2012 FAI 1

Sheriffdom of Tayside, Central and Fife at Dunfermline

DETERMINATION

of

Sheriff Ian D Dunbar, Sheriff of Tayside, Central and Fife at Dunfermline

in terms of

The Fatal Accidents and Sudden Deaths Inquiry (Scotland) Act 1976

into the death of

John Johnston

who died on 5 December 2009

within Queen Margaret Hospital, Dunfermline.

Dunfermline 22 December 2011.

The Sheriff, having considered all the evidence adduced, the Joint Minute of Admissions and the submissions made thereon, determines in terms of Section 6 of the Fatal Accident and Sudden Death Inquiry (Scotland) Act 1976 as follows:-
Section 6 (1) (a). That John Johnston, born 23 August 1930, who latterly resided at 7 Meldrum Court, Cowdenbeath died at approximately 03.30 hours on 5 December 2009 within ward 5 of Queen Margaret Hospital, Dunfermline.

Section 6 (1) (b). That the cause of death was 1 (a) Sepsis. 1 (b) Infection of a Total Parenteral Nutrition Line and complications of PEG insertion. 2. Pulmonary Fibrosis and Coronary Artery Disease.

Section 6 (1) (c). There were no reasonable precautions whereby the death might have been avoided.

Section 6 (1) (d). There were no defects in any system of work which contributed to the death.

Section 6 (1) (e). There are no other circumstances relevant to the death.

This Inquiry was held on December 5, 6, 7, 8 and 9 2011. The Crown was represented by Ms N Henderson, Procurator Fiscal Depute, The family by Mr Clark, Solicitor and NHS Fife by Ms Lake, Advocate instructed by NHS Central Legal Office.

Evidence was led from the following witnesses:-

1. Dr Benedikt Vennemann, Oberarzt, Institute feur Recthsmedizin, Pappelallee 4, 26122 Oldenburg, Germany.
2. Mrs Mary Sutherland, 22 Williamson's Quay, Kirkcaldy.
3. Dr John McKenzie, Queen Margaret Hospital, Dunfermline.
4. Dr Forbes Stuart, 23 Keirsbeath Court, Kingseat.
5. Dr Susan Pound, Queen Margaret Hospital, Dunfermline.
6. Mr Colin McKay, Glasgow Royal Infirmary.
7. Dr Nicola Chapman, Queen Margaret Hospital, Dunfermline.
8. Mrs Louise Ewing, Patient Services, Queen Margaret Hospital, Dunfermline.
9. Michael Le Bonte, Queen Margaret Hospital, Dunfermline.
10. Dr Nicholas Church, Edinburgh Royal Infirmary.
11. Dr Alan Gibb, Royal Infirmary of Edinburgh.

There was also a Joint Minute dealing with the evidence of Dr Barbara Stanley.

(1) There were some 1957 pages of documentary productions lodged by the Crown of which the vast majority were medical records going back a number of years and which bore little or no relevance to the matter in hand and, indeed, fewer than 100 pages of the hospital medical notes were referred to in the course of evidence. Volumes 3 and 4 of the Crown's productions were not referred to at all. I will return to this later in this Note.

(2) Mr Johnston was not a well man and had not been particularly well for a number of years. He had been a miner and had an accident about 47 years ago when he sustained back injuries. He had a number of operations on his back and these were recorded in his GP notes between 1966 and 1980. In 1983 he had his gall bladder removed. He had a heart attack in January 2006. He was diagnosed with fibrosis of the lungs in June 2006. He had type 2 Diabetes. He appears to have had a series of mini strokes. In February 2007 he was diagnosed with Barrett's Oesophagus, a condition which made it difficult to swallow. Nutrition became an issue and a concern and on 26 July 2007 a percutaneous endoscopic gastronomy gastric feeding tube (PEG tube) was inserted through the abdominal skin. An MRI scan of the brain showed a stroke in the parietal area of the brain and that resulted in poor co-ordination

of the swallowing mechanism. This could have resulted in food being ingested into the lungs. The placement of a PEG tube was necessary and a normal and relatively simple long term option to promote and support nutrition. The procedure was performed, apparently unremarkably, by Dr Church.

(3) The process involves an endoscope being passed into the stomach which serves as a guide for a needle to be passed through the skin of the abdomen. This access allows a tube to be pulled through the skin to have the tip lying in the stomach so that feed can be passed through the tube. Over time the track created will mature so that replacement tubes can be passed down into the stomach without the need of a further endoscopy. There is no fixed lifespan for such tubes and the tube inserted into Mr Johnston's stomach was there from July 2007 until 18 September 2009. There was an initial problem with some discharge from the PEG site but this appears to be a normal event and Mr Johnston was able to go home on 12 August 2007. Mrs Sutherland gave evidence that she and other family members noticed what she called a foul smell which appeared to emanate from the PEG site. That continued as long as the PEG was in place. It was brought to the attention of the District Nurses on many occasions and there are many references in the GP Notes to discharge from the site. A number of witnesses were asked about such a discharge and no one thought it to be anything other than normal. It did not trigger any alarm bells and was not a cause for (medical) concern. Mr Johnston was back in hospital between August 2007 and September 2009 and there is no note of any problem with the PEG tube being an issue until that last admission although Mrs Sutherland did say that the PEG was raised in March/April 2009. The GP notes record entries concerning pain around the PEG site (20 April 2009) and the site being cleaned (5 December 2008 and 12 May 2009). There are numerous other references in the GP Notes.

(4) It is recorded that on occasions when there were complaints about pain or discomfort around the PEG site or reddening of the skin. Blood samples were taken and these were clear of infection. There was nothing coming from them which raised any sort of alarm. Mr Johnston appears to have been appropriately treated.

(5) In early 2009 Mr Johnston had a persistent cough and a chest infection. He was admitted to Queen Margaret Hospital on 6 March 2009. On admission the PEG site was noted as being "very gunky; please swab." The diagnosis was aspiration pneumonia. On 9 March the results of the swab came back showing "mixed anaerobes usually sensitive to metronidarzole or topical chloramphenicol." Since he was on "nil by mouth" chloramphenicol was prescribed. A note the next day asks that a PEG nurse should review and that was done on 11 March. Sadly, during the course of this stay in hospital, Mr Johnston's wife died and he was noted to be very upset by this. There is nothing further in the Notes for this stay to suggest that the PEG was causing any concern. He seems to have been discharged on or around 15 April 2009 and returned to the care of his GP and District Nurses.

(6) Mr Johnston was becoming increasingly frail. He was admitted again to hospital on 26 June 2009 suffering from shortness of breath and a cough. His illness appears to have been attributed to pulmonary fibrosis. A PEG swab was taken on1 July 2009 and no growth was present. The PEG nurse was asked to assess the PEG site which was leaking, hot, red and sore to touch. Mr Johnston said that he had had abdominal pains for 3 days. A swab was negative. On 8 July a ward round note suggests aspiration pneumonia and pulmonary fibrosis. It records he had been seen by the PEG nurse and there is a note of what has been done. There was an ultra sound scan of the abdominal wall at the PEG site which showed nothing obvious although there was a small amount of oedema around the site. He was discharged again to the care of the GP and District Nurses.

(7) On 21 August 2009 he was again admitted to hospital following a fall. There may have been earlier falls. He is noted as being confused and dehydrated and increasingly frail. On 28 August a ward round note discloses a discharge from the PEG site and calls for a specialist nurse review. That was done the same day when the site was cleaned and changes made to the fixing to try to prevent leakage. There was no sign of inflammation although the discharge was noted as "smelly". There was no growth on a swab. Later the same day Mr Johnston vomited his PEG feed. He complained of abdominal pain. There was further leakage noted on 2 September and again on 7 September. An

ultra sound scan was planned and carried out showing no collection around the PEG site. By this time his frailty was such that there was discussion about Mr Johnston going into residential nursing home care. On 11 September the PEG site was better although by 14 September there was concern. Because of the persistent discharge it was decided to remove the PEG tube and replace it with a new one. The PEG tube in place was the original placed in September 2007. It was anticipated that the new line would pass along the passage created by the original line. This it did although not without difficulty. Unfortunately the discharge got no better and probably worsened. A dye was passed down the tube and the doctors could now see that the tip of the tube lay in the colon rather than the stomach. It was presumed (and confirmed at post mortem) that the original PEG had passed through the colon before entering the stomach and that the replacement tube had entered the colon and had not located the exit hole and therefore the tip remained in the colon.

(8) The consultants in ward 5 sought advice form the surgical team and were advised not to remove the PEG tube until a track from the colon to the skin could mature to enable the safe removal. Otherwise there was serious risk of leakage of faecal fluid and infection. As there was no means of giving Mr Johnston any nutrition a Total Parenteral Nutrition line (TPN) was inserted on 24 September. This allows for feeding to be injected into a catheter which is lodged in a major vein. He continued to be fed by this TPN line until 2 December 2009.

(9) From 24 September, Mr Johnston remained frail and unwell. He suffered gastric bleeding which was caused by a duodenal ulcer. The plan had been that when the PEG was removed another gastrostomy tube was to be put in place using radiological guidance (RIG). On 23 October the PEG was removed from the colon but this left an opening from the colon to the abdominal wall which continued to drain faecal fluid. The plan for the RIG was abandoned on 5 November as the radiologist felt that it was impossible. Feeding therefore continued using the TPN.

(10) On 1 December 2009 an already frail and unwell Mr Johnston became more unwell. He developed a fever which had no immediate obvious cause. Bloods were taken and an antibiotic administered. The following day, Dr Ferguson, a

microbiology consultant, called to advise of alpha-haemolytic streptococcus in the blood culture. Repeat cultures were requested and advice given to remove the "Hickman" or TPN line as this was the likely source of infection. Mr Johnston was to switch to gastro-nasal feeding. Arrangements were made to remove the line the following day. On 3 December the advice was that it was enterococcus faecalis (the same as the streptococcus mentioned above but identified more specifically). Appropriate advice on antibiotic was given. The Notes give a working diagnosis of "central line infection". When the line was removed there was no peritonism. Mr Johnston's condition declined the next day and he was described as being in septic shock and having end stage pulmonary fibrosis. Following a discussion with the family it was decided to stop antibiotics and give only morphine. Mr Johnston died at 03.45am on 5 December 2009. The Procurator Fiscal ordered a post mortem examination which was carried out on 15 December 2009 by Dr Benedikt Vennemann. He gave the cause of death as 1(a) Sepsis; (b) Complications of PEG insertion; 2 Pulmonary Fibrosis and Coronary Artery Disease.

(11) The agents for the parties to the Inquiry made detailed submissions on the evidence. Ms Henderson kindly produced a written submission and in speaking to it she suggested that it might be appropriate to consider the cause of death and the attribution of sepsis to a complication of the PEG insertion. She said that an alternative wording might be considered. She did not feel it was appropriate to make any suggestions for findings under Section 6 (1) (c), (d) or (e).

(12) Mr Clark suggested there was no need to change the causes of death as certified by Dr Vennamenn. The PEG was not inserted properly and everything else flows from that. If it had been placed properly there would have been no difficulty in replacing it and, therefore, no need for the TPN and an infection in the TPN line would not have occurred. In dealing with sub-sections (c) and (d) he pointed to the fact that there was no system in place to ensure that a PEG was properly inserted in the abdomen. A CAT scan or ultra sound scan may have been appropriate to reduce the risk particularly, as here, where there had been previous abdominal surgery. There was no overview of problems that might arise with PEG insertion after the operation was done. While the

District Nurses did a lot in relation to the PEG and discharge from it and duly entered the details in the patient's computerised record, it seemed that GPs did not routinely look at this record and would not be aware of a problem unless it was specifically flagged up by a nurse. There was no system in place to flag up concerns. Finally he suggested a finding under sub-section (e) that there had been a failure by NHS Fife to address the family's concerns and complaints. The complaints procedure was not fit for purpose.

(13) Finally Ms Lake in adopting the submissions of the Procurator Fiscal added that Dr Vennemann could not exclude TNP line infection as being a contributory factor to the death. While he had carried out the autopsy, he had failed to realise that line infection could be invisible. While there was a chain of consequences between the PEG insertion and death, it was not direct. Causation had slightly different meanings in the medical and legal worlds. The co-morbidity affected the ability to fight infection. The evidence of microbiologists was important in determining the source of infection. Dr Gibb said that the line infection may not be immediately apparent and he could not say if the PEG site was or was not the source of the infection. The absence of peritonitis strengthened his view that the line was the source of the infection. All doctors said that perforation of the bowel was a rare but recognised complication of PEG insertion. All pointed to the extensive co-morbidities and frailty. She suggested that cause of death 1 (b) be deleted and there be substituted "TPN line infection". She touched on the question of communication and said there were a number of formal meetings where concerns could be raised and a daily opportunity to discuss in person albeit informally. In any event there had been no evidence of the care given by District Nurses. There was no evidence to link the complaints procedure with the death. There should therefore be no findings under sub-sections (c), (d) and (e).

(14) It is clearly a matter for the Crown to decide when a Fatal Accident Inquiry should be held in respect of a particular death. It is appropriate, however, that I say something about what I see as the scope of such Inquiries and the role of the Sheriff. Some of what I have to say has been said before by other

Sheriffs and I am indebted to Sheriff Cubie in Glasgow for observations he has made and which I reproduce here.

"The purpose of the Inquiry in terms of the Fatal Accident and Sudden Deaths Inquiry (Scotland) Act 1976 is for the Sheriff to make a determination setting out the following circumstances of the death, so far as they have been established to his satisfaction-

(a) Where and when the death and any accident resulting in the death took place;

(b) The cause or causes of such death and any accident resulting in the death;

(c) The reasonable precautions, if any, whereby the death and any accident resulting in the death may have been avoided;

(d) the defects, if any, in the system of working which contributed to the death or any accident resulting in the death;

(e) any other facts which are relevant to the circumstances of the death (all in terms of Section 6(1) of the Act).

The Court proceeds on the basis of evidence placed before it and although described as an Inquiry, the Sheriff's powers generally do not go beyond making a determination in relation to the circumstances established to his satisfaction by evidence following upon investigation by the Procurator Fiscal and any other party if so advised. The purpose of a fatal accident inquiry is to enlighten and inform those persons who have an interest in the circumstances of the death. It is to ensure that members of the deceased person's family are in possession, so far as possible, of the full facts surrounding the death. The broader function of such an inquiry can be additionally to ensure that the circumstances are fully examined and disclosed in the public domain. It is the function of the FAI, where appropriate, to establish whether there were any reasonable precautions which might have prevented the death and to examine whether any defects in the system working were identified which contributed to the death. Thus the objective of such a public enquiry must be to ensure where lessons can be learned and steps taken to avoid any future recurrence, that these are identified and brought to the attention of those who are in a

position to implement them. In this connection, it is a legitimate aim of an FAI brought under section 1(b) where there may be serious public concern, that wherever possible, that concern is assuaged and public confidence restored. This is particularly so where, as here, a public institution such as hospital is involved."

(15) In this particular case it is clear that the family of Mr Johnston have a number of concerns about aspects of his treatment over a lengthy period. Indeed they raised a formal complaint with NHS Fife and that resulted in a meeting with Mrs Ewing on 2 November 2009, the note of which is Crown Production 4. There was a subsequent letter which seems to have been composed by Mrs Ewing but was sent in the name of Janette Owens, Depute Director of Nursing which is also part of Production 4. The family is quite clearly dissatisfied with the response it received and there are avenues which can be taken or which could have taken to pursue these complaints. However, unless there is some connection between the complaints and the handling of them on the one hand and the death of Mr Johnston on the other hand, the issue of complaints handling or procedure is not one for a Fatal Accident Inquiry. In this case there is no connection.

(16) There were also apparent criticisms of the treatment give to Mr Johnston by District Nurses and possibly the GP practice. There was no evidence about nursing practice. There was no expert evidence about the handling of Mr Johnston by the GP practice. There was no evidence that either of these aspects contributed to his death. It is not appropriate to make any comment in these areas.

(17) The starting point in this case is the insertion of a PEG tube in July 2007. Even at that time Mr Johnston was not in the best of health. It was accepted that he needed to be assisted with nutrition and that the insertion of a PEG tube was an appropriate means of achieving that. The operation to carry out the procedure was undertaken by Dr Church. The procedure is one which is relatively straight forward and is used as a means of feeding many different classes of patients who have difficulty obtaining nutrition. There was evidence, for example, of stroke patients being fed by this means. The use of Peg tube feeding was something to which the staff in Ward 5 was accustomed. There

were specialist PEG tube nurses and Mr Johnston's notes show a number of visits by these nurses.

(18) The procedure for a PEG insertion was described by Dr Church and I do not understand that there was any criticism of the procedure itself. The notes indicate that a nurse went through the details with Mr Johnston although Dr Church could not recall if he discussed the possible complications. The procedure requires two operators one using an endoscope and the other inserting the PEG tube. The patient is sedated and a mouth guard inserted to allow the endoscope wire to be inserted down the throat and into the stomach. A full endoscopic examination is carried out and if all is well the stomach is distended with air. A finger indentation is made on the patient's abdomen and this is seen on the endoscope. The light on the endoscope is set to a high level of brightness and this is seen from the outside at the point of the indentation. The spot is marked on the skin which is then cleaned and a local anaesthetic is applied. A small needle is inserted and assuming there is no indication of any damage as a result a larger needle is pushed through and the endoscope indicates when it has reached the stomach. A wire is passed through and the PEG tube attached with a fixing device. This is an accepted and commonly used method of tube insertion. There is an alternative method using radiological guidance but that was not considered either necessary or appropriate in the case of Mr Johnston.

(19) There were situations which would contra-indicate this method of PEG insertion. These would include something anatomical which prevented safe insertion, blood abnormalities or bleeding, severe respiratory of cardiovascular disease or possibly previous abdominal surgery. Mr Johnston had previously had his gall bladder removed (which was abdominal surgery) but the evidence was that in itself would not have prevented the PEG being inserted this way. Consideration was given to his general state of health and the procedure was described as "always potentially problematic". The procedure was carried out and the notes describe it as being done without complication. Mr Johnston did complain of abdominal pain for about two days but that was normal after such a procedure. The doctors would have been concerned if there had been pain on feeding. When he was discharged Dr Church said that he was struck by

how well he looked. He had gained 6 kgs and there were no problems reported with the PEG site. If there had been any issues he would have been informed.

(20) When Mr Johnston was admitted to Queen Margaret Hospital in August 2009 there was a problem with persistent discharge from the PEG tube and the decision was taken to remove the existing tube and insert a new tube. The tube in place was still the original tube. While unusual for the same tube to be in place so long, it was not uncommon and did not give rise to adverse comment. The replacement was achieved on 18 September 2009 and it was not the simplest of tasks. The discharge became worse and a dye was passed down to enable the whole area to be seen and this showed that the tip of the tube lay in the colon and not the stomach. It was only at this point that it became clear that the original tube had passed through the colon before entering the stomach. The replacement tube had entered the colon but could not pass through and remained there.

(21) The evidence suggested that penetration of the colon was a known complication in a procedure of this sort. Dr Church said that from his examination of the literature it was a major complication in 3 to 4% of cases and a minor complication in 7 to 20% of cases. Mr McKay said that perforation was relatively uncommon but was a known complication. The removal of Mr Johnston's gall bladder could have had some effect in respect that there may have been some adhesion between the colon and the stomach. It would not have been routine to scan for this. He felt that the sort of injury seen here was quite rare, occurring in fewer than 1% of PEG insertion cases. Had it been discovered at the time, Mr McKay doubted that Mr Johnston would have survived anaesthetic and surgery to remedy it. The wall of the colon is paper thin and it was likely that those inserting the tube in 2007 were unaware that they were going through the colon. Mr McKay stressed that PEG tubes were inserted in people who were otherwise very ill. In some studies 50% of patients who have had a PEG inserted are not alive after one year and fewer than 30% are alive after two years. Nothing done by Mr Church was different from the way that Mr McKay would have carried out the procedure. It was important to bear in mind that while feeding supports nutrition it has no effect

on the underlying disease process which is likely to cause further problems as the patient ages and/or the disease progresses. Doctors who were asked to speculate about Mr Johnston's life expectancy suggested that it would have been weeks or months at most even without any complications arising from the PEG or line infection.

(22) When a PEG tube is inserted, a track grows along the line of the tube. If the tube is removed that track can close. The existence of the track allows for replacement of the tube. If, as in this case, the tube had been removed before a track could develop, there would be a hole left in the colon. This would allow faeces to leak into the peritoneal cavity and that could result in peritonitis and a surgical emergency. The belief was that if the perforation of the bowel had been discovered at the time of the PEG insertion in 2007 that Mr Johnston may well not have survived the necessary remedial surgery. With the tube in place a fistula develops which is said to be a controlled situation and not life threatening. A fistula is described as an "abnormal communication between epithelial surfaces". When the replacement PEG was identified in Mr Johnston's colon it was not removed immediately as there was some concern that it was the act of replacement which had caused the injury to the colon. Once the tube was removed then it was expected that the fistula which had formed when the original PEG was inserted would dry up and heal. Mr McKay had some concerns that a fistula which had been present for two years may be so mature that it would not dry up spontaneously. However, he was of the view that the decision to leave it open was correct.

(23) Once the PEG tube was removed there required to be an alternative means of giving nutritional support. On 24 September 2009 a Total Parenteral Nutrition line (TPN) was inserted which allowed artificial feed to be injected directly into a catheter lodged in a major vein. One of the recognised risks of using a TPN line is line sepsis. There was some evidence about whether nasogastral or nasojejunal feeding might be considered. Each of these methods seems to have attractions but equally each has drawbacks. It would appear that the TPN line was a temporary measure as consideration was being given to a radiologically inserted gastronomy (RIG) but this did not proceed largely due to Mr Johnston's weakening general condition. A RIG is the insertion of a

feeding tube using radiology rather than an endoscope. It too is a procedure which carries risk. While Mr McKay said that he felt nasojejunal feeding should, perhaps, have been considered, the method used was appropriate. Nasojejunal feeding may carry less risk of infection but with the injury to the colon there was an increased risk of discharge. There were also considerations in relation to the patient's comfort given the need for further endoscopy and access to the stomach. In all the circumstances it was reasonable to use a TPN line in this case. There required, however, to be a recognition of the risk of infection which a TPN line carries. The decision seems to depend on clinical judgement in respect of any patient and there was no specific criticism of the clinical decisions taken here.

(24) The main concern in submissions related to the certified causes of death and, in particular, the reference to "Complications of PEG insertion" as certified by Dr Vennemann. The suggestion was made that the second cause of death should refer to line related sepsis rather than PEG insertion. In actual fact, having reviewed the evidence of the various medical witnesses, there is not much of a difference amongst them. It comes down to a matter of causality or causation and the emphasis which should be placed either on the TPN line or the PEG.

(25) There is an inescapable logic behind the suggestion that if Mr Johnston had not had a PEG tube fitted in the first place or it had been fitted without incident his colon would not have been perforated. Had his colon not been perforated the insertion of the replacement PEG tube would not have been necessary and would not have gone into the colon rather than his stomach. There would have been no need to consider an alternative means of providing nutrition and therefore no need for a TPN line. Without a TPN line there would have been no line infection. It is clear that there is a difference in the medical approach to what that profession terms "causality" and the legal approach to what lawyers call "causation" and there is also a difference of view amongst doctors about whether the application of the above logic may be stretching causality too far. That may well be the case but it is not appropriate to try to adjudicate on what must be objective views of doctors especially where there

is a measure of agreement amongst them and the differences between them come down to emphasis.

(26) Dr Vennemann carried out the autopsy and there was general agreement that seeing Mr Johnston's body at post mortem gave him something of an advantage when considering the physical examination. He found the perforations of the bowel and said they were partly healed and showed no sign of leakage into the abdominal cavity. There was an abnormal opening between the bowel and the stomach which was not properly healed to the extent he could place a 4mm probe through it. He thought this was the likely source where the infection originated. There was no other potential source apparent at autopsy. In cross-examination he said that he saw no evidence of infection at the site of the TPN line but he did not rule out the fact that the TPN line played some part in the infection. He did not see the TPN line. If there was a working diagnosis of central line infection that was not in conflict with his findings. He disagreed that the source of an infection could have been a leakage through the skin as that had healed well and he did not see an external faecal fistula on examination. He remained of the view that the source was the opening in the bowel and stomach. When asked about causality he felt it was not stretching it too far to say that a known complication was the underlying condition for the sepsis. Therefore he did not disagree that line infection was the likely source of infection but suggested that it arose due to the underlying condition.

(27) Dr Gibb conceded that the PEG site was the most likely source of infection provided that it was leaking but he found it difficult to say that it was leaking in the few days prior to death. While Dr Vennemann agreed that there was no leakage apparent, the perforation between the rear of the bowel and the stomach had not healed sufficiently and while adhesions could prevent leakage, the colon and stomach were sticking together and infection could have entered blood circulation from there. Dr Gibb felt that there was only a tenuous connection between the PEG insertion and the cause of death but he did concede that if the PEG had gone in properly in the first place there would have been no need for a TPN line and therefore no line infection. Mr McKay was also asked to comment on the causes of death and confirmed that the

absence of peritonitis made it unlikely that any faecal matter had leaked from the bowel into the stomach. It was more likely that any infection came from the fistula which may have been the result of the TPN line. The TPN line must be treated as sterile and requires careful handling to minimise the risk of infection. He agreed that the infection could have started at the PEG site which was an open wound but he felt that while there was a chain of consequences from the PEG to the infection which led to death there was no direct link one with the other. Normal practice would be to remove any infected line but Mr Johnston's co-morbidities would be a factor in deciding what to do. Mr McKay did not feel that it was likely that Mr Johnston would have survived further procedures. He confirmed that line infections were relatively common. He described how infections can arise in lines and the nature of most of those infections. He concluded that the fistula from the failed PEG tube would be a plausible source of the infection and the probability that it was the actual source was more than 50%. That conclusion does not vary greatly from that of Dr Vennemann who had based his conclusion on what he saw on physical examination of the body at autopsy.

(28) I have, therefore, reached the conclusion that there is no compelling evidence to say that Dr Vennemann was wrong in attributing a complication from a PEG insertion as a cause of death. I say that not simply because of the logical progression stated above but because the evidence all seems to concede that the likely source of infection was the bowel/stomach. As to causality or causation that is a matter of opinion. Differences in opinion in this area have not had any contribution to Mr Johnston's death. There remains the issue of whether the cause of death should be amended to show that the infection was a TPN line infection. Once again there is no real disagreement that this is the case. Dr Vennemann saw no evidence of it but he did not have access to the line itself and said he could not comment if it was a contributory cause. He found no trace of infection at the insertion site but readily conceded that the TPN line could have played a role in Mr Johnston's death and the presence of the line was significant and could not be excluded in the whole chain of events. There seems no doubt that the primary cause of death was sepsis. That sepsis was most probably caused by infection of the TPN line. The

infection of the TPN line most probably emanated from the site of the misplaced PEG line. Therefore I have concluded that it is appropriate to adjust the second cause of death to reflect that.

(29) There is no doubt that Mr Johnston had many medical problems some of which were serious and could have resulted in his death. The combination of what the doctors called his "co-morbidities" painted a picture of a very sick man. He had become prone to falls. He had reached the stage where he could not look after himself in his own home. It was clear from the evidence of his GP and from the notes from the practice that he had significant input on a regular basis from nurses and doctors in the community. He had been quite ill earlier in 2009 necessitating hospital admissions. Without wishing to appear to be unfeeling or unsympathetic to Mr Johnston's family, those doctors who were asked about his general condition did not rate his life expectancy to be high. Weeks and months were mentioned more than once. It has to be accepted that the PEG insertion in 2007 went wrong. What went wrong was a known complication of the procedure. The procedure itself seems to have been carried out according to proper practice. It may be down to good fortune that nothing went wrong until the original line was removed. The evidence suggested that if the bowel perforation had been discovered in 2007 and surgery undertaken to remedy it, Mr Johnston may not have survived that surgery. Once it was discovered then the medical staff seems to have done everything they could and there was no professional criticism of what they did. Where other procedures were suggested it seems to have been a matter of personal preference rather than professional practice. Central line infection is relatively common. There was no evidence to suggest lack of hygiene or poor handling of the line. There was evidence from Dr Gibb that mortality from line infection was quite low but it tended to occur where there were a number of co-morbidities. Sadly, once Mr Johnston caught this infection his general health meant that his ability to fight it was diminished. As with any death it must have been distressing for the family to watch Mr Johnston deteriorate fairly quickly. By that time it seems clear that there was nothing that the doctors could do for him.

(30) Mr Clark suggested that there should be some comment on the lack of any system governing such matters as PEG insertion. What was clear from the evidence was that there are a number of ways of providing nutrition. Whether some form of PEG or nasal feeding is used seems to depend on the individual patient's requirements and then clinical judgement. When inserting a PEG this can be done either using endoscopy or radiology. Which method is appropriate would be a matter of clinical judgement. There was no evidence that there were any guidelines and, in fact, there are probably none. The impression I got from Mr McKay in particular was that guidelines were not necessary. Given the evidence before the Inquiry it would not be appropriate to make any comment in this area. It was also suggested that there was no system for review of problems with PEG insertion. I was not certain if he meant in the community or hospital or both but, whichever, there were few questions in this area except to Dr Stuart who seemed quite satisfied with the opportunities either formal or informal for nurses to bring problems to his attention. In any event there was no expert evidence about either GP or District Nurse practice. He suggested that Catscan or ultra sound scan should be routine in PEG insertions. Those who were asked about this described it as impracticable and possibly even unnecessary. There was no expert evidence in this area. Therefore, I do not consider it appropriate to make any suggestions in these areas.

(31) The issue of communication was raised by Mr Clark and it is appropriate that I mention it if only to explain why I am not prepared to make any reference to it in the formal determination. It is apparent from the evidence of Mrs Sutherland along with that of Mrs Ewing and Mr Labonte together with entries in the notes and the summary of the meeting with Mrs Ewing and subsequent letter that the family was not happy about a number of aspects of Mr Johnston's treatment while in hospital. The family seems to have made a formal complaint which Mrs Ewing said was investigated and the result reported. The family remained dissatisfied but did nothing further to progress and advance their complaints. There was no evidence in this Inquiry about the complaints procedure or any defects in it. There was no suggestion or evidence that anything related to communication with the family or complaints

played any part in Mr Johnston's death. The statutory purposes of a Fatal Accident Inquiry are clearly set out and I regard it as inappropriate to comment on areas outwith those purposes when there is no evidential link to the death especially where there is very little evidence about communication or complaints procedures.

(32) Finally, I would express my sympathy to Mr Johnston's family. Many of them sat through the evidence and they conducted themselves with great decorum listening to what must have been difficult and at times distressing evidence. I would, however, ask if this Inquiry was necessary given both the purposes of an Inquiry in terms of the Act and the whole medical picture including the expert evidence available to the Crown, presumably before any decision was taken to hold an Inquiry. I would also ask why it was thought either necessary or appropriate to lodge so many pages of productions most of which had no bearing on the Inquiry. I spent many hours reading through the productions and I have no doubt that Mr Clark and Ms Lake would spend even longer. The cost of reproduction alone must have been significant never mind the cost of time to the public purse be it the Crown, NHS or Legal Aid. Witnesses had to negotiate their way through the productions which were in 5 volumes. I am not sure if volumes 3 and 4 were referred to at all. If the Crown deems it necessary to hold an Inquiry only relevant documentary productions should be lodged. I accept the need to disclose but what is disclosed does not necessarily need to be lodged in court.