#### Scottish Parliament Region: South of Scotland

#### Case 200801457: Ayrshire and Arran NHS Board

#### Summary of Investigation

#### Category

Health: Hospital; general surgical; clinical treatment; diagnosis

#### Overview

The complainant (Ms C) complained about the care and treatment her client (Ms A) received while she was a patient at Crosshouse Hospital (Hospital 2).

#### Specific complains and conclusions

The complaints which have been investigated are that:

- (a) when Ms A was admitted as an emergency to Hospital 2 on 17 December 2007, there was a delay in performing surgery to remove a dermoid ovarian cyst (*upheld*);
- (b) there was a failure to inform Ms A of the removal of her right ovary and tube until 20 December 2007 – the day after her surgery (*upheld*);
- (c) there was a failure to take into account Ms A's description of the pain she was suffering while she was an out-patient (*not upheld*); and
- (d) when Ms A was a patient in Ward 6 of Hospital 2 she was sometimes forgotten about (*not upheld*).

#### Redress and recommendations

The Ombudsman recommends that Ayrshire and Arran NHS Board (the Board):

- apologise to Ms A for the delay in undertaking her surgery and take steps to ensure that such delays do not recur;
- (ii) inform the Ombudsman of the measures being undertaken to address the issues raised; and
- (iii) take steps to ensure delays in communicating the results of surgery to patients do not recur.

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

#### **Main Investigation Report**

#### Introduction

The Ombudsman received a complaint from Ms C who stated that on 1. 10 October 2007 her client (Ms A) was referred for an IVP (intravenous pyelogram) as an out-patient at Ayr Hospital (Hospital 1), and was identified as having a 4.3 centimetre dermoid ovarian cyst (the cyst). Thereafter, Ms A was referred to a consultant gynaecologist (the Consultant) at an out-patient clinic, who she subsequently saw on 11 December 2007. According to Ms C, on that day, the Consultant told Ms A that she would be admitted for surgery in either January or February 2008. However, on 17 December 2007, Ms A attended Crosshouse Hospital (Hospital 2). She was admitted to Ward 6 at Hospital 2 and was given a scan. On 19 December 2007 Ms A underwent surgery, performed by the Consultant, and an 8 to 10 centimetre cyst was removed, along with her right ovary and tube. According to Ms C, in Ms A's view, due to the on-going persistence both in the pain she experienced and the location of this pain, it was difficult for Ms A to believe an 8 to 10 centimetre cyst, removed during her operation, had not been identified when previous scans had been taken. Furthermore, due to the delay in Ms A's surgery being performed, Ms C raised the question: if her surgery had been carried out earlier, could Ms A still have retained all or part of her right ovary and tube?

- 2. The complaints from Ms C which I have investigated are that:
- (a) when Ms A was admitted as an emergency to Hospital 2 on 17 December 2007, there was a delay in performing surgery to remove a dermoid ovarian cyst;
- (b) there was a failure to inform Ms A of the removal of her right ovary and tube until 20 December 2007 – the day after her surgery;
- (c) there was a failure to take into account Ms A's description of the pain she was suffering while she was an out-patient; and
- (d) when Ms A was a patient in Ward 6 of Hospital 2 she was sometimes forgotten about.

#### Investigation

3. The investigation of this complaint involved obtaining and reading all the relevant documentation, including correspondence between Ms C and Ayrshire and Arran NHS Board (the Board). I have had sight of the Board's complaint file and Ms A's medical records. As part of my enquiries I wrote to the Board and received a reply from the Director of Nursing. Advice was also obtained from

the Ombudsman's medical adviser (the Adviser), who reviewed all relevant documentation and medical records.

4. 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 this report is contained in Annex 1. A glossary of terms can be found at Annex 2. Ms C and the Board were given an opportunity to comment on a draft of this report.

# (a) When Ms A was admitted as an emergency to Hospital 2 on 17 December 2007, there was a delay in performing surgery to remove a dermoid ovarian cyst

5. Ms C wished to know why Ms A's surgery had not been performed until 20 December 2007, as she was admitted as an emergency patient on 17 December 2007. Ms C asked, if Ms A's surgery had been performed earlier, could she still have retained all or part of her right ovary and tube?

6. The Adviser noted that, prior to Ms A's admission to Hospital 2 on 17 December 2007, she had been investigated by a consultant urologist (the Urologist) as an out-patient at Hospital 1 from 12 September to 12 November 2007. The Adviser noted that the investigations carried out were appropriate. The Urologist subsequently referred Ms A to the Consultant, with a diagnosis of a right ovarian dermoid cyst. The Adviser considered that when this diagnosis was made, the subsequent referral was also appropriately made.

7. Ms A was seen by the Consultant as an out-patient on 11 December 2007. The Consultant's letter dated 31 December 2007 to the Urologist included his plans to undertake a laparoscopy and to remove the right ovarian cyst in either January or February 2008. The Adviser has stated that, clearly, events overtook this plan when Ms A was admitted to Hospital 2 as an emergency on 17 December 2007 (see paragraph 1).

8. The Adviser has indicated that there was a comprehensive entry within the admission note by the admitting doctor (Doctor 1) at 05:45 on 17 December 2007, which included details of the known diagnosis of a right sided ovarian cyst of some 4.3 centimetres in size. Doctor 1 had recorded that the pain had been severe since the previous Friday, 14 December 2007, and had also recorded the pain was such as to require eight tramadol tablets per day. The Adviser observed from these records that Doctor 1 made the

diagnosis of a complication of the cyst (either torsion, bleeding or rupture), instituted the correct investigations, discussed the case with a more senior doctor and arranged for Ms A's admission. Furthermore, the Adviser stated that Ms A was also reviewed by a number of clinicians during the day of 17 December 2007 and blood tests were taken. All these were returned within the normal range and her medical observations were also recorded as being within the normal range. It was noted that an ultratrasound scan undertaken that day showed an enlarged right ovary and, although no particular measurements were recorded, findings were considered to be consistent with a dermoid cyst.

9. On 18 December 2007 Ms A was reviewed by a member of the obstetric and gynaecological team (Doctor 2), who confirmed mild to moderate tenderness to Ms A's right lower abdomen. Doctor 2 had a discussion with the registrar (Doctor 3) and the Consultant who had reviewed Ms A at 15:30 on 18 December 2007. The Adviser noted that the Consultant's view was that this was a possible sub-acute torsion of the right ovary and he planned to expedite surgery within 48 hours. The Consultant suggested adding Ms A to the theatre list on either the afternoon of 19 December 2007 with another consultant in charge, or on 20 December 2007 with himself in charge. However, the Adviser stated that the Consultant was obviously concerned about Ms A, as he noted an entry in the nursing notes timed at 22:00 on 18 December 2007 which stated '[the Consultant] phoned for an update and given details. He said he would aim for laparoscopic surgery mid to late morning.'

10. There was an entry in Ms A's clinical notes by the Consultant at 08:00 on 19 December 2007 which confirmed Ms A had had a more settled night and his plan was for surgery in the emergency theatre that morning. A consent form was signed by Ms A and countersigned by the Consultant alongside the entry 'Laparoscopic right ovarian cystectomy/ oophorectomy'.

11. From his review of the anaesthetic records, the Adviser considered this suggested that the anaesthesia commenced at 12:15 on 19 December 2007. The Adviser stated that the operation notes written by the Consultant confirmed the findings of torsion of the right adnexum: this cuts off the blood supply to the ovary and results in loss of viability of the tissue. The findings described the mass to be some 8 to 10 centimetres and the tissue was described as necrotic, which suggested tissue death. The right ovary and tube were removed and, in the Adviser's view, he stated that the operation appeared straightforward.

12. The Adviser noted that, following the operation, a histological examination was undertaken of the right ovary and tube and this confirmed the presence of a torted right ovary with benign dermoid cyst. An additional comment was recorded that the tissue was extensively haemorrhagic, which would be in keeping with the finding of torsion. Infarction was recorded as imminent at several points.

13. The clinical notes recorded the Consultant's visit to Ms A on 20 December 2007 at 08:10, and that the Consultant had explained the operation to Ms A and also the reason for removing her right tube and ovary. The Adviser noted that the Consultant also met with Ms A on 21 December 2007, the day she was discharged from Hospital 2.

14. I have seen, from the letter dated 14 July 2008 to Ms C from the Nurse Director, that she stated that as Ms A's blood results and temperature remained normal from admission onwards, clinical signs of suspicion for adnexal torsion were relatively low and, furthermore, it was unusual for cysts below 5 centimetres to cause adnexal torsion.

15. In her reply to my enquiries, the Nurse Director stated that the Consultant had not performed the operation immediately on Ms A's admission as there were no clinical signs to suggest there was an acute adnexal torsion. She stated that Ms A's abdomen was soft at all times and her blood count remained normal as did her temperature, thus the clinical suspicion for adnexal torsion was relatively low. She reaffirmed it was unusual for cysts below 5 centimetres to cause adnexal torsion (see paragraph 14).

16. According to the Nurse Director, she stated she was advised it was impossible to respond to the question (if surgery had been performed earlier, would it have been possible that Ms A could have retained all or part of her ovary and tube that was removed?) without being speculative. I have seen from her reply dated 14 July 2008 to Ms C that the Nurse Director responded to Ms C in the same manner.

17. The Adviser concluded that the referral by the Urologist to the Consultant was appropriate (see paragraph 6). Thereafter, in the Adviser's view, the decision made by the Consultant at the out-patient clinic, for definitive surgery to take place in either January or February 2008, was entirely appropriate,

particularly given the possibility that closures may have affected operating theatres over the Christmas and New Year period (see paragraph 7).

18. The Adviser noted that Ms A presented as an acute emergency on 17 December 2007 in severe pain, which she said she had experienced from 14 December 2007. The Adviser considered that Doctor 1 had correctly diagnosed the possibility of a torsion of ovarian cyst and stated this was a well recognised complication of a dermoid cyst of the ovary (see paragraph 8). In his view, torsion of an ovarian cyst should be treated as an acute emergency. Nevertheless, the Adviser stated that torsion is not the only complication of ovarian cysts and rupture of cyst contents or bleeding from a cyst can occur. However, he advised that, as far as a dermoid cyst is concerned, torsion is the more common complication.

19. According to the Adviser, when Ms A was admitted to Hospital 2 on 17 December 2007, appropriate investigations were undertaken and the observations taken from pulse, blood pressure and oxygen saturates readings, would not have led the team caring for Ms A to believe that there was an acute abdomen issue (see paragraph 8). Nonetheless, in the Adviser's view, the diagnosis of torsion of ovarian cyst should have been top of the differential diagnosis.

20. In this regard, the Adviser reviewed the painkillers given to Ms A from her admission on 17 December 2007 onwards. On that day he noted she required paracetamol and tramadol, each administered on three occasions, and ibuprofen on two occasions. However, on 18 December 2007 the Adviser noted the situation was significantly different. Ms A required paracetamol on five occasions, tramadol on four occasions, ibuprofen on two occasions, diclofenac on one occasion, morphine on one occasion and sevradol on one occasion. According to the Adviser this represented a significant increase in analgesic requirements and, although he stated that pain is purely a subjective matter, the increased requirement with significant more painkillers should have alerted the medical team. In his view, surgery should have been undertaken on 18 December 2007 at the latest.

21. The Adviser stated that it was clear to him that the Consultant was concerned about the possibility of torsion and he had referred to Ms A's condition as a 'possible sub-acute torsion' (see paragraph 9), however this would simply have been an indication for earlier surgery. The Adviser stated

that, with torsion of the ovary, the point was to try and effect surgery before tissue death occurs, thus the earlier the intervention was the better. Furthermore, in his view it was a further measure of the Consultant's concern that he called Ms A's ward at 22:00 on 18 December 2007 to make enquiries regarding Ms A's condition and brought forward the day and time for surgery to the morning / mid-day of 19 December 2007.

22. In the Adviser's view, the appearance at the time of surgery would have been in keeping with an infarcted torted ovarian cyst. He also stated he had no criticism regarding the decision to remove the right tube and ovary. The Adviser noted that the histology suggested that infarction was imminent, however this was clearly a histological diagnosis and surgeons need to make a decision based on their findings at the time of surgery.

23. The Adviser considered that the ovarian mass had obviously increased in size to some 10 centimetres – this measurement was taken from the pathology report. In his view, it was difficult to state whether this increase in size was due to a rapid growth of the dermoid cyst or, he stated, 'perhaps more likely due to the swelling and engorgement of the tissues occurring during the process of torsion' (see paragraphs 1, 11 and 15).

24. In the Adviser's view, it is clear from the signed consent form that the option of removing the right ovary was raised (see paragraph 10). He acknowledged that the term oophorectomy (removal of ovary) may not be familiar to all lay people and he cannot comment on the depth of discussion which took place between the Consultant and Ms A, prior to signing the consent form. However, he considered that, as the Consultant highlighted the possible need for oophorectomy on the signed consent form, this led him to believe that the possibility of the removal of the ovary was discussed with Ms A at that time.

25. The Adviser considered that, overall, the clinical management of Ms A was appropriate, with the exception of the delay to undertake surgery. He stated that torsion of the ovary is an acute emergency and should be dealt with expeditiously. Based on his review of the clinical notes, the Adviser stated that the very latest surgery should have been undertaken was on 18 December 2007. In his view it is impossible to say what the outcome would have been had surgery been performed earlier, however there may have been a possibility of ovarian tissue being able to be conserved. However, having said that, in the Adviser's view it was clear, in retrospect, that the torsion had begun on

14 December 2007 (see paragraph 8), so how viable the ovary may have been on 18 December 2007 could only be a matter for conjecture.

#### (a) Conclusion

26. I have read carefully all the relevant paperwork and I agree with the Adviser that it is clear the overall clinical management of Ms A was appropriate, with the exception of the delay to perform surgery. However, the Adviser considered it is impossible to state what the outcome would have been if the surgery had been performed earlier (see paragraph 25). Therefore, it can be neither proved nor disproved that, as a result of earlier surgical intervention, Ms A could have retained all or part of her right ovary and tube.

27. According to the timed entries within the medical records, more than two days passed following Ms A's emergency admission to Hospital 2 on 17 December 2007 up to her surgery on 19 December 2007 (see paragraphs 8 to 11). I support the Adviser's view that torsion of the ovary is a serious complication and, as an acute emergency, the possibility of this should have been dealt with at Hospital 2 expeditiously. The advice I have received is that the very latest Ms A's surgery should have been undertaken was on 18 December 2007 (see paragraph 25). Taking all these factors into account, I uphold this head of complaint that there was a delay in performing surgery.

- (a) Recommendations
- 28. The Ombudsman recommends that the Board:
- (i) apologise to Ms A for the delay in undertaking her surgery and take steps to ensure that such delays do not recur; and
- (ii) inform the Ombudsman of the measures being undertaken to address the issues raised.

### (b) There was a failure to inform Ms A of the removal of her right ovary and tube until 20 December 2007 - the day after her surgery

29. Ms C raised concerns about the delay in informing Ms A of the results of her surgery. According to Ms C, Ms A was not told that her ovary and tube had been removed until 20 December 2007, the day after her operation had taken place. Ms A found this lack of communication very upsetting.

30. In the Nurse Director's letter to Ms C dated 14 July 2008, she stated she understood the Consultant was unable to speak to Ms A immediately after the operation, as he was not on duty in Hospital 2 that afternoon. Furthermore, it

was considered that one of the other doctors on duty could have explained the Consultant's findings to Ms A. The Nurse Director wished Ms A to accept her apologies on behalf of staff for this breakdown in communication and stated that it had not been intentional.

31. I have also considered the Nurse Director's statement that the Consultant visited Ms A on 20 December 2007 at 08:10 and had explained to Ms A the circumstances of his findings of the laparoscopy which had resulted in the removal of her right ovary. Furthermore, the Consultant had also met with Ms A on 21 December 2007 to discuss her operation.

32. In the Adviser's view, it also appeared from the consent form that Ms A was aware of the possibility of the necessity to remove the right ovary (see paragraph 10).

33. In her reply to my enquiries, the Nurse Director outlined that Ms A returned to the ward mid-afternoon on 19 December 2007 after her operation was completed. She stated that the Consultant was not scheduled to be in Hospital 2 that afternoon.

34. She re-affirmed that the Consultant met with Ms A to discuss her operation at the first opportunity, which was on the morning following surgery. Furthermore, the Consultant had written and apologised to Ms A for not discussing the outcome of her surgery sooner and had explained that one of the middle grade doctors should have been asked to give Ms A details of her operation, prior to his seeing Ms A the day after her surgery. It was also explained to Ms A that the Consultant was unable to speak directly with her post-operatively as he was not on duty at Hospital 2 during the afternoon of 19 December 2007.

#### (b) Conclusion

35. Given all the evidence outlined above, and having reviewed the relevant documentation carefully, it is clear that Ms A was not informed of the details of her surgery until the day after her operation took place (see paragraphs 29 and 30). The reasons given for this was that the Consultant was not on duty or in Hospital 2 immediately following the operation and moreover, no other member of staff had explained the Consultant's findings (see paragraph 30).

36. I have taken into consideration that the Consultant met with Ms A on 20 December 2007 at 08:10 and 21 December 2007 to discuss her operation (see paragraph 13). I have also considered and share the Adviser's view that, from the consent form, it appeared that Ms A was aware of the possibility of the necessity to remove her right ovary (see paragraph 24). Nevertheless, it is clear that Ms A was not informed of the results of her surgery until the day after her operation and the Board have acknowledged that other doctors on duty on 19 December 2007 could have explained the results of Ms A's operation to her on 19 December 2007. Taking these factors into account, I uphold this complaint.

#### (b) Recommendation

37. The Ombudsman is pleased to note that the Board apologised to Ms A for this communication breakdown before Ms C complained to him, however he recommends that the Board take steps to ensure delays in communicating the results of surgery to patients do not recur.

### (c) There was a failure to take into account Ms A's description of the pain she was suffering while she was an out-patient

38. According to Ms C, in Ms A's view, although she had not suffered months of continuous pain, it was always in the same place and was extreme, therefore Ms A did not understand why the significance of this was not picked up when she was an out-patient. Ms C said that, in this regard, Ms A had been told by staff that the cyst could have been fast growing, however Ms A found this difficult to believe due to the ongoing persistence of both the pain and its location.

39. The Adviser considered it was difficult to be precise as to when the cyst developed, however, in retrospect, it would seem likely that the pain Ms A initially presented with at Hospital 2 was related to the cyst. However, the Adviser also observed from the medical notes that an ultrasound scan had been undertaken earlier in 2007 and no cyst was seen, therefore it is not possible to be absolute on this point. Nevertheless, he considered that if the pain was the same throughout this period of time, then it would be logical to assume that it could be due to the cyst.

40. As the Adviser previously stated (see paragraph 20), pain is a subjective matter.

41. In her reply to my enquiries, the Nurse Director stated she understood that in June 2007 an ultrasound scan was carried out, which failed to demonstrate any cyst.

42. According to the Nurse Director, the Urologist who saw Ms A at Hospital 1 in September and October 2007 carried out various renal investigations and an ultrasound scan was ordered. The report showed a 4.3 centimetre dermoid cyst in the right ovary. Furthermore, the Urologist wrote to Ms A and advised her of the findings and at the same time referred her on to the Consultant for further management (see paragraphs 6 and 7).

#### (c) Conclusion

43. I agree with the Adviser that the relationship between the pain and the cyst was subject to conjecture, in as much as pain is an individual matter. I also support the Adviser's view that it was difficult to be precise as to when the cyst developed (see paragraph 39). I have read carefully all the relevant documentation and I have not seen evidence to support Ms C's concern that the significance of Ms A's pain was not considered carefully by the medical staff who attended to Ms A as an out-patient. Taking all these factors into account, I do not uphold this complaint.

- (c) Recommendations
- 44. The Ombudsman has no recommendations to make.

## (d) When Ms A was a patient in Ward 6 of Hospital 2 she was sometimes forgotten about

45. According to Ms C, Ms A considered that her pain management was inadequate while she was a patient in Hospital 2 and some attention should have been given to her when morphine had not dulled her pain. Furthermore, on 17 December 2007 Ms A had stated she felt that the pain was different and this must have been the result of some sort of change within the cyst, however her suggestion was quickly ruled out by Hospital 2's doctors and nurses. Ms A also stated that she felt she was sometimes forgotten about during her stay in Ward 6 and she was told by Doctor 3, on 18 December 2007, that she may be sent home.

46. The Adviser observed from the nursing notes that there appeared to have been a total of eight entries on 17 December 2007, the day of admission, and 12 entries on 18 December 2007, the day of Ms A's maximum pain. He noted that, initially, Ms A was also visited on a number of occasions by various members of the medical team. On 19 December 2007, the day of the operation, the Adviser stated that he observed a total of four nursing entries, however, as this was the day of the surgery Ms A would have spent some time in theatre and in the theatre recovery area after her operation. On 20 and 21 December 2007 there were six nursing entries on each day.

47. The Adviser stated that Ms A was in a single room rather than in a fourbedded area. He considered comments made by nursing staff that they were unaware of Ms A's feelings of isolation.

48. The Adviser considered that often patients do prefer the privacy of a single room over a four-bedded ward but, equally, as it appeared in Ms A's case, the reverse can be true.

49. In the Adviser's view, he concluded there was frequent input by nursing staff regarding their attention to Ms A's needs and clinical care.

50. The Adviser also stated he was unable to locate a reference to any comment made in the medical and nursing notes which concerned a home discharge of Ms A on 18 December 2007. Additionally, there were no comments in the nursing notes to suggest that a discharge was planned on 18 December 2007.

51. However, he noted within the records for 18 December 2007 that Doctor 2 saw Ms A at 09:00 and planned a discussion with Doctor 3, who then planned to discuss Ms A's situation with the consultant on duty. In the Adviser's view, Doctor 3 was the registrar and he observed a written note, subsequent to written comments made by Doctor 2, to the effect that they would 'try to put [Ms A] on the theatre list of 19 December 2007 of either [the Consultant] or another Consultant.'

52. In her reply to my enquiries, the Nurse Director outlined that nurse documentation revealed that Ms A had received analgesia on a frequent basis from admission until the time of surgery and post-operatively up until her discharge. The Nurse Director stated that the analgesia consisted of sevredol, tramadol, voltarol and co-codamol and advised that morphine was offered and given on one occasion (see paragraph 20).

#### (d) Conclusion

53. Given the evidence outlined above and having reviewed carefully the relevant documentation, I agree with the Adviser that Ms A received frequent input by nursing staff (see paragraph 49). I also consider that Ms A received adequate input from the medical team during her stay at Hospital 2 (see paragraphs 9 to 13). I have not seen evidence to support Ms A's view that she was not attended to or was forgotten about, either by nurses or by the medical team. I also agree with the Adviser that I have not seen a record of or a reference made to any discussion by a staff member and Ms A, with regard to a home discharge (see paragraph 50). Taking all these factors into account, I do not uphold this complaint.

#### (d) Recommendations

54. The Ombudsman has no recommendations to make.

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

#### Annex 1

### Explanation of abbreviations used

Ms C	The complainant
Ms A	Ms C's client , the patient who attended at Hospitals 1 and 2
Hospital 1	Ayr Hospital
The Consultant	The hospital consultant gynaecologist to whom Ms A was referred
Hospital 2	Crosshouse Hospital
The Board	Ayrshire and Arran NHS Board
The Adviser	The Ombudsman's medical adviser
The Urologist	The consultant urologist who saw Ms A, prior to referring her to the Consultant
Doctor 1	The admission doctor who admitted Ms A at Hospital 2
Doctor 2	An obstetric and gynaecological team doctor
Doctor 3	The registrar

#### Annex 2

#### **Glossary of terms**

Adnexum (right)	The ovary and fallopian tube
Benign	Non-malignant / non-cancerous
Dermoid ovarian cyst	A benign tumour of the ovary: one of the more common cysts in pre-menopausal women and with a significant incident of torsion of between 3-16% of cases
Diclofenac	A class of drug similar to ibuprofen
Histological	Microscopic tissue study
Ibuprofen	A non-opioid painkiller for moderate pain
Infarction	Tissue death
Intravenous pyelogram (IVP)	An x-ray test which provides pictures of the kidneys, the bladder, the ureters and the urethra (urinary tract)
Intravenous pyelogram (IVP) Laparoscopy/laparoscopic surgery	kidneys, the bladder, the ureters and the
Laparoscopy/laparoscopic	kidneys, the bladder, the ureters and the urethra (urinary tract)
Laparoscopy/laparoscopic surgery	kidneys, the bladder, the ureters and the urethra (urinary tract) Minimal invasive surgery The death of cells in a tissue or organ, caused
Laparoscopy/laparoscopic surgery Necrotic	kidneys, the bladder, the ureters and the urethra (urinary tract) Minimal invasive surgery The death of cells in a tissue or organ, caused by disease or injury

Tramadol	An opioid type analgesic tablet taken by mouth and used for moderate to severe pain
Vascular pedicle	Refers to the blood vessels (and surrounding tissue) supplying an organ