Scottish Parliament Region: North East Scotland

Case 200502773: Grampian NHS Board

Summary of Investigation

Category

Health: Specialist Nursing Care

Overview

The complainant (Mrs C) raised concerns that her husband (Mr C), who suffered from a degenerative neurological disease (the disease), had been given inappropriate advice by a nurse working with patients with the disease. She also complained that her complaint to Grampian NHS Board (the Board) had not been adequately investigated.

Specific complaints and conclusions

The complaints which have been investigated are that:

(a) inappropriate advice was given to Mr C about possible treatment available to him for the disease (*no finding*);

(b) there was inadequate communication between members of the clinical team involved in Mr C's care (*upheld*); and

(c) the Board did not appropriately investigate Mrs C's complaint (*upheld*).

Redress and recommendations

The Ombudsman recommends that the Board:

(i) consider establishing a protocol for clinicians re-entering a patient's care after a period without contact;

(ii) consider how communication can be improved in circumstances where a team of several clinicians is involved in a patient's care and when a general practice team are the only professionals involved for significant periods; and

(iii) take steps to ensure that staff involved in the investigation or consideration of complaints are appropriately informed of the details of the complaint and that any decisions reached are properly reasoned and take into account all of the circumstances of the complaint.

The Board have accepted the recommendations and will act on them accordingly.

Main Investigation Report

Introduction

1. The aggrieved (Mr C) was a patient with a degenerative neurological disease (the disease). On 9 June 2005 he received a visit from a nurse working with patients with the disease (the Nurse) and they discussed the possibility of non-invasive ventilation (NIV) for Mr C. Mr C was averse to any type of treatment which would require him to attend hospital and informed the Nurse of this fact. Because of his condition, Mr C was not able to move and was unable to keep his trunk upright so he could not breathe properly. Any transport was extremely distressing and difficult for Mr C and it had taken him some time to recover from a previous trip to hospital.

2. Mr C's wife (Mrs C) told me that the Nurse advised Mr C that he would be able to have NIV and all necessary tests relating to NIV at home. The Nurse denies this and said she merely discussed the possibility of carrying out the tests at home and had undertaken to obtain more information about this possibility. Upon further enquiry, the Nurse discovered that in order to use NIV, Mr C would require to spend two nights in hospital in order to fit and adjust the equipment. Mr C would not countenance this and it was consequently not possible for him to have NIV. Mrs C explained that this episode caused distress to Mr C as his hopes in relation to this treatment were unnecessarily raised.

3. Mrs C complained to Grampian NHS Board (the Board) on 12 July 2005. She received a reply on 5 August 2005 and a meeting was arranged with the Nurse, her manager (the Manager) and a complaints officer from the Board (the Officer) on 28 October 2005. It was agreed that Mrs C's complaint would be examined by a nurse manager (the Nurse Manager), who had extensive experience of the treatment of patients with the disease. The Nurse Manager concluded that the Nurse was not at fault in this matter. The Board referred Mrs C to the Ombudsman's office on 21 December 2005 and the Ombudsman received her complaint on 12 January 2006. Mr C died on 6 March 2006.

4. The complaints from Mrs C which I have investigated are that:

(a) inappropriate advice was given to Mr C about possible treatment available to him for the disease;

(b) there was inadequate communication between members of the clinical team involved in Mr C's care; and

(c) the Board did not appropriately investigate Mrs C's complaint.

Investigation

5. During this investigation, I reviewed the correspondence between Mrs C and the Board, and the Board's complaints file on this matter. I obtained copies of Mr C's relevant clinical records which included separate sets of records from the Nurse, Mr C's GP (GP 1) and the Board; I asked the Ombudsman's nursing adviser (the Adviser) to review these. Furthermore, I met with Mrs C and, together with the Adviser, I met separately with the Nurse and GP 1.

6. I have not included in this report every detail investigated but I am satisfied that no matter of significance has been overlooked. Mrs C, the Board, GP 1 and the Nurse were given an opportunity to comment on a draft of this report.

Non-Invasive Ventilation

7. Respiratory muscle weakness affects most people with the disease as it progresses. NIV improves breathing efficiency and recent studies have shown that it can improve quality of life. In most cases this is due to better sleep at night which leads to less tired muscles and a reversal of most of the symptoms caused by the former breathing problems. NIV is not suitable for all patients and this may not become clear until after specialist respiratory assessment and possibly a trial of assisted ventilation. NIV generally leads to increased life expectancy which may be seen positively or negatively by the person with the disease. NIV focuses on relief of symptoms of breathlessness but the course of the disease will be unchanged. This is a temporary treatment of symptoms which postpones the point at which respiratory insufficiency will cause death. The implications of increased life expectancy, progression of disability and need for palliative care should be considered by family members and carers but foremost by the person with the disease.

The role of the Nurse

8. During my meeting with her, the Nurse described how she fitted into the patient journey. She told me that she has a coordinating role and ensures services are working. She also facilitates the services and ensures timely contact between the parties. I asked who was generally in charge of coordinating patient care and she told me that this role would be undertaken by the person who had the most information about the patient and how s/he is progressing. The coordinating role is often taken by the patient's GP who involves acute staff when necessary.

9. The Board also explained that 'the management of patients with the disease is a difficult and delicate task. It requires the discussion of issues which most people would very much prefer not to confront and nurses have an almost impossible task at times in assessing rapidly and on the spot, what should and should not be discussed at particular stages in a patient's disease progression'.

10. In response to a draft of this report, Mrs C explained that, although this might be the case for certain patients with the disease, she and Mr C had always been clear with all clinicians that they wished to know all the facts, difficult or not, about the disease and its progress.

(a) Inappropriate advice was given to Mr C about possible treatment available to him for the disease and (b) there was inadequate communication between members of the clinical team involved in Mr C's care

11. The first complaint relates to the advice given during a home visit from the Nurse on 9 June 2005. Mrs C complained that the Nurse had told her and Mr C that NIV could be carried out without a trip to hospital and this turned out to be incorrect. The second complaint examines how wider communication issues may have impacted upon the events which gave rise to the first complaint.

Events prior to 9 June 2005

12. In order to establish the background to this complaint, I went through Mr C's medical records to determine when the matter of NIV had previously been discussed and what decisions had been made in relation to this treatment.

13. On 9 June 2004, Mr C's neurology consultant (the Neurologist) informed GP 1 and the Nurse that a respiratory clinic appointment had been arranged for Mr C. Following this appointment, Mr C's respiratory consultant (the Respiratory Consultant) wrote to the Neurologist and to GP 1. His letter was also forwarded to the Nurse by the Neurologist. The Respiratory Consultant stated that he had raised the issue of NIV with Mr C but had not discussed it in a great deal of detail. He explained that he had informed Mr and Mrs C that it is frequently efficient in prolonging survival and may have some positive influence on quality of life, particularly with symptomatic ventilatory failure in patients with the disease. He stated that he had made it clear to Mr and Mrs C that they would have to consider this option carefully.

14. On 7 October 2004, following a discussion with GP 1, the Neurologist wrote to the Nurse. She informed her that Mr C was no longer fit to attend a clinic in hospital and that, as Mr C did not wish to consider mechanical ventilation, review at the respiratory clinic would not be necessary at this stage.

15. On 21 October 2004, the Respiratory Consultant wrote to Mr C and copied this letter to the Neurologist. He explained that the only other long term issue which might arise was the question of what Mr C felt about some form of ventilation either in the event of an acute illness or on a longer term basis if his breathing were to deteriorate. The Respiratory Consultant stated that this question involved major issues and that he would be happy to participate in a discussion about this at some stage, possibly in combination with the Neurologist and the Nurse. On the same date, the Respiratory Consultant also wrote to GP 1 and the Neurologist. The Neurologist forwarded this letter to the Nurse. The Respiratory Consultant explained to them that the question of ventilation in the event of acute deterioration was touched on at Mr C's previous appointment but that no clear decision was reached. He stated that it might be useful to raise this again at some stage with Mr C. He said that he would be happy to have Mr C reviewed, possibly by means of a short overnight admission, to assess overnight oximetry and arousal blood gases if he were to develop symptoms suggestive of ventilatory failure such as breathlessness lying flat, fatigue, poor concentration and morning headache.

16. Mr C did not attend the clinic again and received care at home that was coordinated by his GP practice (the Practice). There is no explicit reference in Mr C's records to any further discussion about mechanical ventilation or any decisions being made about this.

The Nurse's visit

17. On 9 June 2005 the Nurse visited Mr C in his home. She had not had any clinical contact with Mr C for approximately a year as there had previously been a breakdown in relations between them. However, a letter sent by the Nurse to all of her patients had prompted Mr and Mrs C to arrange the visit of 9 June 2005. The Nurse contacted GP 1 on the day of her visit to Mr C but GP 1 was unavailable.

18. The Nurse's records for her visit to Mr C state that '[Mr C] expressed sadness that he has no energy during the day. He is sleeping well overnight, waking with a morning headache, no nightmares, lying flat is impossible now so

sits up. Breathing more laboured at all times. Very tired during the day. Discussed option of being re-assessed by [the Respiratory Consultant], [Mrs C] feels very strongly this is not an option. [Mr C] was open to this if it could be done at home. I will look into the assessment at home as it is done in other parts of the country. He was also open to the option of NIV if it gave him a better quality of life during the day'.

Mrs C's evidence

19. Mrs C stated that, during her visit, the Nurse discussed the possibility of NIV with her and Mr C. Mrs C told me that the Nurse described a new machine which was easy to use. She and Mr C made it clear to the Nurse that Mr C did not want any treatment which involved an overnight hospital stay. Mrs C recalls that the Nurse suggested that the tests for Mr C's suitability for the machine could be done at home using district nurses and that such a machine would improve his quality of life. She explained that she was under the impression that the Nurse was offering something completely new and not something that had been tried previously.

The Nurse's evidence

20. The Nurse told me that, during her visit to Mr C, they had discussed his poor quality of life and his tiredness. Based on the symptoms which Mr C described, the Nurse decided to discuss NIV with him and stated that, in her opinion, it would have been remiss not to mention this option. The Nurse recalled that Mrs C made it very clear to her that Mr C could not go into hospital. The Nurse's recollection of events is that she advised Mr and Mrs C that she would look into the practicality of having NIV at home as this can be done in other parts of Scotland. It turned out that the Board do not allow their equipment to be taken out of hospitals and used in people's homes. The Nurse told Mr and Mrs C that she would discuss the issue of NIV with the Neurologist and let her know that Mr C had requested that the procedure should not include an overnight stay. The Nurse said that she then contacted the Neurologist and the Respiratory Consultant, who both agreed that this was an appropriate referral but that it would involve two nights in hospital.

21. The Board's response to the complaint stated that the Nurse had received a letter from the Respiratory Consultant in October 2004 (see paragraph 14) which indicated that NIV had been discussed with Mr C at an out-patient appointment. As such, she felt that she was following up on these previous discussions rather than raising hopes.

22. The Nurse stated that she could not recall any element of the discussion which would have given Mr C the false hope that Mrs C described. She told me that she is realistic and would certainly not want to give a patient false hope. The Nurse was upset that her visit had given rise to these feelings in Mr C and has since done a lot of contemplation about hope in palliative care.

The Nurse's communications with other clinicians after her visit

23. Following her visit to Mr C, the Nurse emailed the Neurologist to update her about Mr C. She explained that Mr C experienced extreme tiredness during the day and woke with a morning headache. She also wrote:

> 'We discussed [NIV] again and he would like to be considered. HOWEVER, he does not wish to go back into hospital. I wondered if initially overnight (tests) could be done at home?'

The Nurse also sent a copy of this email to the Respiratory Consultant.

24. On 14 June 2005, the Neurologist emailed the Nurse and informed her that she and the Respiratory Consultant had discussed Mr C's request. She informed the Nurse that it would not be possible to put Mr C on home ventilation without an admission and that this would require a minimum of two nights in hospital. She invited the Nurse to make contact with the Respiratory Consultant who would arrange admission to the respiratory ward with about 24 to 48 hours notice. The Nurse spoke with the Respiratory Consultant later that day. She explained Mr C's situation to the Respiratory Consultant who confirmed that Mr C would need to come into hospital before he would be able to use NIV at home. He agreed to call Mrs C to discuss this possibility with her. The Respiratory Consultant emailed the Nurse on 20 June 2005 and informed her that he had spoken to Mrs C but that she had not clearly made up her mind regarding NIV. Mrs C wished to speak to GP 1 before making a decision.

25. The Nurse noted in Mr C's records that she had called GP 1 on 9 June 2005 to update him on her visit with Mr C and had left a message for him. Further on in the Nurse's notes, she records a telephone message from GP 1; he was not in work at that time but another GP (GP 2) from the Practice had telephoned him to pass on the Nurse's message. GP 1 stated that he had discussed mechanical ventilation with Mr C a few months ago but that Mr C did not wish to have this. The Nurse later spoke to GP 2 who told her that GP 1 was concerned about the reason why Mr C had changed his mind about

mechanical ventilation. He also expressed concern about the stretched services at the Practice and agreed to visit Mr C to discuss the matter further.

26. On 17 June 2005, the Nurse received another message from GP 1 stating that he was 'very concerned that this had been brought up with [Mr C] as he clearly stated some months ago he did not wish anything mechanical'. He went on to say that Mr C could be muddled at times but did not have a morning headache and that Mr C and his family only wanted palliative care. On 27 June 2005, the Nurse received a telephone message from Mrs C telling her that they no longer required an appointment with her the following week. Mrs C expressed concern that NIV had been discussed as Mr C was not a suitable candidate.

GP 1's evidence

27. GP 1 informed me that a good deal of Mr C's care was provided by the Practice. GP 1 was of the opinion that because Mr C received a high level of support from the Practice, the Nurse did not play a very important part in his care as he and the family did not have many requirements which were not already being met by the Practice. GP 1 stated that Mr C had already considered NIV but that this option had been dismissed as Mr C was not suitable for this. GP 1 expressed the opinion that the Nurse should have checked up on this before suggesting the treatment to Mr C.

The Neurologist's comments

28. As part of their investigation into Mrs C's complaint, the Board asked the Neurologist to comment on the events. The Neurologist, having reviewed Mr C's notes, considered whether it was appropriate for the Nurse to have raised the issue of NIV for Mr C when she visited him at home. The Neurologist stated Mr C was experiencing symptoms suggestive of increasing respiratory muscle weakness and that 'these would all be criteria under which we would consider it reasonable to discuss the option of NIV and to explore whether this was something which the patient would consider'.

29. The Neurologist went on to explain that, when the Nurse contacted her after her visit to Mr C, she had started to make arrangements to admit Mr C for assessment, but Mr C did not wish to come into hospital either for investigations or to be introduced to the equipment involved in NIV and to be monitored overnight to see how he got on with it. She explained that she and the Nurse did their best to consider whether NIV could be initiated at home but that this

was simply not a practical option. She stated that it took them a day or two to establish this fact as it was not a request she or the Nurse had had to deal with before.

30. The Neurologist concluded that she did not think it was inappropriate for the Nurse to raise the question of NIV in the circumstances and, indeed, that it is part of her remit to identify patients who are developing signs of respiratory insufficiency and pass this information on to the Neurologist and the Respiratory Consultant.

31. Commenting on a draft of this report, the Neurologist stated unequivocally that she would also have raised the issue of NIV with Mr C given the symptoms which he was describing as she feels that the discussion was entirely clinically appropriate. The Neurologist also believes, from a purely medical point of view, that Mr C would have been a suitable candidate for NIV and that it would have relieved some of his symptoms.

32. The Neurologist explained that, during her ten years of experience running the clinic for patients suffering from the disease, she has seen many instances of patients changing their minds about treatments as their disease progresses – particularly in terms of whether they will consider PEG feeding or any form of ventilatory support. She stated that these issues do have to be constantly reviewed and patients need to know that they are allowed to change their minds when they start to experience symptoms which could be relieved by these procedures.

Advice from the Adviser

33. Due to the nature of the disease, coordinated care and good communication are essential to ensure appropriate symptom control and that trust in the clinical team is maintained. Any professional who has not been involved in a patient's care for over a year has a personal duty to ensure that she is up-to-date with all that has gone on in that period and to be aware of any decisions that have been taken by others.

34. If the Nurse felt able to suggest a form of treatment but was unclear of all the implications, I would have expected her to have made sure that Mr and Mrs C understood the outstanding issues before leaving their home.

Other

35. A new respiratory protocol has been developed at draft stage by the Nurse in conjunction with the Neurologist and the Respiratory Consultant. This provides a clear process for a respiratory function assessment to be carried out and involves the patient's GP. It sets out in detail how communication in relation to this should be managed between the Nurse, the patient's GP and the patient.

(a) Conclusion

36. I have to reach a conclusion on whether the Nurse gave Mr C inappropriate advice that Mr C could have NIV without having to be assessed in hospital. There is no dispute over the fact that Mrs C informed the Nurse that Mr C could not travel to hospital for any treatment.

37. Mrs C's position is that she and Mr C were willing to re-consider NIV because the Nurse told them that it could be done in their home without the need for a trip to hospital. Mr C's GP notes record that he was bitterly disappointed when he found out that NIV would not be possible without a hospital visit.

38. The Nurse recorded in her notes that she had told Mr and Mrs C that she would look into having the assessment at home. After the visit, the Nurse emailed the Neurologist to try and find out whether NIV could be done at home. She also stated in that email that Mr C did not wish to return to hospital for NIV. Soon thereafter, the Respiratory Consultant discussed the issues with Mrs C and noted that she 'had not clearly made up her mind regarding NIV. Mrs C wished to speak to GP 1 before making a decision'.

39. These accounts cannot be reconciled. The Nurse's subsequent actions indicate that she was not certain whether NIV would be possible without a hospital visit, and it is difficult to see why she would have given unequivocal advice to Mr C if this was the case. Mrs C clearly recollects that she was told by the Nurse that the tests could be done at home and this is also evidenced by entries in the GP notes.

40. It is not possible to determine what was said during that meeting. Both parties give different accounts of what was said and I cannot prove or disprove either of these versions. In these circumstances, I have made no finding on this complaint.

(b) Conclusion

41. This head of complaint covers the general communication amongst the team of clinicians involved in Mr C's care. It also covers the more specific question of the Nurse's communication with GP 1 prior to her visit to Mr C.

42. I consider that some of the difficulties which arose in this case were due to the lack of communication amongst the team of clinicians involved in Mr C's care. When Mr C had regular contact with the Neurologist in the clinic, she ensured that the Nurse was kept informed of any developments in Mr C's care. She did this by forwarding to her any correspondence received from other clinicians involved in Mr C's care. Following Mr C's deterioration which resulted in his inability to travel to clinics at the hospital, no such written updates were received as Mr C was cared for by a team from the Practice. They provided most of the care which Mr C required and it was never deemed relevant to provide the Neurologist or the Nurse with an update. For this reason, the Nurse was unaware that a decision had been made about NIV without the involvement of either the Neurologist or the Respiratory Consultant.

43. It is unfortunate that GP 1 was unavailable when the Nurse telephoned him prior to her visit to Mr C. These problems could potentially have been avoided if she had been able to discuss Mr C with GP 1. If she had received information from GP 1, she may have approached the question of NIV differently. It is important that clinical staff have up-to-date information about a patient before re-entering their care following a period of absence. However, it would appear that Mr C had changed his view on NIV since he had discussed the issue with GP 1. GP 1 stated that Mr C did not wish to have NIV, but Mr C was willing to consider it when it was suggested by the Nurse (see paragraph 37). Mrs C explained that this was because Mr C was under the impression that the Nurse was offering him something different to that which had been offered previously. It should also be noted that no discussion about NIV was recorded in Mr C's GP records.

44. It is essential, when a team of several clinicians is involved in a patient's care, that all members of that team are kept updated about the patient's progress and any important decisions that have been made in relation to that patient's care and treatment. Because this did not happen in this case and that this may have given rise to confusion for Mr and Mrs C, I uphold this complaint.

(b) Recommendation

45. The Ombudsman recommends that the Board consider how communication can be improved in circumstances where a team of several clinicians is involved in a patient's care and when a general practice team are the only professionals involved for significant periods. She also recommends that the Board consider establishing a protocol for clinicians re-entering a patient's care after a period without contact.

(c) The Board did not appropriately investigate Mrs C's complaint

46. Mrs C's complaint was received by the Board on 22 July 2005. During the investigation into the matter the Respiratory Consultant and the Neurologist were consulted. A reply was sent to Mrs C on 5 August 2005. A meeting was later set up to discuss the complaint. This meeting was held on 28 October 2005. The Nurse attended the meeting along with the Officer and the Manager; Mrs C attended with her daughter. During this meeting, Mrs C gave an account of her dissatisfaction with Mr C's treatment. The Nurse was then given the opportunity to respond to the issues. The Officer asked Mrs C how she would like to take things forward. It was agreed that the Nurse Manager would be asked to independently review how the Nurse had approached Mr C's care. The Nurse Manager was selected as she had extensive experience of the treatment of patients with the disease.

47. The Nurse Manager reviewed the investigation papers and came to the conclusion that the Nurse was not at fault in this matter. The Nurse Manager states in her report that 'the request that assessment for assisted ventilation be carried out away from the hospital setting was obviously unusual and [the Nurse] could not have anticipated this requirement or known if this was possible without discussing it with appropriate consultants'. She also states that she 'remains unsure why [Mr C] decided that this assessment could not be carried out in hospital, as it would appear that all the medical team involved were of the opinion that this was where it should happen'. The Nurse Manager concluded that the Nurse 'acted professionally at all times and gave [Mr C] information and advice to the best of her ability based on his description of his problems at the time of her visit'.

48. Mrs C wrote to the Nurse Manager as she did not agree with her conclusions. Mrs C was not satisfied that the Nurse Manager had been given all of the appropriate information for her investigation. The information in

Mrs C's letter did not change the Nurse Manager's mind about the conclusions she had come to in her investigation.

(c) Conclusion

49. In investigating this complaint, I considered whether the procedure followed by the Board in investigating this complaint was reasonable. This includes whether the Board took all available evidence into account. It is not the purpose of this investigation to decide whether the decision reached by the Nurse Manager was right or wrong.

50. The first steps of the complaints handling procedure were acceptable. Mrs C's complaint was investigated initially by the Officer who had access to the facts and sought information from the Nurse and from the Respiratory Consultant and the Neurologist. A meeting was subsequently held during which Mrs C's concerns were discussed. Finally, an independent expert, the Nurse Manager, was asked to comment on the situation – she was given access to statements from the parties involved as well as the complaints file. It would, however, appear that her report was solely based on the Nurse's account of what happened and that Mrs C's version of events was not considered. The accounts of events given by Mrs C and the Nurse were very different and the Nurse Manager has not given any reason why she has chosen to accept the Nurse's account over Mrs C's.

51. The Nurse Manager stated that she was unsure why Mr C decided the assessment could not be carried out in hospital. I consider that an understanding of this is essential to the complaint. If the Nurse Manager was unsure about this, she should have requested further information to give her a more thorough understanding of the background to this case.

52. The Nurse Manager also states that all of the clinical team were of the view that ventilation should be carried out in a hospital setting. She has not taken into account that GP 1, who was part of the clinical team caring for Mr C, was not of the view that ventilation should be carried out in a hospital setting for this patient as he had repeatedly expressed that it was his wish not to travel away from home to any destination, especially the hospital.

53. I consider that, when an independent expert is asked to review the events leading up to a complaint, they should take steps to fully understand the circumstances of the complaint and the positions of all of the parties involved.

Furthermore, they should justify the reasons for reaching their decision. I do not deem that this was done in this case and for this reason I uphold this complaint.

(c) Recommendation

54. The Board should take steps to ensure that staff involved in the investigation or consideration of complaints are appropriately informed of the details of the complaint and that any decisions reached are properly reasoned and take into account all of the circumstances of the complaint.

55. The Board have accepted the recommendations and will act on them accordingly. The Ombudsman asks that the Board notify her when the recommendations have been implemented.

Annex 1

Explanation of abbreviations used

Mr C	Mrs C's husband, the aggrieved
The disease	The degenerative neurological disease from which Mr C suffered
The Nurse	A nurse working with patients with the disease
NIV	Non-invasive ventilation
Mrs C	The complainant
The Board	Grampian NHS Board
The Manager	The Nurse's manager
The Officer	A complaint's officer from the Board
The Nurse Manager	A nurse manager who reviewed Mrs C's complaint
GP 1	Mr C's general practitioner
The Adviser	The Ombudsman's nursing adviser
The Neurologist	Mr C's neurologist
The Respiratory Consultant	Mr C's respiratory consultant
The Practice	GP 1's practice
GP 2	Another GP from the Practice

Annex 2

Glossary of terms

Non-invasive ventilation	The delivery of ventilatory support without the need for an invasive artificial airway.
Mechanical Ventilation	Mechanical assistance in the breathing process; it may be used to augment the efforts of a patient who has spontaneous, but weak, breaths or for individuals who cannot breathe on their own.
Oximetry	A technique used for measuring the amount of oxygen in the blood.
Blood Gases	A test that determines the oxygen and carbon dioxide levels in the blood.