CORONERS ACT, 2003

SOUTH *AUSTRALIA*

FINDING OF INQUEST

An Inquest taken on behalf of our Sovereign Lady the Queen at Adelaide in the State of South Australia, on the 12th, 13th and 18th days of June 2018 and the 31st day of May 2019, by the Coroner's Court of the said State, constituted of Anthony Ernest Schapel, Deputy State Coroner, into the death of Gray Clyde Chaplin.

The said Court finds that Gray Clyde Chaplin aged 81 years, late of 7 Lawrence Street, Kadina, South Australia died at the Royal Adelaide Hospital, North Terrace, Adelaide, South Australia on the 5th day of March 2016 as a result of multi-organ failure complicating multiple right-sided rib fractures due to a fall from a ladder. The said Court finds that the circumstances of his death were as follows:

1. Introduction, background and cause of death

1.1. Gray Clyde Chaplin was 81 years of age when he died at the Royal Adelaide Hospital (RAH) on 5 March 2016.

1.2. On Sunday 28 February 2016 Mr Chaplin fell to the ground from a ladder while pruning a tree at the residence that he occupied with his wife at Wallaroo on the Yorke Peninsula. Following the fall Mr Chaplin reported pain in his right chest area. He had sustained multiple fractured ribs. There is no suggestion that Mr Chaplin suffered a closed head injury as is often the case when the elderly fall from ladders.

1.3. Following his fall Mr Chaplin was taken by ambulance to the Wallaroo Hospital. Mr Chaplin would remain as an admitted patient in the Wallaroo Hospital until Friday 4 March 2016 when he was transferred to the RAH by means of a MedSTAR helicopter.

1.4. During his admission at the Wallaroo Hospital he was diagnosed as having suffered the multiple rib fractures. He exhibited varying degrees of pain including what was undoubtedly very severe pain. Although Mr Chaplin was said to have been a stoic character and may have had a high pain threshold, the evidence is clear that at times he was in severe pain notwithstanding analgesic medication.

1.5. On the morning of Friday 4 March 2016 a significant deterioration in Mr Chaplin was observed. For that reason, on that day he was transferred to the Intensive Care Unit of the RAH where he would die the following day. At the RAH he was diagnosed as being in profound shock with an acute kidney injury and metabolic acidosis. Chest X-rays demonstrated bilateral pleural collections and bibasal and left midzone lung opacities indicating collapse or consolidation.

1.6. By the afternoon of 5 March 2016 it was evident that Mr Chaplin had deteriorated despite significant life support. Meaningful recovery was unlikely. Comfort care was recommended as the appropriate course and this was agreed to by Mr Chaplin's family. Mr Chaplin died that afternoon with life being certified as extinct by a medical officer at 3:16pm. Mr Chaplin's decline and death can be directly attributed to the fall from the ladder. I so find.

1.7. Mr Chaplin had a previous medical history of hypertension, type 2 diabetes mellitus and gout. It was not necessary for Mr Chaplin's body to be subjected to a post-mortem examination involving an autopsy. Rather, Mr Chaplin's medical records, including records relating to his past medical history, were reviewed by Dr John Gilbert, a senior specialist forensic pathologist at Forensic Science South Australia. Dr Gilbert provided a pathology review in relation to Mr Chaplin and reported that Mr Chaplin's cause of death was multi-organ failure complicating multiple right-sided rib fractures due to a fall from a ladder[1]. I accept Dr Gilbert's report and find that Mr Chaplin's cause of death was multi-organ failure complicating multiple right-sided rib fractures due to a fall from a ladder.

[1] Exhibit C5a

2. Falls and fractured ribs in the elderly

2.1. As indicated earlier, Mr Chaplin was 81 years of age at the time of his death. Falls that occur in the elderly, even in robust elderly individuals, can be extremely problematic. This is so in relation to falls from ladders where even falls from a relatively low height can result in catastrophic injury including internal head injury and injury to the skull, injury to the other parts of the skeleton and to the internal organs. It was said that in Mr Chaplin's case he had fallen from a height of approximately 1.5 metres onto soft ground, although I am not certain as to the accuracy of that height estimation. In my view the precise height from which Mr Chaplin fell is not of material significance having regard to the fact that whatever the height of the fall and whatever the surface onto which he fell, he suffered multiple and very painful rib fractures from which serious complications could have been anticipated.

2.2. The statement of Mr Chaplin's wife, Ms Barbara Chaplin[2], asserts that her husband was a fairly healthy man. He took medication for his blood pressure and diabetes as well as for gout. She described him as quite fit and healthy for his age and that in the period leading up to his accident he was in good health. Notwithstanding that description, Mr Chaplin's injuries and the complications that he experienced from those injuries would come as no surprise having regard to his age. It was common ground in this inquest that rib fractures in the elderly are a serious matter and that there is a significant increase in mortality in persons who experience rib fractures who are of or over the age of 65, particularly where the rib fractures are multiple in number. So much was revealed in the literature that exists in relation to this subject and which was tendered to the inquest. Clinical experience also clearly supports that notion.

2.3. As well, an independent intensive care physician, Professor John Cade from the University of Melbourne, gave evidence in the inquest that included evidence about the known and common complications of rib fractures in the elderly. Professor Cade spoke of complications including pneumonia, pulmonary effusion, acute respiratory distress syndrome, aspiration, pulmonary embolus and atelectasis. Another serious complication is that of pneumothorax where a fractured rib may puncture the lung resulting in air entering the pleural cavity. The same may cause bleeding into the pleural cavity. Other possible and more serious complications which did not apply in this case would be punctured internal organs such as lung and heart. In addition,

[2] Exhibit C1b

Professor Cade stated, and there is no dispute about this, that elderly patients suffer the major trauma associated with rib fractures much worse than younger patients. This is partly due to commonly associated comorbidities, but it is also partly because the elderly have diminished respiratory and other physiological reserve. As well, rib fractures take much longer to heal in older patients. Furthermore, multiple rib fractures in the elderly may require more complex analgesic requirements. The chest wall injury is extremely painful and a simple analgesic such as morphine given subcutaneously would be unlikely to be completely helpful. Rather, pain management would likely require an intravenous infusion regimen. Other analgesic modalities including nerve blocks or epidural analgesia which are reported to be helpful in this kind of setting can be administered in high level hospitals where sophisticated tertiary pain services designed to perform those procedures are available. In addition to the management of pain, there are other clinical requirements associated with rib fractures including early mobilisation, physiotherapy and assisted lung inflation. In this context Professor Cade referred to the need to maintain '*pulmonary hygiene*' in the afflicted patient in order to prevent lung secretions that are not cleared in the normal way from providing an ideal culture medium for infection. If the patient is unable to cough and clear the secretions, collapse of the lung known as atelectasis and super infection are very high risks. The work of breathing is increased and sometimes it can be so severe that the respiratory muscles do not cope with the task.

2.4. I do not believe that any of the above was seriously in dispute in the inquest. However, it was surprising to hear from the experienced country general practitioner who had responsibility for Mr Chaplin's treatment at the Wallaroo Hospital that he had not been aware of the body of evidence supporting the notion that multiple rib fractures present as a much more complicated and problematic set of circumstances in the elderly than in the younger person who might, for example, experience rib fractures during the course of a football match and who will not experience severe complications requiring hospitalisation.

2.5. In the event, Professor Cade gave clear evidence that when Mr Chaplin's rib fractures were diagnosed the day after his accident, he should have been transferred to a tertiary hospital such as the RAH. The corollary of that is that in his opinion Mr Chaplin's transfer five days after his accident when he was in extremis was too late. That also seems now to be accepted as being an accurate assessment of the situation. Indeed, I find that to have been the case as will become clear during the course of these findings.

3. The issues in this inquest

3.1. The Court examined a number of issues in this inquest including the following:

- Whether Mr Chaplin's diagnosis of multiple rib fractures was made in a timely manner;
- Whether Mr Chaplin's treatment within the Wallaroo Hospital was timely and appropriate;
- Whether Mr Chaplin's deterioration was foreseeable and whether it was foreseen;
- Whether Mr Chaplin should have been transferred to the RAH sooner than he was transferred, and in particular whether he should have been transferred immediately upon his diagnosis;
- Whether Mr Chaplin's death was preventable;
- Whether there is a case for educating the general public as to the dangers of the elderly using ladders and working from heights.

4. Mr Chaplin is admitted to the Wallaroo Hospital

4.1. Mr Chaplin was brought by ambulance to the Wallaroo Hospital on the afternoon of Sunday 28 February 2016. He was there seen by Dr Ben Rogers. Dr Rogers would only be involved in Mr Chaplin's care on the day of his admission.

4.2. Dr Rogers was a rural general practice registrar undergoing general practice training at Kadina Medical Associates, a general medical practice in nearby Kadina. As part of his training program Dr Rogers undertook emergency on-call duties at the Wallaroo Hospital. At that time the region possessed only a limited number of general practice clinics whose practitioners participated in the on-call Wallaroo Hospital roster. Dr Rogers' general duties consisted of working fulltime as a general practice registrar, being on-call for obstetrics every second night and every second weekend and performing three to four Emergency Department on-call shifts. The on-call shifts were 24-hour shifts beginning at 8am and finishing at the same time the following day. As the on-call Emergency Department practitioner, Dr Rogers' responsibilities included the clinical care of all admitted patients and to assess and treat all patients who presented to the Emergency Department. A 24-hour shift did not necessarily require Dr Rogers to be physically present at the hospital for its entire duration, but he was

required to be nearby. On Sundays, however, the number of presentations was such that in reality he did not leave the hospital.

4.3. In addition to the routine rostering of an on-call emergency doctor, there was also an arrangement whereby doctors from the Kadina practice, and also from a practice in Moonta, would provide a duty doctor for the hospital throughout the week. The responsibilities of the duty doctor included the care of the hospital's admitted patients. If a patient who was already aligned with the Kadina clinic presented to the Emergency Department and was then admitted, that patient would be admitted under the Kadina clinic and the doctor on duty for that week would be responsible for looking after that patient. Such was the case for Mr Chaplin. He would be under the care of a Dr Wood of the Kadina practice.

4.4. On Sunday 28 February 2016, the day of Mr Chaplin's admission to the Wallaroo Hospital, Dr Rogers arranged for Mr Chaplin to undergo an X-ray. Dr Rogers suspected a broken rib or ribs. However, at that time radiography services in the region were not available on weekends, a circumstance that is perplexing and one that requires correction if it has not been corrected already. If X-rays were required as a matter of urgency a patient would have to be sent to Adelaide for that purpose. Mr Chaplin's situation was not regarded as an acute emergency and so it was expected that he would undergo X-rays on the following day. This in fact would take place. Dr Rogers would not personally see the result of those X-rays as he was not at the hospital on the Monday, but Dr Wood was at the hospital at various times during the course of that day and in the course of that week.

4.5. It is not necessary to recite every facet of Mr Chaplin's presentation and care on the Sunday. Dr Rogers gave evidence that there was nothing particularly concerning about Mr Chaplin's presentation on that day except that his pain score of 7 to 8 out of 10, with 10 being the most severe pain imaginable, represented reasonably severe pain[3]. In answer to his counsel, Ms Doyle, Dr Rogers stated that he had not observed in Mr Chaplin any inability or unwillingness for whatever reason to take a full breath or to expand his lungs to their full capacity, findings that would have indicated a more significant underlying injury if one had been present. He was able to exclude clinically the possibility of a pneumothorax. Dr Rogers believed that there had been very good

[3] Transcript, page 155

air entry into Mr Chaplin's lungs which demonstrated that at that point there was not any fluid within them. There was no evidence to suggest pneumonia at that time.

4.6. Tenderness of the 5th to 8th ribs was observed in Mr Chaplin's chest. Because of this finding, Dr Rogers suspected the possibility of one or two underlying rib fractures[4]. Dr Rogers assessed Mr Chaplin as having suffered likely a rib fracture or fractures post fall, although his suspicion was limited at that point to possible underlying fractures of one or two ribs. In any event Dr Rogers was not concerned about any other clinical signs. In particular he was not concerned that Mr Chaplin had sustained any major injury or that there was any cause for clinical deterioration in the short term, that is to say over the next few hours[5]. Dr Rogers said that he would have been aware of Mr Chaplin's comorbidities, but would not have been concerned about them. His only concerns were Mr Chaplin's age and the possibility of underlying rib fractures.

4.7. Dr Rogers prescribed intravenous fluids to correct potential dehydration. He also prescribed subcutaneous analgesia for the pain. Dr Rogers indicated that one of the principles of management of rib fractures is the provision of appropriate analgesia given that the injuries are often quite painful and might compromise the ability to breathe properly. Dr Rogers recognised that an inability to breathe properly can increase the risk of complications such as pneumonia. Thus Dr Rogers ordered morphine sulphate subcutaneously. He also prescribed another opioid.

4.8. Dr Rogers only saw Mr Chaplin on the day of his initial admission. However, in his evidence Dr Rogers made the significant retrospective observation about Mr Chaplin's level of analgesia that by 29 February 2016 his analgesia had appeared to involve reasonably high doses which would have heightened the suspicion that there might have been further injuries than had initially been expected.

4.9. Asked by his counsel, Ms Doyle, as to why it was that he did not transfer Mr Chaplin to the RAH or another tertiary hospital on the afternoon of Mr Chaplin's admission, Dr Rogers mentioned a number of reasons that included the fact that Mr Chaplin had fallen from a low height of less than two metres and that there were no other risk factors for significant trauma or for significant internal injuries. The only risk factor was his age. Dr Rogers' suspicion was of only one or two underlying rib fractures, not multiple

[4] Transcript, page 161
[5] Transcript, page 165

rib fractures. There was also no evidence of any significant internal injury. On that basis Dr Rogers made a clinical decision to admit Mr Chaplin for observation against the possibility of deterioration and for the purpose of further assessment the following day. In his evidence Dr Rogers made the observation that with a younger patient it is likely that the person would have been discharged home with a view to having the X-ray the following day. Dr Rogers did not believe that Mr Chaplin's age of itself was a reason to transfer him to the city. I would simply observe that I am not certain that a fall from what was said to have been approximately 1.5 metres is from a low height for a man of 81 years of age. That said, I did not understand Dr Rogers to have placed key significance on that factor. Clearly the dominating factors at that point would have been evidence of significant trauma or the possibility of rapid deterioration that would dictate transfer to a tertiary hospital. In my view it was reasonable for Dr Rogers to have considered that neither circumstance applied at that point in time.

4.10. The other observation that should be made about Dr Rogers' care is that an expert intensivist, Professor John Cade, who was commissioned to provide an independent clinical overview of Mr Chaplin's care throughout, expressed the opinion that as of the afternoon of Mr Chaplin's admission there was no need for him to be transferred to Adelaide. While in his view it was regrettable that X-rays could not be taken on that day, Professor Cade was of the view that it was reasonable for Mr Chaplin to have been kept at Wallaroo until he could be X-rayed the following day. I agree with Professor Cade's opinion and so find.

4.11. Dr Rogers was not responsible for Mr Chaplin's care on the Monday and indeed did not see the X-ray result. The X-ray result would come to be assessed by Dr Rogers' colleague, Dr Timothy Wood, who on the Monday would be the ward doctor at the Wallaroo Hospital.

4.12. In many ways it was unfortunate that due to circumstances that do not need to be ventilated here, but which in my opinion should be rectified at that Kadina practice if they have not been rectified already, Dr Rogers did not see the X-ray result. If he had seen the result he would either have contacted the ward doctor, Dr Wood, or he would have arranged for the practice nurse to ensure that Dr Wood was made aware of the result[6]. Such a communication may have altered the outcome for Mr Chaplin in that it

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[6] Transcript, page 184

may have resulted in Mr Chaplin being transferred to Adelaide that day and not, as ultimately would transpire, on the Friday. I say that the outcome may have been altered for the following reasons. Dr Rogers told the Court that he would have regarded the X-ray result as unexpected in terms of his clinical suspicions of the previous day. He had suspected possibly one or two rib fractures. He said that the multiple rib fractures was a far more significant diagnosis than what he had clinically expected. He was asked this question by his counsel, Ms Doyle:

> 'Q. Looking at those results now, if those results had been available to you as at the Sunday afternoon in the Wallaroo Hospital, what would you have done at that point in time.
>
> A. So given his age and the fact that there are multiple risk factor - and that there are multiple rib fractures, current evidence would suggest - say that this sort of person has a high risk of complications and clinical deterioration and ultimately death because of an injury like this. So due to my level of experience now and then because remember I was a registrar at that time, I would feel personally uncomfortable managing them independently at Wallaroo Hospital without at least guidance from the tertiary centre. And so given a result like that I would really, as a minimum, phone the tertiary hospital and so often it is the Royal Adelaide that we feed into to discuss the case with - and this is sort of half the problem our system - we've got a fragmented system, you don't have a one port of call, you have to try and find different people to try and talk to. But I would likely discuss with either one of the senior emergency physicians or one of the trauma surgeons about the case and get a bias on clinical management. Now that would not necessarily lead to a transfer even though that would probably be my preference because again the problem with our current system is that it requires that the doctors you speak to at the Royal Adelaide actually accept that patient's care, and then you've got to organise a transfer from then. And as will often happens, there's no beds, the transfer system is busy, delays happen and there's lots of problems.' [7]

4.13. Dr Rogers added that the specialists in Adelaide are always willing to provide advice over the phone.

4.14. I accept Dr Rogers' evidence that in all likelihood he would have sought advice from a specialist in Adelaide if he had been made aware of the X-ray results. I also accept that in all likelihood, having regard to the evidence of Professor Cade and the evidence as a whole, that the advice from Adelaide would have been for Mr Chaplin to be immediately transferred to Adelaide. I find that Mr Chaplin indeed should have been transferred to Adelaide on Monday 29 February 2016.

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[7] Transcript, page 185

4.15. In the course of cross-examination Dr Rogers asserted that if he had possessed the resources to have performed an X-ray at the time that he saw Mr Chaplin on the Sunday, there would have been a different outcome because he would have discussed the findings with a specialist in the city about ongoing management which may have led to Mr Chaplin's transfer. In this context Dr Rogers stated that local general practitioners had been trying to push for improved services for many years. In his opinion a place like Wallaroo with the number of presentations that they see and having regard to how busy the hospital is, should have access to at least an on-call service for X-ray after hours. He acknowledged the obvious proposition that if he had had that facility available to him he would have ensured that an X-ray was taken on the day that he saw Mr Chaplin. He acknowledged that it was only because of the lack of availability of that service that he delayed it[8]. Also in cross-examination Dr Rogers acknowledged that as well as seeking advice from Adelaide, he would have felt uncomfortable managing Mr Chaplin at the Wallaroo Hospital as it did not have any high dependence facility where a doctor would scrutinise the patient on a 24/7 basis[9]. Asked pointedly as to what the likely outcome would have been if he had received advice from Adelaide, he said that transfer to Adelaide probably would have been the outcome. He said that he would have advocated that course. The principle reason for transfer to Adelaide would have been the need for emergency treatment beyond Wallaroo Hospital's capabilities. A high chance of clinical deterioration was also a very significant factor. He said:

> 'So sending them down because you're worried about things going wrong is a perfectly valid reason.' [10]

I agree with that observation.

4.16. As to the prospect of deterioration as a basis for transfer to Adelaide, Dr Rogers reiterated that with rib fractures there was the possibility that the patient would not breathe adequately thereby giving rise to a risk of pneumonia or pneumothorax. Asked as to whether complications such as those could be managed in the Wallaroo Hospital, Dr Rogers used the word '*maybe*', but added the very important caution that the more

[8] Transcript, page 196
[9] Transcript, page 197
[10] Transcript, pages 197-198

complications that arise, the more uneasy he would feel about managing such a patient at that location[11].

4.17. I find that Dr Rogers' care was adequate and competent. I find that if Dr Rogers had been made aware of the X-ray results, either on 28 February 2016 if radiology had been available on that day, or on Monday 29 February 2016 if he had been made aware of the X-ray results on that day, it probably would have resulted in Mr Chaplin being transferred to Adelaide as soon as possible thereafter and probably on that day. I do not criticise Dr Rogers for not being aware of the X-ray results on the Monday. He was not the Wallaroo Hospital duty doctor on that day. He had no reason to suppose that Dr Wood would take a less robust view of the clinical significance of the X-ray results, a matter to which I will return.

4.18. It is unfortunate that Dr Wood, who did see the X-ray results on the Monday, did not take the view about them that Dr Rogers would have taken. Mr Chaplin's transfer to Adelaide clearly should not have depended on the identity of and competency of the doctor who examined the X-rays on the Monday and who assessed him on that day.

4.19. In the event no advice would be sought from an Adelaide intensive care source until 4 March 2016 when a locum general practitioner in Wallaroo assessed Mr Chaplin as being in extremis.

5. <u>The X-ray and CT scan results</u>

5.1. On Monday 29 February 2016 as earlier indicated, the chest X-ray results were made available. The X-ray showed fractured right 2nd to 11th ribs.

5.2. On Thursday 3 March 2016 a CT scan of the chest, abdomen and pelvis that were ordered by Dr Wood showed fractured right ribs 3 to 12 with fractured right transverse processes of T9 to T11. There were also bilateral pleural effusions with compression atelectasis.

5.3. In an elderly man, these injuries were very serious and required an appropriate care regime.

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[11] Transcript, page 207

6. Mr Chaplin's care from 29 February to 4 March 2016

6.1. In the period under discussion Mr Chaplin was cared for by Dr Timothy Wood to whom I have already referred. Dr Wood was a general practitioner practising within Kadina Medical Associates. He was a colleague of Dr Rogers. He was also a colleague of Dr Gregg who was Mr Chaplin's usual general practitioner.

6.2. Dr Wood and Mr Chaplin were known to each other as they were neighbours.

6.3. Dr Wood graduated with MBBS degrees in 1975. He has worked as a general practitioner in Kadina since June 1980. He is also a clinical lecturer at the University of Adelaide. He is also an Adelaide Medical School Assessment Committee member. Dr Wood told the Court that he was a member of the Wallaroo Hospital roster although as of 1 June 2016 he has withdrawn his services from that hospital.

6.4. On the morning of Monday 29 February 2016 he saw Mr Chaplin at the Wallaroo Hospital. Dr Wood examined the notes that had been made by his colleague Dr Rogers and observed that it was likely that Mr Chaplin had a fractured rib or ribs. As seen, the X-ray had already been ordered. It would take place that day and the results would be available also on that day.

6.5. Dr Wood noted the history underlying Mr Chaplin's admission. It had been recorded that Mr Chaplin was an 81 year old male who had fallen from a height of about 1.5 metres and had landed on his right-hand side with no evidence of head injury nor loss of consciousness. Dr Wood became aware of the chest X-ray results in the afternoon. Dr Wood told the Court that he had no recollection of the X-ray report, but acknowledged that he must have seen it given the fact that there was a nursing note indicating that he had. He took from the report that there were nine fractured ribs. In respect of those injuries Dr Wood said this:

> 'That well, reading this there are nine fractured ribs and at that time that did not trigger in me a response that I now know it should have. I misjudged or I misinterpreted it because I didn't realise the significance of multiple rib fractures in an elderly patient.' [12]

Dr Wood added that he had been used to managing fractured ribs in young, fit footballers in whom the fractures will heal themselves and be adequately managed with

[12] Transcript, page 236

pain relief. In his 40 years of practice he had not encountered anyone in their 80s with multiple rib fractures.

6.6. In light of the X-ray result Dr Wood's plan for Mr Chaplin's treatment was analgesia and the administration of clexane to manage the risk of blood clots.

6.7. Dr Wood again saw Mr Chaplin on Tuesday 1 March 2016. He did not observe any change in Mr Chaplin that day.

6.8. He saw Mr Chaplin again on 2 March 2016 at 9:06am. A physiotherapist's note of 1 March 2016 indicated that Mr Chaplin had decreased minimal air entry on the right and left which Dr Wood attributed to Mr Chaplin's pain and to his inhibited breathing. On that day a device called a skip pump was initiated. The skip pump was designed to reduce Mr Chaplin's pain.

6.9. On 3 March 2016 Dr Wood again saw Mr Chaplin and nothing out of the ordinary was noted. Mr Chaplin's pain relief was increased. Dr Wood said that it was difficult to assess Mr Chaplin's pain level as he did not complain of pain as much as other people did. However, on that day a CT scan was undertaken. Dr Wood explained to the Court that he asked for a CT to be administered because of the link between rib fractures and kidney damage. This was ordered in Mr Chaplin's case because blood in Mr Chaplin's urine had been noted and that this is one of the warning signs for renal damage. The CT did not demonstrate any renal damage, but it revealed one more rib fracture than the chest X-ray had identified and, as well, it also revealed fractures of the transverse processes of the spine which had not been shown on the chest X-ray. Atelectasis and pleural effusions were also revealed but they were not large. There was fluid within the oesophagus that might have been related to an ileus.

6.10. Dr Wood did not regard the transverse processes fractures as significant, but acknowledged that given the number of rib fractures he had made an error of judgment in relation to the seriousness of Mr Chaplin's injuries[13]. He did not regard the basal atelectasis which represented small areas of lung collapse as significant areas of collapse. At that time he would have regarded this as a lesion that would heal itself.

[13] Transcript, page 245

The pleural effusions were in keeping with the small amount of atelectasis and would not in Dr Wood's view have impaired ventilation or breathing[14].

6.11. Dr Wood did not see Mr Chaplin on Friday 4 March 2016 because on that morning Mr Chaplin was seen by a different locum medical practitioner whose evidence I will come to in a moment. Therefore, Dr Wood did not at any time see Mr Chaplin in extremis.

6.12. Dr Wood was asked by his own counsel, Mr Cox QC, as to why he did not transfer Mr Chaplin to the RAH between 29 February and 3 March 2016. To this Dr Wood said that he had been misled by the fact that Mr Chaplin's observations had been normal. He acknowledged that he had underestimated the level of damage inside his body that had been caused by the rib fractures.

6.13. Dr Wood also told the Court that he had not been aware of increased mortality rates among elderly patients who have sustained multiple rib fractures and in particular that multiple rib fractures in patients over the age of 65 had a mortality rate that was almost double that of younger patients[15]. Asked to comment on the opinion of the independent expert, Professor Cade, that Mr Chaplin should have been transferred to Adelaide earlier, Dr Wood acknowledged that Mr Chaplin should have been so transferred. As to Professor Cade's opinion that I will mention in due course concerning the likelihood of Mr Chaplin surviving had he been transferred earlier than 4 March 2016, Dr Wood said that he did not have enough experience to offer an opinion in relation to that issue.

6.14. Dr Wood was extensively cross-examined by Mr Kalali, counsel assisting. In cross-examination Dr Wood stated that he probably underestimated Mr Chaplin's pain because Mr Chaplin was a '*stoic person*' who did not complain as much as others[16]. Also in cross-examination Dr Wood repeated his acknowledgement that he had underestimated the internal damage that Mr Chaplin had experienced.

6.15. In cross-examination Dr Wood also indicated that he accepts that on receipt of the X-ray report on 29 February 2016 there should have been transfer of Mr Chaplin to a trauma centre. He acknowledged that it was an error of judgment not to have at least contacted MedSTAR on 29 February 2016. He repeated that he had not appreciated

[14] Transcript, page 246
[15] Transcript, page 258
[16] Transcript, page 275

that multiple rib fractures in the elderly patient could have serious ramifications[17]. He did acknowledge, however, that he had been aware of the potential for pneumonia and lung collapse in people with rib fractures, but not to the extent that he now understood this.

6.16. Clearly therefore, and as acknowledged by Dr Wood, the results of the CT scan also demonstrated a need for transfer to a trauma centre[18]. Dr Wood also acknowledged during Mr Kalali's cross-examination that Mr Chaplin's pain was not appropriately managed due to the fact that he might have underestimated how much pain he had been in[19].

6.17. Dr Wood also acknowledged that the minimal air entry in lower lobes as observed by the physiotherapist could have been consistent with a collapse of the lung. He acknowledged that having regard to the time gap between the chest X-ray and CT scan it was a complication that possibly could have arisen in those two to three days[20]. He acknowledged that this possible change was another reason why at least on 3 March 2016 Mr Chaplin should have been transferred in any event[21]. Similarly, fluid within the oesophagus which possibly represented aspiration and had therefore presented a risk of aspiration pneumonia would have been another reason for Mr Chaplin to have been transferred on that day. He agreed with Mr Kalali's proposition that even without the benefit of hindsight, on 3 March 2016 there were multiple reasons why Mr Chaplin should have been transferred at the very latest on 3 March 2016[22].

7. The evidence of Dr Michelle Cresp

7.1. At the time with which this inquest is concerned Dr Michelle Cresp was a general medical practitioner performing locum work at the Wallaroo Hospital. It is evident from Dr Cresp's curriculum vitae that she is a highly experienced and very competent medical practitioner. So much so that there is little doubt that had Dr Cresp been involved in Mr Chaplin's management from the outset, and certainly from the Monday on which day Mr Chaplin's X-ray results had become available, Mr Chaplin would have been transferred to Adelaide on that day. Dr Cresp gave oral evidence in the inquest.

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[17] Transcript, page 285
[18] Transcript, page 292
[19] Transcript, page 293
[20] Transcript, page 295
[21] Transcript, page 296
[22] Transcript, page 296

7.2. Dr Cresp saw Mr Chaplin for the first time on Friday 4 March 2016 at about 8:30am. When Dr Cresp commenced her shift at approximately 8am that day she expected a medical handover from a doctor from Kadina Medical Associates. However, there was no medical practitioner on the premises and an attempt by Dr Cresp to contact Kadina Medical Associates was unsuccessful. In the event Dr Cresp did not speak to Dr Wood until about 11am. This is no criticism of Dr Wood. The absence of a practitioner to practitioner handover did not appear to make any significant difference in Mr Chaplin's management on that day. However, the absence of a doctor to doctor handover should never be regarded as or become a routine or unimportant circumstance. On the contrary, the experience of this Court is that it is an important facet of clinical care.

7.3. Upon the commencement of her ward round at approximately 8:30am, Dr Cresp requested the nursing staff to identify the patient about whose care they were most concerned. Mr Chaplin was nominated. Dr Cresp went to see Mr Chaplin. His wife and daughter were present.

7.4. Dr Cresp described Mr Chaplin as being obviously very unwell. He was grey, he was sweating and he looked extremely breathless. He was so distressed by pain that he could barely speak. It is plain that Mr Chaplin had deteriorated quite markedly from the previous day.

7.5. It is not necessary to recite the detail of what transpired during Friday 4 March 2016 prior to Mr Chaplin's transfer to Adelaide. The salient features of Dr Cresp's management were her efforts to obtain advice from physicians in Adelaide and her persistent attempts to secure the appropriate means of transport for Mr Chaplin for the purpose of transfer to Adelaide. Dr Cresp described ongoing difficulties in this regard, due either to a lack of availability of the means of transport selected or priority having been given to other cases.

7.6. Dr Cresp was concerned that Mr Chaplin had developed acute respiratory distress syndrome because of his original injuries and the findings on examination of severe respiratory distress, very poor air entry and crepitations throughout his lung fields. He continued to have blood in his urine despite no confirmed renal injury. Dr Cresp rightly formed the view that the profile of multi-system injury was beyond the capacity of the Wallaroo Hospital, hence her recommendation that he be transferred to the RAH for

high dependency or intensive care unit care. Mr Chaplin, his wife and daughter accepted that advice.

7.7. At approximately 10:10am Dr Cresp was alerted by nursing staff that Mr Chaplin had '*crashed*'. He had suddenly deteriorated with a sudden drop in blood pressure, profound sweating and clinical findings of shock. With appropriate treatment Mr Chaplin did improve somewhat and appeared to be in less respiratory distress, albeit he was still in a critical condition. Throughout, attempts were being made to arrange for Mr Chaplin's transfer.

7.8. At 2:10pm Mr Chaplin's condition again suddenly deteriorated with a drop in oxygen saturations. His respiratory rate also dropped. Further measures were taken by Dr Cresp on the advice of MedSTAR. From about 3pm until MedSTAR's arrival at 4:30pm Mr Chaplin was drowsy but rousable. His condition remained grave. At approximately 4:30pm Dr Cresp handed over Mr Chaplin's care to the MedSTAR clinical team. He was intubated shortly after this. He experienced a brief cardiac arrest from which he was resuscitated.

7.9. Mr Chaplin was stabilised and left Wallaroo Hospital at approximately 6:30pm with MedSTAR.

7.10. I was extremely impressed with Dr Cresp both as a medical practitioner and as a person. It is fair to say that throughout the day Dr Cresp's care of Mr Chaplin was faultless, tenacious and heroic.

8. The evidence of Professor John Cade

8.1. I have already referred to Professor Cade's evidence in part.

8.2. Professor Cade prepared a report in relation to Mr Chaplin's management, particularly in relation to his treatment at the Wallaroo Hospital[23].

8.3. Professor Cade is a Professorial Fellow at the University of Melbourne and is an Emeritus Consultant in Intensive Care at the Royal Melbourne Hospital. He has held that position since 2008. Prior to that he was the full time Director of the Intensive Care Department at that hospital.

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[23] Exhibit C24a

8.4. Professor Cade also gave oral evidence in the inquest.

8.5. Professor Cade addressed two principal issues in the inquest. The first of those issues was whether the care provided at Wallaroo Hospital was adequate and appropriate having regard to the severity of Mr Chaplin's injuries. The second principal issue was whether Mr Chaplin's death could have been prevented, and whether in particular his death may have been prevented if he had been transferred to a major centre in Adelaide earlier than he was.

8.6. As to the first of those issues Professor Cade was of the opinion that Mr Chaplin had been well assessed by Dr Rogers on the day of his admission to the Wallaroo Hospital. He regarded it as appropriate that Mr Chaplin had been admitted to Wallaroo Hospital overnight for analgesia and further assessment the following morning. In this regard I accept Professor Cade's evidence and have found that Dr Rogers' management of Mr Chaplin was adequate and appropriate. As to the chest X-ray that on the following day revealed multiple rib fractures, Professor Cade stated in his report that this was a serious injury, especially in an elderly patient with multiple comorbidities. It is an injury that can be difficult to manage with complex analgesic requirements and has a high risk of complications. Even in a major tertiary hospital such a patient would preferably be cared for initially in a high dependence unit. Thus, Professor Cade expressed the view that adequate ongoing care could not have been provided by the Wallaroo Hospital for a patient such as Mr Chaplin.

8.7. In his oral evidence Professor Cade expanded upon those views and told the Court that in his opinion Mr Chaplin had sustained a severe chest injury from major trauma. The high risk of complications included pneumonia, aspiration and atelectasis. Furthermore, a pneumothorax whereby the rib punctures the lung and where air therefore enters the pleural cavity is another major possible complication. Elderly patients suffer major trauma to a much worse degree than younger patients. This is so in the case of rib fractures because they take much longer to heal in older patients. Atelectasis in this setting reflects the fact that the underlying lung has been damaged because of an accumulation of sputum secretions. As well, there are complex analgesic requirements in respect of an elderly patient that would involve specific management that would be met by a high level, sophisticated tertiary pain service. Such measures might include modalities such as nerve blocks or epidural analgesia. Other physical measures might include early mobilisation, physiotherapy and assisted lung inflation.

8.8. Professor Cade stated that in his opinion, with which I agree, on receipt of the results of Mr Chaplin's X-ray report on Monday 29 February 2016 Mr Chaplin should have been admitted to a major trauma centre. As to the care that a major trauma centre would have provided for Mr Chaplin, Professor Cade said this:

> 'This is why major trauma centres with associated retrieval services have been set up state wide, of which South Australia is an exemplar, because the results in a major trauma centre are so much better than in non-specialist suburban or regional or rural hospitals, let alone the smaller ones. It's the totality of the facilities that they have in the major trauma centre, the multi-disciplinary teams, the trauma surgeons, the thoracic surgeons in this case, the high dependency unit or intensive care unit and its team of doctors and nurses and their associated equipment. It's quite a sophisticated level of care that is able then to optimise the outcome of major trauma cases.' [24]

8.9. As to the course of Mr Chaplin's management within the Wallaroo Hospital following the X-ray report, Professor Cade noted from the clinical record that Mr Chaplin had continuous difficulty with pain control which is a marker of a need for more sophisticated care. The CT scan on the Thursday showed not only the extent of the rib fractures, but also of associated spinal transverse fractures and some underlying lung damage. He said:

> 'So I think there were progressive markers during that week that suggested he should have been considered and reconsidered and reconsidered again for transfer until Friday the fourth, when the new doctor, Dr Cresp, saw the patient.' [25]

8.10. Professor Cade opined that the only time during Mr Chaplin's admission at the Wallaroo Hospital when it had been reasonable for him to have been kept there was the period while he waited for the results of the X-rays that were made available the day after his admission. Professor Cade opined that from the Monday onwards the indications for transfer were there and were increasing[26]. I agree with all of those observations and find accordingly.

8.11. Professor Cade commented upon some of the symptomatology that Mr Chaplin had displayed during the admission at Wallaroo Hospital. In particular the physiotherapist's assessment that there was decreased airflow into the lower lobes of the lungs indicated that Mr Chaplin was unable to breathe satisfactorily. This was a marker of his compromised ability to breathe and to cough and to deal with the tracheobronchial

[24] Transcript, pages 314-315
[25] Transcript, pages 317-318
[26] Transcript, page 318

secretions. The fluid-filled oesophagus suggested that Mr Chaplin may have had an obstruction in his oesophagus so that the fluid which he would normally swallow has not gone down into his stomach in the normal way. It would have made him more prone to aspiration, more difficult to hydrate and more difficult to feed. I accept all of that evidence.

8.12. As to the events of 4 March 2016 which culminated in Mr Chaplin's transfer to Adelaide, Professor Cade expressed the view that Dr Cresp's assessment was excellent and her decision making was totally correct. I agree with Professor Cade's opinions in that regard.

8.13. Professor Cade was asked as to why it was that Mr Chaplin's health had declined from the 3 March to 4 March 2016 when he was in extremis. Professor Cade stated that this was a common natural progression of a severe chest injury in an elderly patient with comorbidities. There had been progressive development of respiratory failure, then cardiac arrest and multiple organ failure. He said '*this is the typical disastrous sequence of events that is sought to be prevented by the care that can be provided in a major trauma centre*'. As to why it took approximately five days for the deterioration to become manifest, Professor Cade suggested that the explanation for that was that Mr Chaplin was a strong and stoic man and managed to survive those days before the inevitable happened. If he had not been of that nature it was likely that he would have succumbed earlier.

8.14. As to the second major issue as to whether Mr Chaplin's death could have been prevented, in his report Professor Cade stated that if Mr Chaplin had been transferred earlier than 4 March 2016 to the RAH '*he would very likely have survived his injury*'. In his oral evidence Professor Cade was closely questioned about this assertion. In his evidence in chief Professor Cade stated that even if Mr Chaplin had not been the strong and stoic man who he seemed to be, his early transfer to a major trauma centre would almost certainly have ensured his survival. He went on to say that he believed that if he had been transferred at any time before 4 March 2016, including on 3 March 2016 after the CT scan had revealed further injury, his survival would very likely have been assured[27]. Asked by counsel assisting, Mr Kalali, as to why he held those opinions, Professor Cade said that until 4 March 2016 Mr Chaplin had not deteriorated. The purpose of treatment that a major trauma centre can provide in respect of a chest injury

[27] Transcript, page 323

is to prevent that deterioration. If Mr Chaplin had been able to be treated before the deterioration occurred, the deterioration very likely would have been intercepted, prevented and managed before his ultimate series of collapses in the Wallaroo Hospital on Friday 4 March 2016.

8.15. Professor Cade went so far as to suggest that if Mr Chaplin had been transferred even quite late on 3 March 2016 he would still have been able to have been '*rescued*'[28]. As to the characteristics of the care that would have been brought to Mr Chaplin in those circumstances, he would have had blood gas analysis to determine how well or otherwise Mr Chaplin was breathing. If he was breathing inadequately he would have been intubated and ventilated. As well, there would have been a sophisticated analgesic regimen. His fluids and nutrition would have been looked after. Most importantly, Mr Chaplin's respiratory care would have been escalated such that the complication of respiratory failure would have been averted. Professor Cade pointed to the sophisticated resources that would be provided in a trauma centre including a very sophisticated respiratory team as well as the respiratory equipment that allows the lungs to be properly ventilated and suctioned and for proper hygiene to be maintained. As well, appropriate antibiotics would be provided.

8.16. On behalf of Dr Wood, Mr Cox QC challenged Professor Cade on the view that the latter expressed concerning Mr Chaplin's likelihood of survival. Mr Cox QC asserted that some of the relevant literature suggested that mortality is related to the number of rib fractures as well as to the age of the patient and that the probability of pneumonia is increased accordingly. Professor Cade responded that while this proposition was correct, it was incomplete[29]. Mr Cox QC also suggested to Professor Cade that all one could say was that Mr Chaplin, by not being transferred earlier to the RAH, had a diminished chance of surviving. Professor Cade responded to this by pointing out that the statistical information quoted related to injuries that are treated across hospitals in general and not in modern sophisticated trauma centres where the goal of treatment is to improve those statistics.

8.17. In the event I have accepted Professor Cade's evidence in two respects. Firstly, that Mr Chaplin should have been transferred to the RAH on the Monday (29 January 2016) as soon as the X-ray results were in and, secondly, that if he had been so transferred on that day Mr Chaplin's chances of survival were such that he would likely have survived

[28] Transcript, page 325
[29] Transcript, pages 339-340

his injuries. I am less certain as to whether his death could have been prevented had he been transferred on 3 March 2016, the day before his collapse, but in some senses this question is academic due to the fact that it has been accepted in this inquest that the time for Mr Chaplin's transfer had well and truly passed by 3 March 2016 and that his transfer should have occurred at the latest on Monday 29 February 2016 when the X-ray results were known. There was in my opinion, and I find, simply no basis for Mr Chaplin to have been kept in the Wallaroo Hospital beyond 29 February 2016. Keeping him there served no positive purpose whatsoever. It placed him at risk of the catastrophic deterioration that ultimately occurred.

9. One further matter

9.1. Material was presented to the Court concerning the practice of elderly persons using ladders and the seriousness of injuries that are sustained when elderly persons fall from them. An American study identified a need for ladder safety education among the elderly. The study pinpointed a number of circumstances that could contribute to a fall and to the sustaining of a serious injury. These included the elderly using ladders with no other person present or assisting, poor ladder placement and excessive reaching from ladders. Added to that was the fact that as older patients tend to have slower reaction times, they may not react quickly enough when stability is lost. As well, an impact with the ground will commonly involve the torso or the head. Patients greater than 66 years of age were particularly vulnerable to serious consequences after falls from ladders and that would even include falls from lower heights. The study suggests that public education concerning safe ladder use should be delivered and that it should be tailored to all individuals, particularly the elderly[30].

9.2. A campaign that was led in Victoria by the Victorian Department of Health noted that males over 60 were over-represented in terms of death and serious injury from ladder falls and that injuries resulting in hospital admissions within this cohort had been increasing in Victoria. This study identified causes of falls including ladder instability, incorrect placement of the ladder and over-reaching. The study also identified the need for another person to stand at the base of the ladder to observe and ensure stability.

9.3. It is of note that Mr Chaplin was 81 years of age and that he did not have any other person assisting him. As well, the ladder was placed on soft uneven ground. The fall in his case may have been caused by Mr Chaplin over-reaching for a tree branch and

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[30] Exhibit C23

missing it. Although the fall height was not particularly great being probably not more than 1.5 metres, Mr Chaplin nevertheless suffered serious life threatening injuries.

9.4. It would be idle to suggest that persons of or above a certain age should never use a ladder, but it is worthwhile observing that the use of ladders by the elderly undoubtedly poses a greater risk of sustaining serious injury to both head and torso than the activity does in persons of a younger age. As indicated in the studies that I have mentioned, there are ways and means of mitigating that risk. Perhaps the most important manner in which the risk can be managed is for a second person to be involved at all times in the ladder using exercise so as to ensure that the ladder is set up properly, is moved appropriately when necessary so as to discourage over-reaching and that the ladder is stable, particularly when the person is ascending or descending the ladder. The added benefit of the presence of another person is that if an accident does occur the second person is immediately on hand to deal with the situation. All that said, the use of ladders by the elderly is plainly fraught with difficulty and should probably be discouraged.

10. Conclusions

10.1. On Sunday 28 February 2016 Mr Chaplin fell from a ladder when he over-reached to gain access to a tree branch which he probably intended to prune. It is said that he fell from an approximate height of 1.5 metres. Mr Chaplin fell onto his torso. He did not sustain any significant impact to his head.

10.2. As a result of his fall he sustained several rib fractures.

10.3. Mr Chaplin was conveyed by ambulance to the Wallaroo Hospital where X-rays performed the following day revealed the rib fractures. There is no criticism in connection with the fact that Mr Chaplin was kept in the Wallaroo Hospital for the purpose of the X-rays. X-ray services were not available at Wallaroo Hospital on weekends.

10.4. I find that on Monday 29 February 2016 when the X-ray results were known, Mr Chaplin should have been transferred to a tertiary hospital such as the Royal Adelaide Hospital. This is so having regard to Mr Chaplin's age of 81 years, the extent of the rib injuries and the potential for those injuries to pose a serious threat to Mr Chaplin's wellbeing and life.

10.5. Mr Chaplin was kept within the Wallaroo Hospital until Friday 4 March 2016. On that day Mr Chaplin experienced a significant deterioration in his wellbeing. This deterioration could and should have been anticipated, again having regard to his age, the seriousness of his injuries and the risk to his wellbeing and life that those injuries posed.

10.6. During Mr Chaplin's admission at the Wallaroo Hospital there were signs that he was deteriorating, but his ultimate collapse on Friday 4 March 2016 was sudden. Nevertheless, the gradual deterioration over the days leading up to and including Thursday 3 March 2016 was a deterioration that was not atypical of a man of Mr Chaplin's age with the injuries that he had sustained. The signs of deterioration should have signified that Mr Chaplin required care that the Wallaroo Hospital was incapable of providing. The point is though and I find, that in any event Mr Chaplin should not have been kept at that hospital for a period of time beyond Monday 29 February 2016. Keeping him there served no clinical purpose whatsoever.

10.7. The reason why Mr Chaplin was not transferred on Monday 29 February 2016 or at any other time during the course of that week until the Friday was because his treating practitioner, Dr Timothy Wood, did not have an adequate appreciation of the seriousness of Mr Chaplin's rib injuries and the risk that they posed to his wellbeing and to his life. Nor did he have an adequate appreciation of the need to seek and obtain advice regarding Mr Chaplin's condition. I have accepted Dr Wood's evidence in that regard. However, Dr Wood's ignorance of these matters is perplexing when it is borne in mind that he is an experienced medical practitioner who has lectured in medicine at a tertiary institution. I have no idea why Dr Wood would have had such an idiosyncratic view of the seriousness of Mr Chaplin's predicament. I am prepared to accept that Dr Wood was ignorant of these matters because I find it impossible to believe that he would have managed Mr Chaplin in such a casual manner if he had gained a full appreciation of the medical difficulties that Mr Chaplin was in.

10.8. No advice was sought from available services in Adelaide concerning Mr Chaplin's diagnosis and condition until Friday 4 March 2016. Advice should have been sought when the extent of Mr Chaplin's injuries was known as of Monday 29 February 2016. I find that the advice would inevitably have been that he should be transferred to Adelaide as soon as was possible.

10.9. Mr Chaplin received more than adequate care at the hands of Dr Cresp on Friday 4 March 2016. She did all she could to seek advice about Mr Chaplin's deterioration. She did all she could to stabilise and resuscitate Mr Chaplin pending the arrival of the retrieval team from Adelaide. Her efforts to arrange for the transport of Mr Chaplin to Adelaide were persistent and competently carried out.

10.10. The day after Mr Chaplin was transferred to the Royal Adelaide Hospital he died. I find that his cause of death is multi-organ failure complicating multiple right-sided rib fractures due to a fall from a ladder.

10.11. I find that Mr Chaplin's death probably would have been prevented if he had been transferred as he should have been to the Royal Adelaide Hospital on Monday 29 February 2016. I am less certain of a favourable outcome if he had been transferred later in that week, and in particular on Thursday 3 March 2016, but I find that his chances of survival would have been significantly enhanced if that had been the case.

11. Recommendations

11.1. Pursuant to section 25(2) of the Coroner's Act 2003 I am empowered to make recommendations that in the opinion of the Court might prevent, or reduce the likelihood of, a recurrence of an event similar to the event that was the subject of the Inquest.

11.2. The Court makes the following recommendations directed to the attention of the chief executive or equivalent of the Country Health SA Local Health Network Incorporated, the chief executive of SA Health and the Australian Medical Association (South Australia).

1. That radiological services be made available on weekends and after hours at the Wallaroo Hospital.

2. That suspected rib fractures in the elderly be diagnosed in a timely manner.

3. That in rural settings a diagnosis of multiple rib fractures in the elderly should give rise to immediate consideration being given by medical practitioners to (a) the need to seek advice from the relevant services provided in tertiary hospitals in Adelaide regarding the patient's management, and (b) the need to transfer the patient to a major trauma centre.

4. That education be delivered to medical practitioners, especially medical practitioners working in rural settings and in particular in rural hospitals, concerning the seriousness of multiple rib fractures in elderly patients. The education should relate to matters including but not be limited to:

    a) That when dealing with multiple rib fractures in the elderly medical practitioners should act on the assumption that the injuries will likely result in significant pain that will require careful analgesic management, that the injuries will likely compromise the patient's respiration and his or her ability to maintain adequate respiratory hygiene.

    b) Modalities of pain management;

    c) The type of medical interventions that might be required in order to manage the patient and whether those services are available within the local hospital;

    d) The fact that multiple rib fractures in the elderly are a serious injury of themselves and may lead to serious complications;

    e) That an elderly person suffering from multiple rib fractures may deteriorate suddenly.

    f) That when multiple rib fractures are suspected in the elderly CT imagery is a more ideal modality of diagnosis than X-ray.

5. That a public advertising campaign be instigated in relation to the dangers and possible adverse consequences of use of ladders by the elderly.

Key Words: Country Hospital; Hospital Treatment; Medical Treatment - Medical Practitioner

In witness whereof the said Coroner has hereunto set and subscribed his hand and

Seal the 31st day of May, 2019.

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Deputy State Coroner