine in the absence of significant findings. This may also explain why following her presentation several doctors went onto review [Ms A] and still did not make a diagnosis of subarachnoid haemorrhage.'

27. Adviser 2 looked at the records for each of Ms A's attendances at A&E in

the context of the subarachnoid haemorrhage from which Ms A died. In relation to the 22 July 2005 visit, Adviser 2 observed that Nurse 1 recorded in the triage entry that Ms A suffered from migraines but had 'never had pain like the one today'. Adviser 2's view is that such a 'worst ever/different pain' is highly suggestive of a headache with a significant underlying cause such as subarachnoid haemorrhage. The triage assessment classed Ms A as requiring to be seen urgently, but that the condition was not life-threatening. When she was seen by A&E Doctor 1 the focus was on a two-day history of facial pain, with x-rays performed and analgesia prescribed. Adviser 2 said:

> 'Although this was a reasonable differential diagnosis of facial pain, I am nevertheless critical of the fact that crucial history given at triage was disregarded and as a result there was no in depth questioning about the nature of the pain, its mode of onset and severity, nor was there any appropriate neurological examination including the vital search for neck stiffness … Having said that, I would also add that her presentation on 22 July was not entirely typical of subarachnoid haemorrhage. Although there were telltale signs of the possible true diagnosis (evidenced only by the brief triage history) these were confused by the presence of facial pain and tenderness and a history of migraine.'

Adviser 2 was clear that the history and examination performed in A&E on 22 July 2005 were not adequate. In her view, despite the atypical and possibly distracting features of facial tenderness and a history of migraine, a full neurological history and examination should have been carried out and a detailed history of the timing, nature, severity and associated features of the pain should have been sought and recorded. It is likely that this would have revealed the need for a CT scan, and the scan would have shown the small bleed that had probably happened.

28. Adviser 2's view of the 23 July 2005 visit to the Out of Hours Service was that the only new information recorded was the presence of photophobia and nausea. Adviser 2 was of the view that there was:

> 'a regrettable lack of neurological examination or detailed history. The additional symptoms of nausea and photophobia are compatible with a diagnosis of either migraine or subarachnoid haemorrhage. The correct diagnosis could only be clarified by a more detailed examination and investigation'. However, she also said that 'I think the failure to pick up an atypical presentation of a subarachnoid haemorrhage is to some extent understandable, save that she had presented initially to A&E and failed to

respond to simple treatment.'

29. Adviser 1 also looked at Ms A's visit to the Out of Hours Service. He was also critical of the lack of detail in the medical record, in particular that there was no mention of any form of examination which, he said, did not meet basic record-keeping standards as laid down by the General Medical Council (GMC). Adviser 2 also questioned EMS Doctor 1's recollection of the visit, given the lack of notes:

> 'He gives quite a lot of detail that he would have advised her to contact again if the symptoms did not settle and further that if the symptoms had persisted into the following week she would have needed an investigation. That seems to be a slight variance as to what he recorded in the notes of 'no follow-up'.'

30. In relation to Ms A's admission to hospital on 7 August 2005, Adviser 2 was of the view that the prognosis was that Ms A had very little hope of survival or recovery. Adviser 2 examined the accounts of the interaction between Ms A's family and medical staff as well as the medical records and was not critical of the information conveyed to the family which was technically correct within the limits of what could be concluded at that time. However, she was 'highly critical of any implied opinion that the original symptoms were not related to the final cause of death'.

31. Adviser 2 was of the view that the response from the Board to Mr D was 'on the whole, balanced and informative'. They admitted that, in retrospect, Ms A had suffered a small haemorrhage on 22 July 2005 which doctors failed to diagnose and their analysis of the causes of this failure were generally acceptable. However, Adviser 2 was critical that the Board did not acknowledge that there were:

> 'subtle pointers to the possible true severity of the problem, recorded in the history at triage which were ignored by the examining doctor, and have not therefore explained why this was the case and the implications of this error or any need for corrective action'.

32. The conclusion reached by Adviser 2 was that this was a missed diagnosis of a small subarachnoid haemorrhage. However, she was very clear that:

> 'Whilst this might have led to a missed window of opportunity to carry out preventative surgery, the chance of such surgery being possible, let alone

successful was nonetheless far from certain.'

Adviser 1 also commented on this aspect. He said that identifying a small bleed can allow investigations which might identify an underlying abnormality which might re-bleed. In such cases:

> 'surgical intervention to prevent a re-bleed becomes at least in theory a possibility although the condition of the patient or technical difficulties of the operation may in fact prevent it being a practical option.'

*(b) Conclusion*

33. This was, and for the family still is, a tragic case. This was acknowledged by Ms A's GPs, by the Board, and by Adviser 1 and Adviser 2 during their analysis. It is clear from Adviser 2 that the history and examination of Ms A in A&E on 22 July 2005 was not adequate and missed the differential diagnosis of subarachnoid haemorrhage. It is also clear from Adviser 2, with supporting information from Adviser 1, that the history and examination, and record-keeping, by the Out of Hours Service on 23 July 2005 was also not adequate and missed the differential diagnosis of subarachnoid haemorrhage. The manner in which A&E and ITU staff provided care for Ms A, and dealt with her family, from her admission on 7 August 2005 was reasonable. Having read all of the evidence, I agree with Adviser 2's conclusions. On this basis I uphold the complaint.

*(b) Recommendation*

34. The Ombudsman recommends that the Board:

(i) apologise to Mr C for the failure of medical staff to reach a differential diagnosis of subarachnoid haemorrhage on 22 and 23 July 2005;

(ii) review its locally agreed indications and process for admission, observation and investigation of patients presenting with acute headache in A&E, including ensuring that the teaching and guidance given to A&E junior doctors is based on current research; and

(iii) ensure that Out of Hours records are in line with relevant record-keeping standards, for example as laid down by the GMC.

35. The Practice have accepted the recommendations. The Board have also accepted the recommendations, and in some respects have already taken action and made procedural changes to address them.

36. The Ombudsman asks that that the Board and the Practice notify her

when the recommendations have been implemented.

19 December 2007

**Annex 1**

**Explanation of abbreviations used**

| | |
|---|---|
| Mr D | Ms A's uncle |
| Ms A | A 21-year-old woman who died of a subarachnoid haemorrhage |
| The Practice | Ms A's GP Practice in Kirkcaldy |
| A&E | The Accident & Emergency unit at Victoria Hospital, Kirkcaldy |
| Mr C | The complainant, Ms A's father |
| The Board | Fife NHS Board |
| Adviser 1 | The Ombudsman's professional medical adviser in General Practice |
| Adviser 2 | The Ombudsman's professional medical adviser in Hospital A&E |
| Nurse 1 | A triage nurse who examined Ms A in A&E on 22 July 2005 |
| A&E Doctor 1 | A doctor who examined Ms A in A&E on 22 July 2005 |
| EMS Doctor 1 | An on-call GP who examined Ms A at the Out of Hours Emergency Medical Service on 23 July 2005 |
| GP 1 | One of Ms A's GP who examined her on 25 July 2005 |

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| ITU | The Intensive Care Unit at Victoria Hospital, Kirkcaldy |
| GP 2 | One of Ms A's GPs who examined her on 26 July 2005 and 2 August 2005 |
| Mr E | Ms A's fiancé |
| A&E Doctor 2 | A doctor who examined Ms A in A&E on 7 August 2005 |
| Consultant Anaesthetist 1 | An anaesthetist who examined Ms A in Intensive Care on 7 August 2005 |
| Consultant Physician 1 | A doctor who examined Ms A in Intensive Care on 8 and 9 August 2005 |
| Consultant Anaesthetist 2 | An anaesthetist who examined Ms A in Intensive Care on 8 August 2005 |
| Consultant Anaesthetist 3 | An anaesthetist who examined Ms A in Intensive Care on 9 August 2005 |
| GMC | The General Medical Council |

**Annex 2**

## Glossary of terms

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|---|---|
| Anaesthetist | A specialist practiced in the administration of all forms of anaesthesia |
| Analgesia | An analgesic, commonly known as a painkiller, is any member of a group of drugs used to relieve pain |
| Betablockers | A class of drugs that block the action of adrenaline can relieve stress to the heart muscle. Betablockers are often used to slow the heart rate or lower the blood pressure |
| Co-dydramol | An analgesic used for treating mild to moderate pain |
| CT scan | A special radiographic technique that uses a computer to assimilate multiple x-ray images into a 2 dimensional cross-sectional image |
| Diazepam | A prescription drug used as a sedative, muscle relaxant and antianxiety medication |
| Inderal 1 | A betablocker |
| Migraine | A neurological disorder, usually causing episodes of severe or moderate headache which is often one-sided and pulsating, lasting between several hours to three days, accompanied by gastrointestinal upsets, such as nausea and vomiting, and a heightened sensitivity to bright lights (photophobia) and noise (phonophobia) |

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|---|---|
| Nausea | The sensation of having an urge to vomit |
| Neurological | Relating to the branch of science and medicine which treats the nervous system |
| Photophobia | An abnormal visual intolerance of light |
| Sedative | A medication with tranquilising properties. Most sedatives (also known as tranquillisers) can also promote sleep |
| Sinusitis | Sinusitis is an infection of the small, air filled cavities inside the cheekbones and forehead, which become inflamed and swollen |
| Subarachnoid haemorrhage | A subarachnoid haemorrhage is a serious, potentially life-threatening condition. It happens when an artery close to the brain surface ruptures. Blood leaks out into the space between the membranes that cover the brain and spinal chord |
| Tramadol | An analgesic used for treating moderate to severe pain |
| Triage | The classification of patients or casualties to determine priority of need and proper place of treatment |
| Ventilated | To aerate, or oxygenate, the blood |