HIGH COURT OF AUSTRALIA

KIEFEL CJ,
BELL, KEANE, NETTLE AND GORDON JJ

STATE OF QUEENSLAND APPELLANT

AND

THE ESTATE OF THE LATE JENNIFER LEANNE MASSON RESPONDENT

Queensland v Masson
[2020] HCA 28
Date of Hearing: 11 June 2020
Date of Judgment: 13 August 2020
B63/2019

ORDER

1. *Appeal allowed.*

2. *Set aside the orders of the Court of Appeal of the Supreme Court of Queensland made on 10 May and 13 September 2019 and in their place order that the appeal to that Court be dismissed with costs.*

3. *The respondent to pay the appellant's costs of the appeal, including as applicant for special leave to appeal.*

On appeal from the Supreme Court of Queensland

Representation

S L Doyle QC with R N Traves QC and C J Fitzpatrick for the appellant (instructed by Crown Solicitor (Qld))

B W Walker SC with D R Campbell SC and A S Katsikalis for the respondent (instructed by RMB Lawyers)

CATCHWORDS

Queensland v Masson

Negligence – Standard of care – Breach – Where woman suffering severe asthma attack treated by ambulance officers including intensive care paramedic – Where intensive care paramedic elected to administer intravenous ("IV") salbutamol rather than IV adrenaline in initial phase of treatment due to woman's high heart rate and high blood pressure – Where Clinical Practice Manual ("CPM") required that ambulance officers "consider" IV adrenaline – Whether decision to administer IV salbutamol contrary to CPM – Whether treatment fell below standard of care expected of ordinary skilled intensive care paramedic – Whether trial judge's finding that intensive care paramedic made clinical judgment to administer adrenaline "contrary to compelling inferences" or "glaringly improbable" – Whether administration of IV salbutamol supported by responsible body of opinion within medical profession.

Words and phrases – "adrenaline", "ambulance officers", "appellate intervention", "breach of duty of care", "case management guidelines", "clinical judgment", "clinical pharmacology", "clinical practice manual", "contrary to compelling inferences", "emergency medicine", "flowchart", "glaringly improbable", "intensive care paramedic", "negligent omission", "operating in the field", "ordinary skilled intensive care paramedic", "range of reasonable responses", "responsible body of opinion within the medical profession", "salbutamol", "severe asthma", "standard of care", "trial judge's advantage".

1 KIEFEL CJ, BELL AND KEANE JJ. On 21 July 2002, Jennifer Masson, a 25-year-old chronic asthmatic, suffered a severe asthma attack while visiting friends in Cairns. Asthma is a disease that is characterised by constriction of the bronchial passages and which, in severe cases, may lead to life-threatening deprivation of oxygen. Ambulance officers treated Ms Masson at the scene before conveying her to Cairns Base Hospital. Unfortunately, Ms Masson sustained severe, irreversible brain damage as the result of deprivation of oxygen before she arrived at the hospital. She lived in a vegetative state for the next thirteen and a half years while being cared for at home by her parents.

Background and procedural history

2 Proceedings were commenced in the Supreme Court of Queensland (Henry J) on Ms Masson's behalf by her litigation guardian claiming damages in negligence against the State of Queensland ("the State") as the provider of ambulance services under the name Queensland Ambulance Service ("QAS"). It was alleged that the ambulance officers' failure to promptly administer adrenaline to Ms Masson was a negligent omission for which the State was vicariously liable. The failure was said to be contrary to the instructions in the QAS Clinical Practice Manual ("the CPM"). Alternatively, it was alleged that, if the officers were not themselves negligent, the training and instruction given to them by the QAS was inadequate such that the State bore direct liability for the failure to administer adrenaline to Ms Masson earlier. Following Ms Masson's death, the claim survived in the hands of her estate[1]. The trial was confined to the question of liability, the parties having agreed on damages in the sum of $3,000,000[2].

3 At the time ambulance officers arrived at the scene, Ms Masson was in respiratory arrest. Clinton Peters, an intensive care paramedic, was the officer who was responsible for making the treatment decisions. Mr Peters elected to administer intravenous ("IV") salbutamol in the initial phase of Ms Masson's treatment. Salbutamol, like adrenaline, acts as a bronchodilator.

4 The CPM's asthma flowchart ("the flowchart") listed pre-hospital treatment options for asthmatic patients in three categories, which, in descending order of severity, were labelled "Imminent Arrest", "Severe Asthma" and "Moderate Asthma". Ms Masson was within the "imminent arrest" category. The guidance that the flowchart provided in relation to patients in this category was to

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1 *Succession Act 1981* (Qld), s 66.

2 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,689 [3].

"[c]onsider adrenaline". The guidance for patients in the "severe asthma" category was to "[c]onsider [s]albutamol".

5 A critical factual issue at the trial was whether Mr Peters had considered administering adrenaline to Ms Masson at the outset. The trial judge found that he had and that he had decided against doing so because Ms Masson had a high heart rate (tachycardia) and high blood pressure (hypertension)[3]. His Honour found that in 2002 there was a responsible body of opinion within the medical profession which supported the view that Ms Masson's high heart rate and high blood pressure, in the context of her overall condition, provided a medically sound basis to prefer the administration of salbutamol to adrenaline at the time of initial treatment[4]. The treatment of Ms Masson was held not to have fallen below the standard of care to be observed by ambulance officers. The claim was dismissed.

6 The respondent appealed to the Court of Appeal of the Supreme Court of Queensland (Fraser and McMurdo JJA and Boddice J). Contrary to the trial judge's finding, the Court of Appeal found that Mr Peters departed from the guidance of the CPM by failing to consider the use of adrenaline and was negligent in not administering adrenaline to Ms Masson at the outset[5]. In their Honours' view, it was inconsistent with the exercise of reasonable care and skill for an ambulance officer to depart from the guidance of the CPM even if following that guidance would have entailed risks in the circumstances[6]. In any event, their Honours held that the trial judge's finding, that in 2002 there was a responsible body of opinion in the medical profession supporting the administration of salbutamol to a patient in Ms Masson's condition, was not supported by the evidence[7]. Moreover, had there been such a body of opinion, and had Mr Peters been aware of it, given that adrenaline alone was identified in the CPM for an asthmatic patient in imminent arrest, the decision not to administer adrenaline would nonetheless have amounted

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3 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,712 [148].

4 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,703 [93].

5 *Masson v Queensland* [2019] QCA 80 at [156], [168].

6 *Masson v Queensland* [2019] QCA 80 at [149].

7 *Masson v Queensland* [2019] QCA 80 at [164].

to a want of reasonable care[8]. The appeal was allowed, and judgment given for the respondent in the sum of $3,179,384 (inclusive of interest to the date of judgment).

7 On 15 November 2019, Gageler and Nettle JJ granted the State special leave to appeal. The State contends that the Court of Appeal departed from settled principle[9] by treating the CPM as determinative of the standard of care. It is also contended that the Court of Appeal was wrong to overturn the trial judge's findings that: (i) Mr Peters *considered* the administration of adrenaline in accordance with the CPM; and (ii) in 2002 there was a responsible body of opinion within the medical profession supporting the administration of salbutamol to a patient in Ms Masson's condition.

8 For the reasons to be given, both findings should be restored. The trial judge was correct to hold that the administration of IV salbutamol to Ms Masson in all the circumstances was within the range of reasonable clinical judgments that an ordinary skilled intensive care paramedic might make. Restoration of the first finding makes it unnecessary to address the State's further submission, that even if Mr Peters did not consider administering adrenaline as the CPM required, the actual treatment was within the range of reasonable responses to be made by an intensive care paramedic to Ms Masson's presenting conditions. It follows that the appeal must be allowed, the orders of the Court of Appeal be set aside and those of the trial judge dismissing the respondent's claim be restored.

The standard of care

9 These events took place before the enactment of the *Civil Liability Act 2003* (Qld) and so the determination of the claim was governed by the common law. Mr Peters commenced full-time employment as an ambulance officer in 1996 having worked as a volunteer ambulance officer for the preceding six years. In 1996 Mr Peters became authorised to administer salbutamol. In 2000, following further study, Mr Peters became authorised to administer adrenaline. In 2001, he qualified as an intensive care paramedic. His training in the intensive care paramedic program included study in the pharmacological treatment of asthma.

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8 *Masson v Queensland* [2019] QCA 80 at [163].

9 *Rogers v Whitaker* (1992) 175 CLR 479 at 487 per Mason CJ, Brennan, Dawson, Toohey and McHugh JJ.

10 The standard of care expected of Mr Peters was that of the ordinary skilled intensive care paramedic operating in the field in circumstances of urgency[10]. Self-evidently, this is a less exacting standard than that expected of specialists in emergency medicine. The Court of Appeal correctly observed that intensive care paramedics cannot be expected to make fine professional judgments of a kind that require the education, training and experience of a medical specialist[11]. This is not to say, however, that an intensive care paramedic is not expected to exercise clinical judgment. The guidance in the CPM is posited upon the assumption that ambulance officers will exercise clinical judgment and that officers may depart from its guidelines where the departure is justified and is in the best interests of the patient.

11 The Court of Appeal was wrong to say that had there been a body of opinion that adrenaline should not be given to a patient in Ms Masson's condition with a high heart rate and high blood pressure, and had Mr Peters been aware of that opinion and acted upon it, where adrenaline was the drug indicated in the CPM, then by reason of that guidance he would have failed to take reasonable care[12]. The CPM was not expressed to be, and was not, determinative of the range of reasonable responses for an intensive care paramedic treating an asthmatic patient in imminent arrest who presented with Ms Masson's symptoms.

The evidence of the treatment

12 On the night of 21 July 2002, Ms Masson drove to the home of her friend, Jonathon Turner, in Brinsmead, Cairns. She was wheezing badly as she walked into the house. She announced that she was returning to her car, apparently to look for her Ventolin puffer. When she returned to the house, she asked Mr Turner to take her to the hospital. As they walked outside, she collapsed on the front lawn. Another friend who was present, David Denman, contacted emergency services while Mr Turner performed mouth-to-mouth resuscitation.

13 Mr Denman's call was received at 22:52. Ambulance officers arrived at the scene six minutes later at 22:58. Two ambulance crews attended. Mr Peters was assisted by third-year paramedic Tanya Stirling. The second crew comprised an advance care paramedic and a first-year paramedic. At the time of Mr Peters'

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10 *Rogers v Whitaker* (1992) 175 CLR 479 at 487 per Mason CJ, Brennan, Dawson, Toohey and McHugh JJ.

11 *Masson v Queensland* [2019] QCA 80 at [147]-[148], citing *Ambulance Service of New South Wales v Worley* [2006] NSWCA 102 at [29]-[30].

12 *Masson v Queensland* [2019] QCA 80 at [163].

arrival, Ms Masson was lying supine on the grass while a male was performing external compressions on her. The lighting was poor, and bystanders were enlisted to assist by holding torches to enable Mr Peters and his colleagues to carry out their work. Mr Peters was told that Ms Masson was an asthmatic and that she had suffered an attack after using her Ventolin puffer to no effect.

14 Mr Peters observed that Ms Masson's eyes were open, and her pupils were responsive to light. She had lockjaw (trismus), her face was blue (central cyanosis) and she was flaccid and unresponsive. Her respiratory rate at the time the ambulance officers arrived was only two retracted or laboured breaths per minute. Mr Peters described her respiratory rate as being almost non-existent. The entry recorded on the Ambulance Report Form ("ARF") described Ms Masson as being in respiratory arrest at the time of the officers' arrival at the scene. She had a score of six on the Glasgow Coma Scale ("GCS"). Her blood pressure was high, 155/100 (systolic/diastolic readings). Mr Peters checked her carotid pulse and detected a very high heartbeat of 150 beats per minute.

15 At Mr Peters' direction, Ms Masson was connected to a heart monitor, which revealed that her sinus tachycardia was the same rate. Tachycardia is a rapid heartbeat of greater than 100 beats per minute. It is a condition that is the opposite of bradycardia, which describes a heart rate of less than 60 beats per minute.

16 Mr Peters concluded that Ms Masson was "hypoxic and deprived of oxygen and required oxygen immediately"[13]. He arranged to ventilate and oxygenate her by the application of a bag valve mask. At the same time, Mr Peters applied an intravenous cannula into Ms Masson's elbow pit, and at 22:59 he commenced administering salbutamol by this means. Between 22:59 and 23:20, Mr Peters administered eight doses of salbutamol – amounting to a total dose of two milligrams. This was twice the maximum dose recommended by the CPM.

17 Mr Peters considered that the salbutamol improved Ms Masson's condition; initially upon auscultation (listening for sounds within the lung fields), after hearing one expiratory wheeze with a single breath, officers "were unable to detect any breath sounds ... basically, her chest was very silent with no breath sounds and she was very difficult to ventilate"[14]. With the administration of multiple doses of salbutamol Ms Masson "went to an inspiratory/expiratory squeak, then from an inspiratory squeak to an expiratory wheeze, then an inspiratory wheeze/expiratory

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13 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,690 [12].

14 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,691 [15].

wheeze" and Mr Peters was informed that she was becoming easier to ventilate[15]. Mr Peters assessed that Ms Masson's respiration was improving because the salbutamol was effective in bronchodilating her airways and allowing air movement in and out of her lungs.

18 The apparent improvement in Ms Masson's symptoms continued through to, and beyond, the point at which she was placed in the ambulance and transportation to the hospital commenced. The ARF records that just before departure, at 23:14, Ms Masson had a regular pulse rate of 94, improved, but still high blood pressure of 140/100, and a respiratory rate of 14, which was still retractive, and her colour was normal, rather than cyanosed. Her GCS score remained at six. Transportation from the scene commenced at 23:15, seventeen minutes after the ambulance crew arrived.

19 Mr Peters noted that after transportation commenced there was an unexpected increase in Ms Masson's heart rate to 136 beats per minute. This was at 23:17. At this time, Ms Masson was cyanosed and her GCS score was down to three. By 23:19 her heart rate had dropped markedly to 40 beats per minute, her respiratory rate had reduced to 12 retractive breaths per minute and blood pressure was absent. Mr Peters assessed cardiac arrest as imminent. At 23:20, Mr Peters administered 300 micrograms of adrenaline. He explained his reason in these terms[16]:

> "I then changed my pharmacology. I changed from IV salbutamol to low dose IV adrenaline … in accordance with the clinical practical manual for adrenaline at that time. … Her vital signs had deteriorated to the point where adrenaline was the most appropriate drug for her clinical presentation … [S]he was now [bradycardic]. She had a slow heart rate; less than 60. And – although it's not recorded there, she either was or about to be hypotensive."

20 Mr Peters administered adrenaline in three 100-microgram aliquots (portions), 60 seconds apart. The initial dose had no effect. Intubation commenced in the meantime. A second dose administered at 23:24 produced some return of cardiac output but only for 30 seconds or so. Mr Peters diagnosed that Ms Masson was suffering bilateral tension pneumothoraces, a condition in which air is trapped in the pleural space causing the lung to collapse. Mr Peters directed the ambulance to stop and he conducted an emergency left-side thoracostomy (an incision of the chest wall allowing the trapped air to escape). This achieved the decompression of the left lung and was accompanied by immediate improvement in Ms Masson's

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15 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,691 [15].

16 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,691 [20].

heart rate and blood pressure. Given this improvement and the advice that the ambulance was within a minute of arrival at the hospital, Mr Peters decided against attempting a right-sided thoracostomy, in favour of the ambulance proceeding directly to the hospital.

21 On arrival at Cairns Base Hospital, Ms Masson was centrally and peripherally mottled and cyanosed. She had no respiratory effort. There was no carotid pulse. She was bagged with resistance with inspiration. Adrenaline was administered at 23:41, 23:43 and 23:45, and this provoked an immediate response with a carotid pulse becoming discernible and increasing. Hospital staff attended to other measures, including relieving the right-sided pneumothorax. Ms Masson was transferred from the Emergency Department to the Intensive Care Ward at 00:30.

The CPM

22 The stated object of the CPM was the provision for ambulance officers at all levels of clinical practice with a comprehensive guide to pre-hospital treatment and care. Notably, the CPM was said to depart from earlier "Clinical Protocols" in its emphasis on the exercise of officers' "good judgement". It incorporated sections on Patient Care Principles, Case Management Guidelines, Clinical Pharmacology and Clinical Procedural Competencies.

23 The Patient Care Principles incorporated a section titled "Clinical Judgement / Problem Solving". In this section it was explained that the ambulance officer's "clinical judgment relies on a mix of knowledge, skill, experience, attitudes and intuition". Ambulance officers were advised to "weigh up the pro[s] and cons of each treatment option and decide what is best for this particular patient". The reader was advised that:

> "The [CPM] is designed to assist clinical judgment, using the problem solving approach, to achieve best practice. It is acknowledged that every situation is different. Deviations from the guidelines will occur but must be documented and audited, and officers must be able to justify that their treatment was in the patient's best interest."

24 The Case Management Guidelines identified diagnostic patterns for a range of conditions and were designed to assist ambulance officers in making a provisional diagnosis. Flowcharts for each condition set out the appropriate patient care options. Diamond shaped icons represented key clinical decision points and arrows to the right of each diamond icon directed the reader to a shaded text box that listed treatments and the drug or drugs to be considered.

25 The asthma flowchart was central to the respondent's case. It suffices for present purposes to explain that the flowchart listed, in descending order of severity, three key clinical decision point diamond icons. The first diamond icon was headed "Imminent Arrest". Inside this icon was the text "GCS < 12 / Bradycardia / absent pulses". The arrow to the right pointed to a shaded text box, which provided:

> "- 100% O_2
> - Assist ventilation with prolonged expiratory phase.
> - Consider adrenaline IV / ETT, IM
> - Transport without delay."

26 The middle diamond icon was headed "Severe Asthma". Inside this icon was the text "Minimal air movement, 0 or 1 word per breath / cyanosed SpO_2 < 93% on > 50% O_2." The arrow to the right pointed to a shaded text box, which provided:

> "- High concentration O_2 therapy
> - Consider Salbutamol IV and nebulised. Move from IV to nebulised when SpO_2 > 93%".

27 The third diamond icon was headed "Moderate Asthma". Inside this icon was the text "eg: expiratory wheeze / history of asthma, unresponsive to own medication". The arrow to the right pointed to a shaded text box, which provided:

> "- Moderate concentration O_2 therapy
> - Salbutamol nebulised".

28 The Clinical Pharmacology section of the CPM listed all the drugs approved for use by the QAS. Drug data sheets set out the indications for use, precautions associated with use, side effects and dosages of each drug. The reader was advised to always consider the implications of administering any drug and to weigh up the potential benefits and the potential adverse effects of the drug. Sound clinical judgment was said to be as much about *when not* to administer drugs as when to give them.

29 The adrenaline drug data sheet described its action as:

> "- Increase heart rate ...
> - Increase the force of myocardial contraction ...
> - Increases the irritability of the ventricles ...
> - Causes bronchodilation ...
> - Causes peripheral vasoconstriction".

30 The indications for its administration were given as:

"- Cardiac arrest.
- Bradycardia and/or poor perfusion unresponsive to other measures.
- Anaphylactic reactions.
- Bronchospasm unresponsive to Salbutamol.
- Croup with life threatening airway compromise (nebulised)".

31 Precautions for its administration included hypertension. Side effects included tachyarrhythmias and hypertension. A box labelled "Caution" stated "[t]he use of adrenaline may lead to hypertension, stroke, MI [myocardial infarction] or ... life threatening arrhythmias".

32 The drug data sheet for salbutamol described its action as "[b]ronchodilation" and "[r]elaxation of smooth muscles". The indications for its administration were given as:

"Bronchospasm associated with:
- asthma
- severe allergic reaction
- smoke / gas inhalation
- COAD".

Side effects included tachycardia and tachyarrhythmias. There was no equivalent caution to that stated for adrenaline.

33 The drug data sheet for adrenaline gave dosages for "[a]sthma or severe bronch[o]spasm with imminent arrest". This described Ms Masson's condition at the time of initial treatment. By contrast, the drug data sheet for salbutamol did not refer to "imminent arrest" or "severe bronchospasm", merely listing as one of the indications for its use bronchospasm associated with asthma.

34 It will have been observed that while the shaded text boxes corresponding to "imminent arrest" and "severe asthma" in the flowchart stated the appropriate treatment options in each case, the instruction as to the drug treatment was to "consider" the nominated drug. The Glossary of Specific Terms in the CPM explained the use of the term "consider":

> "When this term is used it implies that the ambulance officer has to make a judgement regarding application of the following treatment modalities based on potential benefits and adverse effects. It does not imply that the following treatments are automatically appropriate or sanctioned. Consultation should be used if doubt exists."

The way the parties put their cases at trial

35 It was the respondent's case that adrenaline was the drug of first resort for the sufferer of a severe asthma attack who was close to death[17]. The State's pleaded case was that the administration of salbutamol was "required" if the patient was "CGS < 12, tachycardic, with peripheral pulse palpable"; that Ms Masson did not "fulfil the definition of 'imminent arrest'"; that the administration of intravenous adrenaline was "not permitted"; and that it was not until she became bradycardic that she "met the QAS criteria for the administration of intravenous [a]drenaline". At the trial, the State contended that salbutamol was an equally effective drug in treating an asthmatic patient in extremis who was not in cardiac arrest. In the alternative, the State contended that Ms Masson's high heart rate and high blood pressure favoured the administration of salbutamol as a reasonable clinical choice.

The expert evidence supporting the trial judge's finding of the state of medical opinion

36 Each party led opinion evidence from three specialists in emergency medicine and an expert paramedic. As the Court of Appeal observed, there was a marked division of opinion between witnesses as to whether salbutamol was an appropriate drug to administer to an asthmatic patient in extremis presenting with Ms Masson's high heart rate and high blood pressure[18]. It is unnecessary to refer to the evidence of those specialists who gave evidence in the respondent's case to the effect that adrenaline is the preferred drug for administration to an asthmatic patient at risk of death. Assuming for the present that Mr Peters did not misapprehend the instructions in the flowchart and that his election to administer salbutamol and not adrenaline was a clinical judgment, the question is whether it was within the range of clinical judgments that an ordinary skilled intensive care paramedic might make. Evidence of the existence of a responsible body of medical opinion approving the use of salbutamol in such a case would support the conclusion that it was.

37 Professor Anthony Brown – senior staff specialist in the Department of Emergency Medicine at the Royal Brisbane and Women's Hospital and Professor of Emergency Medicine in the Discipline of Anaesthesiology and Critical Care within the School of Medicine at the University of Queensland – was called in the State's case. Professor Brown accepted that Ms Masson was in respiratory arrest when the ambulance officers arrived. He acknowledged that patients who have had a respiratory arrest and who are cyanosed with depressed levels of consciousness

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17 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,694 [36].

18 *Masson v Queensland* [2019] QCA 80 at [67].

and restricted breathing present a very real risk of imminent cardiac arrest. Nonetheless, Professor Brown considered that Ms Masson's high heart rate and high blood pressure made it unsafe to give adrenaline:

> "You don't give adrenaline to somebody who has got a rapid pulse and a high blood pressure, because it is a dangerous drug that will cause, in the face of hypoxia, a dangerous arrhythmia such as a ventricular tachycardia or ventricular fibrillation. And that's why the safety of adrenaline is difficult, and you wouldn't use when somebody still has a perfusing rhythm … that's why salbutamol is given."

38 Professor Brown explained that unlike salbutamol, adrenaline does not have a significant safety margin:

> "Adrenaline is probably the most potent drugs doctors use day to day and at a therapeutic dose, in some people, it can have the feared side effects. Particularly if they are hypoxic or tachyarrhythmias, myocardial infarction, a stroke."

39 Associate Professor Rob Boots – the Deputy Director of the Department of Intensive Care Medicine at Royal Brisbane and Women's Hospital and Associate Professor in the Department of Critical Care at the University of Queensland – who was also called in the State's case, similarly did not agree that the negative effects of adrenaline were outweighed by its positive effects for a patient in Ms Masson's condition. Associate Professor Boots explained that:

> "The issue is that this girl was severely hypoxic. Until you correct the hypoxaemia, any drug you give, including adrenaline, may just make the whole thing worse. The drug – the poor heart can't respond to adrenaline or anything else without the correction of hypoxia. … [I]f you do give it, you run the risk of this poor heart just going ... with the adrenaline, because it's got no substrate, no nutrition, the oxygen, to make it start beating again. … [I]t can make it worse by degenerating it into a ventricular tachycardia; been there, done that. And then the heart just continues to stop."

40 Dr Geoffrey Ramin, the third specialist emergency physician who gave evidence in the State's case, confirmed that adrenaline can increase the heart rate, which depending on the context may be a benefit or a negative.

41 The trial judge's finding also took into account the opinion of one of the respondent's expert witnesses, Associate Professor John Raftos. In cross-examination, Associate Professor Raftos accepted that it was reasonable for Mr Peters to have initially treated Ms Masson with IV salbutamol. His evidence was that IV salbutamol was an appropriate choice for the initial drug treatment

because it "has less adverse effects" than adrenaline when given intravenously and "it's the standard medication to be used at – in – in the first instance".

42 Associate Professor Raftos' criticism of Mr Peters' treatment was of the failure to follow up the administration of salbutamol with adrenaline much sooner. Associate Professor Raftos considered that, notwithstanding the apparent changes in Ms Masson's condition following the doses of salbutamol, she remained effectively unconscious, probably because of her high carbon dioxide levels, and that more aggressive drug therapy was called for promptly[19].

43 Mr Jeff Kenneally, the expert paramedic called in the respondent's case, considered that adrenaline was the appropriate drug to have administered to Ms Masson from the outset. Notably, however, Mr Kenneally conceded that many people in Mr Peters' position in 2002 would have chosen salbutamol. As Mr Kenneally put it, "[s]albutamol has always been – we discussed at the start, the two have been fighting each other for that pole position".

44 Mr Kenneally acknowledged that adrenaline had a tendency to cause possible arrhythmia, saying "[W]hen you look … at what adrenaline does on paper, that's an obvious concern that you would always have in your mind." In Mr Kenneally's opinion – provided the paramedic stayed within the doses, time intervals, and method of administration for adrenaline set out in the CPM – there should not have been any problem in the form of possible arrhythmia.

45 Mr Kenneally agreed that Ms Masson's heart rate and blood pressure were higher than he would have expected to find for a female of her age. Nonetheless he was dismissive of the view that adrenaline was contra-indicated by these signs, which he considered would not be exacerbated by adrenaline, albeit he acknowledged that the position in this respect may not have been so clear in 2002.

46 The State's expert paramedic witness, Mr Tony Hucker, noted that on their arrival, the ambulance officers immediately observed that Ms Masson's cardiac output was high, demonstrated by her initial blood pressure of 155/100 and palpable pulses. Mr Hucker considered, by reference to the CPM, that adrenaline was an option but that this did not mean that it must be used.

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19 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,701 [79].

The trial judge's reasons

47 A critical factual question was whether Mr Peters considered adrenaline at the time he commenced treating Ms Masson. In 2009, Mr Peters signed a witness statement in which he gave the following account[20]:

> "As we were ... commencing IPPB with 100% oxygen, Officer Stirling secured cardiac monitoring electrodes to Ms Masson's chest and attached the monitor/defibrillator … The monitor revealed that Ms Masson's cardiac rhythm was sinus tachycardia and the rate was 150 per minute.
>
> The QAS guidelines for the management of a patient with asthma, in July 2002, are set out in section A2-7 to A2-8 of the CPM, a copy of which is annexed ... The management is determined having regard for the patient's clinical presentation and vital sign recordings and may include: high concentration oxygen therapy, intravenous Adrenaline if bradycardic (pulse rate less than 60 beats per minute) or absent pulses; nebulised and intravenous Salbutamol; and consideration for intravenous Hydrocortisone.
>
> In view of the fact that Ms Masson was tachycardic, that is she had a heart rate that was greater than 100 beats per minute and peripheral pulse were palpable, intravenous Adrenaline was not permitted under the Asthma protocol. I therefore elected to administer intravenous Salbutamol." (emphasis added by trial judge)

48 In oral evidence, Mr Peters said that his decision to administer IV salbutamol in the initial phase of treatment took into account Ms Masson's clinical presentation, which included her depressed respiratory rate, cyanosis, a hyper-inflated chest, tightness of her airways and difficulty oxygenating her, hypertension, tachycardia and an altered level of consciousness. Mr Peters observed that, with multiple doses of salbutamol, Ms Masson's respiration improved, and continued to improve, until she was put into the ambulance and transportation had commenced[21].

49 Mr Peters' subsequent decision to administer adrenaline to Ms Masson at 23:20 was prompted by the fact that her "vital signs had deteriorated to the point

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20 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,710-66,711 [142].

21 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,709 [133].

where adrenaline was the most appropriate drug for her clinical presentation"[22]. When asked to identify the features of that presentation, Mr Peters responded, "[s]o she was now bradycardic. She had a slow heart rate; less than 60. And – although it's not recorded there, she either was or about to be hypotensive. … [H]er vital signs were tending towards both bradycardia and hypotension."[23]

50 The trial judge considered that at the time of the preparation of the 2009 statement Mr Peters had favoured an interpretation of the "imminent arrest" diamond icon in the flowchart as conveying that presence of the opposite indicia to any of the three listed indicia precluded the treatments identified in the shaded text box indicated by the arrow to the right[24]. His Honour did not accept that this was Mr Peters' understanding at the time he treated Ms Masson. Notwithstanding that Ms Masson was not bradycardic and that she had a carotid pulse, Mr Peters immediately initiated the two treatments identified for patients in imminent arrest: Ms Masson was given 100% oxygen and assisted ventilation. In his Honour's view, Mr Peters' actions on the night spoke powerfully against finding that he believed he could not apply the treatments for patients in imminent arrest unless the patient exhibited all three indicia of that status[25].

51 The trial judge noted that the 2009 witness statement was made seven years after these events and was drafted in terms which were not the terms that Mr Peters was likely to have used. The reference to the "protocol" stood out in this respect: Mr Peters understood a "protocol" required the officer to take a fixed course whereas the CPM permitted flexibility of response, allowing for clinical judgment[26].

52 His Honour extracted a lengthy passage from the cross-examination of Mr Peters on his understanding of the CPM. The passage, including his Honour's emphasis, should be set out in full[27]:

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22 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,710 [136].

23 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,710 [136].

24 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,711 [143].

25 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,711 [144].

26 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,711 [143].

27 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,711-66,712 [145].

"MR CAMPBELL: [A]s July of 2002 it was your belief, was it not, that you were prohibited from administering adrenaline because of the content of the asthma guidelines?

A. The guideline stated a maximum dose of one milligram, that's correct.

Q. No, that you were prohibited from administering adrenaline was your understanding based on your reading of the guidelines as at July of 2002. That's the position, isn't it?

A. No, I was prohibited from administering adrenaline with a patient's vital signs as Jennifer's were presenting.

Q. Well, you were prohibited from administering it is what you believe the position was?

A. Yes, that's correct.

HIS HONOUR: At the time is that what your belief was?

A. At the time the guideline indicated that I should give IV salbutamol and that adrenaline was the inappropriate drug for Jennifer's presentation. ...

HIS HONOUR: Do you recall one way or the other, whether when you were initially making your decision that led you introducing salbutamol --- ?

A. Yes.

HIS HONOUR: --- whether or not in making that decision you gave consideration to the option of using adrenaline? Do you remember one way or the other whether you considered that option then?

A. Not really. It was – it was very clear which pathway I was required to go down.

HIS HONOUR: So does 'Not really' mean you didn't – you don't remember one way or the other or you recall that you did not consider that option?

A. I would have considered both adrenaline and IV salbutamol, and IV salbutamol was clearly the defined pathway I was required to go down.

HIS HONOUR: So you're saying you would have considered the option of adrenaline. Do you recall actually considering it?

A. Certainly. So if Jennifer was initially presenting bradycardic/hypotensive, would have been straight into adrenaline. So it certainly would have been considered. So both options would have been in any mind in preparation for my actions dependent on how she presented.

HIS HONOUR: Thank you. Yes, Mr Campbell.

MR CAMPBELL: You, as I understand your evidence – because she was tachycardic said you were prohibited, you were not permitted, you were unable to administer adrenaline?

A. That's one of the parameters. The other one was her blood pressure. So she was tachycardic and hypertensive.

Q. And if the position were that the guidelines permitted the administration of adrenaline in circumstances where the patient had a Glasgow Coma Score of less than 12, you, because of the fact of there being tachycardia, believed you could not implement those guidelines. Is that right?

A. Tachycardia and hypertension, considering all the components of the – of the assessment tool.

Q. And is that as a result of something that you were trained in or was this a result of your interpretation of the words in the guideline?

A. Both. So there was quite a – a specific module in the appropriate pharmacological treatment of asthma in the intensive care paramedic program. It was both some reading material, there was verbal tutorials and there was case scenarios."

53 His Honour said that it was obvious from the "tone and manner" in which Mr Peters gave this evidence that he had difficulty in distinguishing hindsight assumption from actual recollection. In his Honour's assessment, it was clear that Mr Peters well appreciated that salbutamol and adrenaline were potential options in the treatment of an asthma attack. And it was also clear, his Honour said, taking into account the whole of Mr Peters' testimony, that Mr Peters considered that Ms Masson's tachycardia and hypertension militated against the administration of adrenaline[28]. His Honour was satisfied that Mr Peters had made a clinical judgment, involving consideration of administering adrenaline, but had rejected that course because of the risk of a serious adverse reaction given Ms Masson's

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28 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,712 [146].

tachycardia and hypertension[29]. The references in Mr Peters' evidence to the CPM as "prohibiting" or "not permitting" adrenaline were not, in his Honour's view, inconsistent with finding that Mr Peters considered and rejected adrenaline as too risky for a patient in Ms Masson's condition[30].

54 His Honour turned to consider whether the decision to administer IV salbutamol in preference to IV adrenaline was a reasonable response for an intensive care paramedic to the evident risk of Ms Masson suffering hypoxic brain damage. His Honour found that, in the past, the practising medical profession regarded adrenaline as the ordinarily preferred drug to administer in cases of asthmatics in imminent arrest and that this remained the preferred drug in the opinion of a credible body of medical practitioners. Since 2002, however, there had been a shift in the extent of this preference. At the date of the trial in 2018, his Honour found, there was a credible body of medical practitioners who regard salbutamol as "an at least equally preferable drug to administer" to asthmatic patients in extremis[31].

55 Returning to the understanding in 2002, his Honour found that while there were credible views within the medical profession favouring the equivalent utility of salbutamol for asthmatics in extremis, the then likely predominant view favoured adrenaline[32]. That view was no more than a "starting point", in his Honour's assessment, because the characterisation of a patient as being "in extremis" did not describe the details of the patient's condition. His Honour found that, in 2002, the medical profession's traditional preference for adrenaline when treating an asthmatic patient in extremis would not have precluded the choice to administer salbutamol when account was taken of discrete aspects of the patient's condition[33].

56 His Honour noted that adrenaline is, and was in 2002, preferred to salbutamol in the treatment of an asthmatic patient in cardiac arrest or anaphylaxis, and that adrenaline may benefit an asthmatic patient with a low heart rate (bradycardia), decreased perfusion and decreased cardiac output, whereas

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29 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,712 [148].

30 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,712-66,713 [149].

31 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,697-66,698 [55].

32 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,698 [56].

33 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,698 [57].

salbutamol would not. His Honour found that at the time of initial treatment, Ms Masson was not in cardiac arrest nor was she known to be suffering an anaphylactic reaction. She was apparently perfused, and her blood pressure and heart rate were high[34]. The latter two features of her presentation, in his Honour's view, raised a legitimate concern that adrenaline might heighten the risk of death by plunging Ms Masson into a dangerous arrythmia or causing her heart to stop[35]. And, as earlier explained, his Honour found that in 2002 a responsible body of opinion within the medical profession supported the view that, in the context of her overall condition, Ms Masson's high heart rate and high blood pressure provided a medically sound basis to prefer salbutamol to adrenaline at the time of her initial treatment[36].

57 His Honour did not accept that Mr Peters' decision to administer salbutamol to Ms Masson in the initial phase of her treatment was contrary to the CPM. The finding reflected his Honour's acceptance of the evidence of the State's expert paramedic witness, Mr Hucker, who explained that the guidelines in the CPM were designed to be flexible and used by well-educated paramedics practising sound clinical judgment given the variety of ways in which patients present[37].

58 Mr Peters' treatment of Ms Masson was held not to fall below the standard of care to be observed by ambulance officers[38]. The finding carried with it that the respondent's case that the State bore direct liability for the claimed failure to provide Mr Peters with adequate training and instruction was also doomed.

59 Against the possibility that the finding on breach of duty was wrong, the trial judge addressed two issues bearing on causation: (i) would the timely administration of adrenaline have avoided Ms Masson's irreversible injury; and (ii) had irreversible injury been sustained by the time the ambulance officers arrived at the scene. His Honour answered both of these questions favourably to the

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34 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,698 [59], 66,703 [90].

35 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,703 [91].

36 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,703 [92]-[93].

37 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,707 [119]-[120].

38 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,713 [150]-[155].

respondent. Ms Masson's history of recovery from apparently severe asthma attacks with the aid of adrenaline was critical to the first of those findings[39].

The Court of Appeal

60 The Court of Appeal disagreed with the trial judge's finding that Mr Peters' decision to administer salbutamol was a clinical judgment. Their Honours were satisfied that Mr Peters misunderstood the CPM and that he believed, wrongly, that he was precluded from administering adrenaline to a patient who was not bradycardic[40]. The conclusion was in line with the 2009 statement, which the Court of Appeal observed had been an account that was given closer to the events. The Court of Appeal characterised the 2009 statement as a carefully considered, unambiguous account of Mr Peters' understanding that the CPM did not permit him to administer adrenaline to Ms Masson[41]. It was consistent with the State's pleaded case that the administration of adrenaline was not permitted[42].

61 The Court of Appeal also noted that Mr Peters had not said that his 2009 statement was mistaken. Nor had Mr Peters said that he was concerned about the risks of the side effects of adrenaline, such as a stroke[43]. Finally, the Court of Appeal placed emphasis on Mr Peters' oral evidence, in which he spoke of having been "prohibited" from giving Ms Masson adrenaline and asserted that "salbutamol was clearly the defined pathway I was *required* to go down"[44].

62 The Court of Appeal reasoned that if, as the trial judge found, Mr Peters' decision not to administer adrenaline was a clinical judgment which took into account Ms Masson's high heart rate and high blood pressure, nonetheless his consideration of adrenaline was not as required by the CPM[45]. The flowchart

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39 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,714-66,715 [167], 66,717 [182].

40 *Masson v Queensland* [2019] QCA 80 at [151].

41 *Masson v Queensland* [2019] QCA 80 at [61].

42 *Masson v Queensland* [2019] QCA 80 at [37].

43 *Masson v Queensland* [2019] QCA 80 at [62].

44 *Masson v Queensland* [2019] QCA 80 at [65].

45 *Masson v Queensland* [2019] QCA 80 at [156].

directed the officer to "consider adrenaline" and not to "consider adrenaline or salbutamol". Nor did it suggest that salbutamol was as effective an agent in bronchodilation as adrenaline since the flowchart identified salbutamol as the drug to be considered in a less serious case[46]. The drug data sheet for adrenaline showed that it was indicated in the case of a bronchospasm "unresponsive to [s]albutamol" and it prescribed dosages for a patient with "[a]sthma or severe bronch[o]spasm with imminent arrest". The drug data sheet for salbutamol did not refer to a patient in the latter category[47].

The basis on which "consideration" of adrenaline proceeded

63 The Court of Appeal noted that the CPM's guidance with respect to drug treatments was premised on the exercise of an officer's clinical judgment, and that treatments recommended by the CPM were not automatically appropriate[48]. Indeed, their Honours agreed with the trial judge that, in general, reasonable care did not require the administration of adrenaline in every case of an asthmatic patient in the CPM's category of imminent arrest[49]. There is an evident tension between the analysis in these respects and their Honours' conclusion that reasonable care did not permit a departure from the administration of adrenaline in Ms Masson's case, regardless of the risks of its side effects[50].

64 The latter conclusion was based on their Honours' view that, notwithstanding its non-prescriptive terms, the CPM made clear that adrenaline was the preferred drug to achieve a *fast* and effective dilation of the bronchial passages to avoid death or irreversible brain injury[51]. It followed that Mr Peters' "consideration" of adrenaline should have proceeded on this premise[52]. It was a

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46 *Masson v Queensland* [2019] QCA 80 at [153].

47 *Masson v Queensland* [2019] QCA 80 at [154].

48 *Masson v Queensland* [2019] QCA 80 at [24], quoting the entry in the CPM's Glossary of Specific Terms in respect of the term "consider".

49 *Masson v Queensland* [2019] QCA 80 at [151].

50 *Masson v Queensland* [2019] QCA 80 at [163].

51 *Masson v Queensland* [2019] QCA 80 at [162].

52 *Masson v Queensland* [2019] QCA 80 at [162].

conclusion that reflected their Honours' acceptance of a submission concerning the timing of the effects of adrenaline vis à vis salbutamol ("the timing submission")[53].

65 In the Court of Appeal, the respondent (the appellant in that Court) submitted that a critical difference between the two drugs was the timing of the onset of the effects of each: the drug data sheets for adrenaline and salbutamol recorded the timing in this respect at 30 seconds and one to three minutes respectively. These entries were relied upon as demonstrating that adrenaline was the preferable drug to give in a case where the patient was at imminent risk of death[54]. Over objection, the Court of Appeal accepted the timing submission notwithstanding that the trial judge's attention had not been drawn to the parts of the CPM that referred to the timing of the effect of the drugs, nor had the expert witnesses been asked to address this issue[55].

66 The Court of Appeal observed that Professor Gordian Fulde, one of the respondent's experts, described Ms Masson as "really, really, close to death" and that Professor Brown, one of the State's experts, said that at the time the officers arrived, Ms Masson could have had a cardiac arrest "at any moment"[56]. The Court of Appeal reasoned that, despite the issue being raised for the first time on appeal, the meaning and relevance of the information in the CPM was plain and supported the respondent's case that adrenaline was likely to have been the more effective drug for bronchodilation[57].

67 Acceptance of the timing submission explains the Court of Appeal's conclusion, that the trial judge's finding of a responsible body of opinion in the medical profession in 2002 supporting the administration of salbutamol to a patient with Ms Masson's high heart rate and high blood pressure was not supported by the evidence[58]. The speed of the onset of the effect of adrenaline made it the

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53 *Masson v Queensland* [2019] QCA 80 at [32].

54 *Masson v Queensland* [2019] QCA 80 at [26], [30], [32].

55 *Masson v Queensland* [2019] QCA 80 at [26], [30], [32]-[33].

56 *Masson v Queensland* [2019] QCA 80 at [32].

57 *Masson v Queensland* [2019] QCA 80 at [33].

58 *Masson v Queensland* [2019] QCA 80 at [164].

superior drug to administer to a patient in extremis, as the following passage in their Honours' reasons makes clear[59]:

> "Each of the three medical practitioners who gave evidence in the [State's] case subscribed to the view that salbutamol was an equally effective drug for bronchodilation. None of them said that, *upon the premise that adrenaline was the superior drug for the treatment of an asthmatic at immediate risk of cardiac failure and death*, that the risk from using an inferior drug was outweighed by the risk of side effects from the adrenaline." (emphasis in original)

68 It is unsurprising that the State's expert medical practitioners did not give evidence upon the premise framed by the Court of Appeal, as doing so would have involved conceding a point at the heart of the controversy that divided the experts. The expert medical practitioners called in the respondent's case, subject to the qualified views of Associate Professor Raftos noted above, considered adrenaline to be the *superior* drug for the treatment of a patient in Ms Masson's condition, and those called in the State's case did not. Each of the latter experts accepted that Ms Masson was near death at the time of initial treatment[60]. Professor Brown agreed that she was at risk of imminent cardiac arrest. Nonetheless, Professor Brown supported the decision to administer salbutamol rather than adrenaline given the risks of adrenaline for a patient with Ms Masson's high heart rate and high blood pressure. And as the trial judge summarised the effect of Associate Professor Boots' evidence, it was that once a patient is in cardiac arrest there is not much to be lost by the use of adrenaline, whereas prior to that point, when the patient is hypoxic, as was likely the case with Ms Masson, the administration of adrenaline "can make it quite worse by stunning the heart into all manner of funny rhythms"[61].

69 The Court of Appeal dismissed the evidence upon which the trial judge's critical finding as to the state of medical opinion was based, by reason of their Honours' view as to the superiority of adrenaline given the speed of its onset, regardless of the risks of its side effects. All of the expert witnesses were furnished with relevant parts of the CPM among the materials on which each was asked to express his opinion. It is inconceivable that the opinions of the State's experts and Associate Professor Raftos that IV salbutamol was an appropriate initial drug

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59 *Masson v Queensland* [2019] QCA 80 at [165].

60 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,699 [64].

61 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,702 [86].

treatment, notwithstanding that Ms Masson was in extremis, overlooked the timing of the onset of effect of the two drugs.

70 The Court of Appeal should not have accepted and acted upon the timing submission. There was no basis in the evidence for concluding, in the case of an asthmatic patient in imminent arrest, that the "consideration" of adrenaline in accordance with the CPM was not to be informed by the ambulance officer's clinical judgment, allowing that in the case of a patient with Ms Masson's high heart rate and high blood pressure IV salbutamol might be preferred.

71 Contrary to the Court of Appeal's analysis, there was ample evidence to support the trial judge's finding that, in 2002, a responsible body of opinion within the medical profession favoured the administration of IV salbutamol in the initial stage of treatment for a patient in Ms Masson's overall condition, with her high heart rate and high blood pressure.

72 Associate Professor Raftos' criticism of the treatment of Ms Masson in cross-examination was not of the initial choice to administer IV salbutamol, which he acknowledged "has less adverse effects", but of the failure to switch to IV adrenaline sooner[62]. The trial judge found this qualification to Associate Professor Raftos' concession unconvincing given that, after receiving salbutamol, Ms Masson's condition appeared to improve: her respiratory rate improved, auscultation indicated improved air movement and her colour returned[63]. The Court of Appeal did not accept the trial judge's reasoning as relevant to Associate Professor Raftos' opinion of the need to have moved to adrenaline more promptly. This was because Associate Professor Raftos assessed the improvement in respiratory rate and air movement to be neutral indicators with the sole positive sign being the change in skin colour[64]. However, the fact that Associate Professor Raftos' opinion was not weakened by the findings as to respiratory rate and air movement on auscultation does not mean the trial judge was wrong to find that it was reasonable for Mr Peters, an intensive care paramedic, to view these as signs that salbutamol was having a positive effect.

73 Intensive care paramedics are expected to exercise clinical judgment in applying the guidance contained in the CPM. If, as the trial judge found, Mr Peters' decision to administer IV salbutamol to Ms Masson reflected his judgment that her high heart rate and high blood pressure were contra-indications for adrenaline, the

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62 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,701 [79].

63 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,701 [79].

64 *Masson v Queensland* [2019] QCA 80 at [86].

fact that that judgment was supported by a responsible body of opinion within the medical profession would be inconsistent with finding that Mr Peters failed to apply reasonable care. It remains to consider whether the Court of Appeal was right to overturn the finding that Mr Peters' decision not to administer adrenaline in his initial treatment of Ms Masson was a clinical judgment.

Did Mr Peters exercise clinical judgment in not administering adrenaline?

74 Mr Peters' evidence was taken over three days. The trial judge's finding, that Mr Peters' decision not to administer adrenaline to Ms Masson was a clinical judgment and did not proceed from a mistaken understanding of the CPM, was expressed to take into account the manner in which the evidence was given. The Court of Appeal's conclusion, that notwithstanding the trial judge's advantage[65] the finding could not stand, was based substantially on the 2009 statement, although it also took into account Mr Peters' use of the language of prohibition in some parts of his oral evidence.

75 The 2009 statement was not a contemporary account. It was a witness statement prepared seven years after the event, which bore the hallmarks of professional drafting. The reasoning upon which the trial judge based his finding acknowledged that the 2009 statement may have reflected Mr Peters' interpretation of the flowchart at the date the statement was made. Importantly, his Honour assessed that this was not an interpretation that accorded with Mr Peters' actions at the time of treating Ms Masson[66].

76 The logic of the respondent's case was that Mr Peters wrongly understood that he could not give adrenaline to an asthmatic patient unless all three conditions nominated in the "imminent arrest" diamond icon were present, namely GCS < 12, bradycardia, and absent pulses. As the trial judge observed, the initial treatments applied to Ms Masson were those that the CPM identified for an asthmatic in imminent arrest[67]. Notwithstanding that she was not bradycardic and that she had discernible pulses, at Mr Peters' direction Ms Masson was given 100% oxygen and assisted ventilation. The clear inference was that Mr Peters did not, at the time, consider that the absence of bradycardia or the presence of discernible pulses

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65 *Fox v Percy* (2003) 214 CLR 118 at 128-129 [29]-[30] per Gleeson CJ, Gummow and Kirby JJ; *Robinson Helicopter Co Inc v McDermott* (2016) 90 ALJR 679 at 686-687 [43], 688-689 [54]; 331 ALR 550 at 558-559, 561.

66 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,711 [143]-[144].

67 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,710 [141].

precluded treating Ms Masson as an asthmatic in imminent arrest. It was open to his Honour to prefer Mr Peters' oral evidence to the 2009 statement.

77 Mr Peters' oral evidence concerned his reasons for a decision made in circumstances of urgency within one minute of his arrival at the scene. True it is that Mr Peters did not say in terms that he was concerned by the risk of serious adverse reaction to adrenaline, or that he weighed that risk against the apparent benefits of adrenaline[68]. What Mr Peters said was that it was Ms Masson's presentation, specifically her tachycardia and hypertension, that precluded him from giving her adrenaline. It was a conclusion that Mr Peters explained had taken into account his training in the pharmacological treatment of asthma and all of the components of "the assessment tool", an apparent reference to the CPM.

78 Notably, when it was put to Mr Peters that his understanding of the "guidelines" in July 2002 was that he was prohibited from administering adrenaline, he responded "[n]o, I was prohibited from administering adrenaline with a patient's vital signs as Jennifer's were presenting"[69]. The vital signs to which Mr Peters returned more than once were Ms Masson's tachycardia and hypertension. In circumstances in which, as the trial judge found and the members of the Court of Appeal appear to have accepted, it was clear that Mr Peters considered adrenaline, the inference that he rejected it because he believed that Ms Masson's tachycardia and hypertension were contra-indications for its use was well open. The trial judge's finding that Mr Peters made a clinical judgment not to administer adrenaline because of the presence of Ms Masson's high heart rate and high blood pressure was neither contrary to compelling inferences nor glaringly improbable. It should not have been overturned.

79 The trial judge was rightly critical of the tendency of the parties in argument to treat the flowchart as if it were a statute or legal document. As his Honour explained, the flowchart was "intended to guide and assist rather than [to] proscribe decision-making"[70]. The flowchart prompted consideration of adrenaline but did not require its administration. The decision Mr Peters made in the face of Ms Masson's high heart rate and high blood pressure, to administer IV salbutamol, was supported by a responsible body of medical opinion. In the circumstances, his Honour's conclusion that Mr Peters' treatment of Ms Masson did not fall below

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68 *Masson v Queensland* [2019] QCA 80 at [65].

69 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,711 [145].

70 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,706 [111].

the standard of care expected of an ordinary skilled intensive care paramedic was clearly correct.

Orders

80 For these reasons there will be the following orders:

1. Appeal allowed.

2. Set aside the orders of the Court of Appeal of the Supreme Court of Queensland made on 10 May and 13 September 2019 and in their place order that the appeal to that Court be dismissed with costs.

3. The respondent to pay the appellant's costs of the appeal, including as applicant for special leave to appeal.

81 NETTLE AND GORDON JJ. In 2002, the late Jennifer Masson was a 25-year-old chronic asthmatic. She had previously suffered severe asthma attacks that had been alleviated by the administration of adrenaline. On the night of 21 July 2002, she drove to the home of a friend and, moments after arriving, suffered a further severe asthma attack that caused her to collapse. The Queensland Ambulance Service ("QAS") was called at 22.52 and two crews of paramedics arrived at the scene at 22.58. The senior officer and determinative decision-maker among those ambulance officers was intensive care paramedic Mr Clinton Peters.

82 Upon examination, it was observed that Ms Masson was in respiratory arrest. Her eyes were open, and her pupils were responsive to light, but she had trismus (lockjaw) and was centrally cyanosed (her face had turned blue), flaccid, and unresponsive. Her respiratory rate was recorded at 22.58 as being only two retracted (laboured) breaths per minute, and her Glasgow Coma Scale ("GCS") was recorded as only six, consisting of the highest possible mark of four for eye opening and the least possible marks of one each for verbal and motor response. Her blood pressure, at 155/100 (systolic/diastolic readings), was high. Upon checking Ms Masson's carotid pulse, Mr Peters detected a very high heart rate of 150 beats per minute and upon connection to a heartbeat monitor it was found that her sinus rhythm (heart rate taken from the sinus node) was the same rate. Ms Masson was therefore tachycardic. Tachycardia refers to a rapid heartbeat of greater than 100 beats per minute. Upon auscultation (listening for sounds within the body), the ambulance officers could initially detect an expiratory wheeze with a single breath, but then, "her chest was very silent with no breath sounds". Mr Peters concluded that Ms Masson was "hypoxic and deprived of oxygen and required oxygen immediately". He responded by ventilating and oxygenating Ms Masson by application of a bag valve mask. As she was difficult to oxygenate, Mr Peters applied an intravenous cannula to Ms Masson's cubital fossa (elbow pit) to administer drugs intravenously.

83 At that time, the two leading drugs in the treatment of severe asthma attacks were adrenaline and salbutamol. For reasons to which it will be necessary to return, Mr Peters chose to administer intravenous salbutamol, and, at first, it assisted. With the administration of multiple doses of salbutamol, Mr Peters observed that Ms Masson's respiratory sounds progressed from "no breath sounds" to an "inspiratory/expiratory squeak", then "from an inspiratory squeak to an expiratory wheeze", then an "inspiratory wheeze/expiratory wheeze", and that she was becoming easier to ventilate, thus indicating that the salbutamol was proving effective in achieving bronchodilation of Ms Masson's airways and allowing air movement in and out of her lungs. Her condition continued to improve through and beyond the point that she was loaded into an ambulance and the trip to hospital had begun. Shortly before departure to the hospital, at 23.14, Ms Masson had a regular pulse rate of 94, improved but still high blood pressure of 140/100, and a respiratory rate of 14, which was still retractive. Her colour was normal rather than cyanosed and her GCS remained at six.

84 At 23.17, while the ambulance was on its way to hospital, Ms Masson's heart rate unexpectedly increased to 136 beats per minute, she once again became cyanosed and her GCS descended to three, reflecting the fact that her eyes were no longer opening. By 23.19, her heart rate had dropped markedly to 40 beats per minute, her respiratory rate had reduced to 12 retractive breaths per minute, and blood pressure was absent. Cardiac arrest was imminent. A minute later, Mr Peters administered 300 micrograms of adrenaline to Ms Masson, because, as he said[71]:

> "Her vital signs had deteriorated to the point where adrenaline was the most appropriate drug for her clinical presentation ... [S]he was now [bradycardic]. She had a slow heart rate; less than 60. And – although it's not recorded there, she either was or [was] about to be hypotensive."

In the result, Ms Masson was saved but suffered irreversible hypoxic brain damage as a result of oxygen deprivation. She lived the rest of her life in around-the-clock care until her death in 2016.

85 Before her death, an action was instituted in Ms Masson's name against the State of Queensland ("the State") alleging that Ms Masson would have avoided injury if the ambulance officers who attended on the night of 21 July 2002 had administered adrenaline more promptly than they did, and that their decision not to do so was negligent in that it was contrary to case management guidelines contained in the QAS Clinical Practice Manual ("the CPM") and a breach of QAS's duty of patient care. The action survived in the hands of Ms Masson's estate ("the Estate") pursuant to s 66 of the *Succession Act 1981* (Qld), and came on for trial in the Supreme Court of Queensland before Henry J in February 2018. Following a trial extending over nine days, in which the only issue was liability, Henry J found[72] that Mr Peters' decision to administer salbutamol before administering adrenaline was not contrary to the case management guidelines contained in the CPM and, moreover, that the decision was not negligent, because it conformed to a responsible body of opinion in the medical profession as at July 2002 that supported the view that Ms Masson's high heart rate and blood pressure, in the context of her overall condition, provided a medically sound basis to prefer the administration of salbutamol to the administration of adrenaline at the time of initial treatment[73].

86 The Estate appealed to the Court of Appeal of the Supreme Court of Queensland, contending, inter alia, that the primary judge erred in holding that

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71 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,691 [20].

72 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,713 [155].

73 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,703 [93].

Mr Peters' decision was not contrary to the case management guidelines and in not holding that Mr Peters was negligent in failing to administer adrenaline immediately. The appeal was successful. McMurdo JA (Fraser JA and Boddice J agreeing) held that:

(1) the primary judge had erred in finding that Mr Peters had chosen to administer salbutamol in preference to adrenaline on the basis of a clinical assessment that the use of adrenaline in a tachycardic and hypertensive patient might make matters worse, for instance by causing her heart to stop, and thus to favour the more conservative course of administering salbutamol[74];

(2) if and to the extent that Mr Peters did advert to the use of adrenaline, he immediately rejected it, "not because of a clinical judgment, but because he misunderstood the [CPM] by thinking that in no case was adrenaline to be given to a patient who was not bradycardic"[75];

(3) the "CPM made sufficiently clear [that] adrenaline was the preferred drug in order to achieve a fast and effective dilation of the bronchial passages, so as to avoid death or the permanent effects of the deprivation of oxygen to the brain" and "[f]or an officer in the position of Mr Peters, the 'consideration' of adrenaline [in accordance with the CPM] should have proceeded upon that premise"[76];

(4) the primary judge's finding that there was a responsible body of opinion in the medical profession to support the administration of salbutamol to a patient with Ms Masson's high heart rate and blood pressure was not supported by the expert evidence[77];

(5) accordingly, the primary judge ought to have held that Mr Peters acted negligently by failing to administer adrenaline at the outset and the State was vicariously liable for Mr Peters' negligence[78].

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74 *Masson v Queensland* [2019] QCA 80 at [61], [66].

75 *Masson v Queensland* [2019] QCA 80 at [151].

76 *Masson v Queensland* [2019] QCA 80 at [162].

77 *Masson v Queensland* [2019] QCA 80 at [164].

78 *Masson v Queensland* [2019] QCA 80 at [167]-[168].

87 By grant of special leave, the State now appeals to this Court on grounds that the Court of Appeal:

(1) erred in overturning the primary judge's finding of fact that Mr Peters "considered" the administration of adrenaline in accordance with the CPM and had done so properly;

(2) erred in finding, contrary to the primary judge's finding of fact, that, to the extent that Mr Peters did advert to the use of adrenaline, he immediately rejected it, not because of a clinical judgment but because he misunderstood the CPM;

(3) erred in overturning the primary judge's finding of fact that there was a responsible body of opinion in the medical profession as at 2002 to support the administration of salbutamol in the circumstances that obtained;

(4) erred in holding that even if there were such a body of opinion in 2002, and Mr Peters was aware of it, his failure to administer adrenaline at the outset would still have constituted a failure to take reasonable care.

Did the CPM mandate the administration of adrenaline at the outset?

88 In order to appreciate the evidence on which the primary judge based his findings of fact, it is convenient to begin with the CPM, as it was at the time of the events in issue. The introduction to the CPM stated that its purpose was to provide QAS ambulance officers with "a comprehensive guide to prehospital clinical practice". Subsequently, under the headings "Patient Care Principles", "Case Management Guidelines" and "Clinical Pharmacology" the following text appeared:

"**Patient Care Principles**

This section covers the broad principles to be applied in all patient care situations.

Case Management Guidelines

This section covers a range of clinical conditions common to the prehospital setting. It provides diagnostic patterns of each listed condition *to assist in arriving at an ambulance provisional diagnosis*, and guiding principles *to assist in patient management*. Flow charts have been included *to guide* all officers *in considering* appropriate patient care options.

Within each flow chart:

– The diamond icon represents key clinical decision points.

– Shaded text boxes list the range of prehospital treatments.

– The reader is directed to other relevant guidelines/procedures.

Clinical Pharmacology

This section lists all the pharmacological agents approved for use in the Queensland Ambulance Service. Drug Data Sheets for each agent provide parameters for prehospital administration." (emphasis added by primary judge)

89 As the primary judge observed[79], it is noteworthy that, on the CPM's own terms, its case management guidelines were not proscriptive, but rather, were provided to guide and assist patient diagnosis, management and care, and, significantly in the context of this case, that the sub-section entitled "Clinical Judgement / Problem Solving" within the section on "Patient Care Principles" included this note:

> "Officers must consider the best possible care for the patient. The QAS Clinical Practice Manual is designed *to assist clinical judgment*, using the problem solving approach, to achieve best practice. It is acknowledged that every situation is different. *Deviations from the guidelines will occur* but must be documented and audited, and officers must be able to justify that their treatment was in the patient's best interest." (emphasis added by primary judge)

90 Section A of the CPM contained case management guidelines grouped under various headings and sub-headings. One of the sub-headings under the major heading "Dyspnoea" (laboured breathing) was "Asthma". The two pages of the CPM dealing with asthma ("the asthma guideline") contained information on the first page which included the following:

"**Diagnostic pattern:**

– Past history of asthma

– Wheeze: Initially apparent on expiration but as the disease progresses there may be both inspiratory and

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79 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,704 [96], [98] per Henry J.

expiratory wheeze evolving into only inspiratory wheeze and then no wheeze.

– Leaning forward braced posture

– Prolonged expiratory phase of ventilation

– Pursing of lips

– Hyper inflated thorax

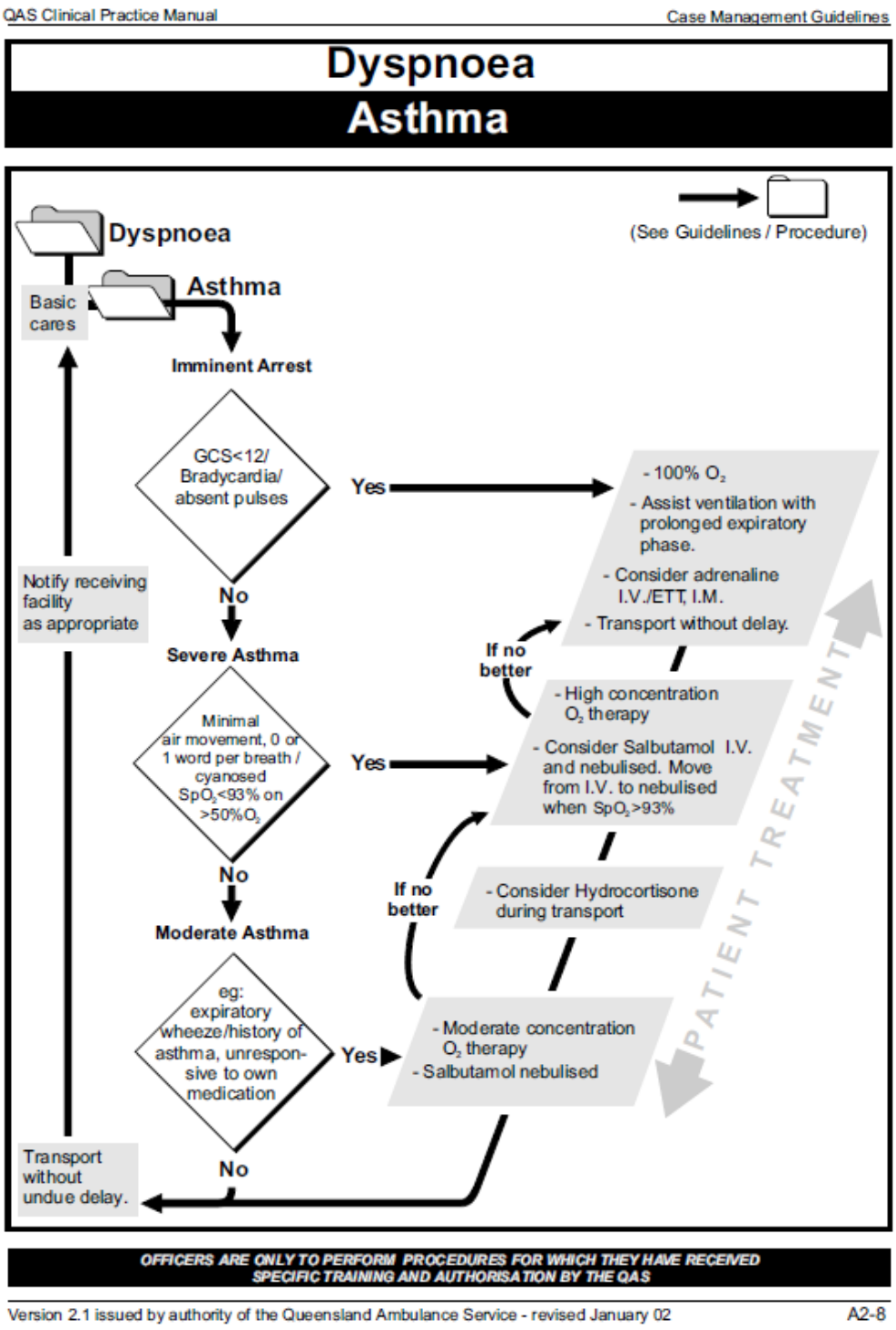
– Cyanosis (*late sign*)

Guiding principles:

– 'All that wheezes is not asthma.' Consider other causes of wheeze, eg bronchiolitis, acute pulmonary oedema, C.O.A.D., chest infection (particularly if there is no history of asthma).

– A patient with apnoea or near arrest requires ventilation assisted with slow gentle, shallow breaths of 100% oxygen at a rate of 4-8 per minute – very slow to allow passive exhalation. IPPV carries the risk of creating a pneumothorax (pulmonary barotrauma from high inflation pressure from air trapping) and then converting this into a tension pneumothorax." (emphasis added by primary judge)

91 The relevant flowchart appeared on the second page of the asthma guideline, thus:



92 The term "consider" was defined in Appendix 2 of the CPM, the "Glossary of Specific Terms", as follows:

> "When this term is used it implies that the ambulance officer has to make a judgement regarding application of the following treatment modalities based on potential benefits and adverse effects. It does not imply that the following treatments are automatically appropriate or sanctioned. Consultation should be used if doubt exists."

93 Section B of the CPM, entitled "Clinical Pharmacology", contained information about adrenaline in the form of a two-page drug data sheet, of which the first page included a section headed "Indications". The section indicated that the situations listed were apt for the administration of adrenaline, as follows:

> "**INDICATIONS**
>
> – Cardiac arrest.
>
> – Bradycardia and/or poor perfusion unresponsive to other measures.
>
> – Anaphylactic reactions.
>
> – Bronchospasm unresponsive to Salbutamol.
>
> – Croup with life threatening airway compromise (nebulised)".

94 The first page of the drug data sheet for adrenaline also contained a variety of other information on the topics of "Presentation", "Pharmacology", "Action", "Metabolism", "Precautions", "Routes of Administration", "Side Effects", "Drug Effect" and "Contra-Indications". Importantly, the second page of the drug data sheet, which contained usual dosages for adults and children, began with the following caution:

> "**Caution**:
>
> The use of adrenaline may lead to hypertension, stroke, MI [heart attack] or a [sic] *life threatening arrhythmias*." (emphasis added)

As will later be seen, that caution was consistent with expert medical evidence to which the primary judge had regard.

95 Beginning with the question of whether Mr Peters had been bound by the CPM to administer adrenaline at the outset, the primary judge observed[80],

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80 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,706 [111] per Henry J.

correctly, that the flowchart was not to be construed as a lawyer might construe a statute, but rather, bearing in mind that it was a document intended for use by ambulance officers. As has elsewhere been observed[81], documents such as policy guidelines and, it may be said, manuals, codes of practice or professional standards, which are often expressed in general and imprecise terms, are not to be "construed and applied with the nicety of a statute". To do so is to misunderstand the function of such documents. The flowchart in the asthma guideline fell for consideration in the context of the broader CPM, including the case management guidelines of which the flowchart formed part, which were intended to guide and assist, rather than proscribe, decision-making. It is also necessary to bear in mind that the CPM included drug data sheets containing further information relevant to decision-making about the circumstances in which certain drugs, including adrenaline, should and should not be administered.

96 Turning to the content of the first diamond on the flowchart, under the heading "Imminent Arrest", his Honour noted[82] that it was not necessary that all three criteria listed in the diamond be present in order to prompt taking the course indicated by the arrow pointing to the right. Given the heading "Imminent Arrest", it was apparent that the conditions listed in the diamond were but some of those that may be relevant to a determination of whether the subject of an asthma attack is in a state in which arrest is imminent. None of them made direct reference to respiration or the lack of it, but, as his Honour's earlier analysis[83] of the expert evidence demonstrates, a patient in respiratory arrest or imminent respiratory arrest is in a state of imminent arrest. Further, as the facts of the case demonstrate, a patient in such a state may not (yet) be bradycardic or have absent pulses, but the patient's GCS will invariably be less than 12, which is one of the indicia listed in the first diamond[84]. The presence of that indicium in the present case prompted

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81 *Minister for Immigration, Local Government and Ethnic Affairs v Gray* (1994) 50 FCR 189 at 208 per French and Drummond JJ. See also, eg, *Australian Securities and Investments Commission v Administrative Appeals Tribunal* (2011) 195 FCR 485 at 500 [129] per Stone, Jacobson and Collier JJ; *Australian Prudential Regulation Authority v TMeffect Pty Ltd* (2018) 125 ACSR 334 at 349-350 [59]-[60] per Perry J.

82 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,706 [114] per Henry J.

83 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,705 [108] per Henry J.

84 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,706 [115] per Henry J.

following the right arrow, and hence invited consideration of whether to administer adrenaline.

97 Contrary, however, to the Estate's submissions at trial, as the primary judge said[85]:

> "The following of the right arrow invites *consideration* of the option of administering adrenaline, it does not mandate that it must be administered. The fact it was not administered does not *per se* indicate the asthma guideline was not followed or that there was an underestimation of Ms Masson's condition.
>
> ...
>
> The word 'consider' to the right of the first diamond in the guideline indicates it remains for the ambulance officer to exercise a matter of professional judgment. This is hardly a surprising outcome for what is intended to be a guideline." (emphasis added)

98 Furthermore, as his Honour observed[86], the notion that, even with arrest imminent, the administration of adrenaline was something to be considered, rather than implemented automatically, was entirely consistent with the broader content of the manual in which the asthma guideline was found:

> "As already indicated in earlier quotes, the Case Management Guidelines are expressly designed to 'assist' in patient management, diagnosis and clinical judgment and there will be situations in which they are deviated from. Significantly, the introduction to the Clinical Pharmacology section of the document also includes the following:
>
> > 'This section of the clinical practice manual lists **all** the pharmacological agents approved for use in the Queensland Ambulance Service. …
> >
> > Officers of various levels of training may administer various subsets of these agents …
> >
> > Ambulance Officers must always consider the implications of any drug administration. Any drug can sometimes have an unpredictable

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85 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,707 [120], [122] per Henry J.

86 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,708-66,709 [126]-[130] per Henry J.

adverse effect on a patient and consequently the Ambulance Officer will have to manage these effects as well as the original condition. Before use of any drug the Officer *must*:

- *Weigh up the potential benefits of the drug and the potential adverse effect*;
- Check previous drug therapies and effects and any potential drug interaction; and
- Check any previous adverse drug effects.

*Sound clinical judgment is as much about **when not** to administer drugs as when to give them*.'

That passage makes plain the importance of clinical judgment and caution in not only determining what drug to administer, but also in determining 'when not' to administer a particular drug, bearing in mind its 'potential adverse effect'. This point is further reinforced by content of the clinical pharmacology drug data sheet about adrenaline which, as already mentioned, cautions that the use of adrenaline may lead to hyp[er]tension, stroke, MI (myocardial infarction, ie heart attack) or life-threatening arrhythmias. This is significant given that Ms Masson was tachycardic at the time Mr Peters was considering pharmacological intervention in the initial stage of treatment.

These contextual considerations in respect of the broader content of the manual in which the flowchart is found, tend to confirm, rather than undermine, the above conclusion that the word 'consider', when used against drug names in the flowchart, does indeed mean 'consider' the administration of the named drug, not 'administer' the drug.

...

[T]he effect of the guideline was not to require the administration of adrenaline but to require the treating ambulance officers to 'consider' administering adrenaline, in addition to administering 100% [O_2], assisting ventilation with prolonged respiratory phase and transporting without delay." (emphasis in italics added by primary judge)

99 There is no longer any dispute that the primary judge was correct in so concluding. Although the Estate argued to the contrary in the Court of Appeal, it did not pursue that argument before this Court.

Did Mr Peters "consider" adrenaline?

(i) The primary judge's reasoning

100 As the primary judge observed[87], Mr Peters' reasons for his decision-making at the scene fell to be considered in light of his experience and expertise as an ambulance officer. He was at the time of trial one of approximately 14 critical care paramedics within the QAS High Acuity Response Unit, with a Diploma and Advanced Diploma of Applied Science in Paramedicine. He had worked as a volunteer ambulance officer from 1990, became a full-time ambulance officer in 1996 and, after completing further studies in 2000, became an intensive care paramedic in 2001. A lengthy record of his certifications and completed courses with QAS bespoke a successful history of ongoing training and assessment. He had become authorised to administer salbutamol in 1996 and to administer adrenaline in 2000. His training included the use of the CPM.

101 In examination-in-chief, Mr Peters explained that he decided to administer salbutamol in the initial phase of Ms Masson's treatment because of her history of severe asthma and his assessment of her clinical presentation. That included her depressed respiratory rate, cyanosis, a hyper-inflated chest, that she was difficult to oxygenate and tight in her airways, hypertensive (pertaining to high blood pressure) and tachycardic, and that she had an altered level of consciousness. He testified that that presentation led him "fairly convincingly to the fact that she required immediate pharmacological intervention through salbutamol". With multiple doses her respiration improved, and continued to improve until after Ms Masson had been loaded into the ambulance and transportation from the scene had commenced. Adrenaline was administered at a later stage of treatment because her "vital signs had deteriorated to the point where adrenaline was the most appropriate drug for her clinical presentation". He identified those vital signs as bradycardia (a slow heart rate of less than 60 beats per minute) and hypotension.

102 Thus, as the primary judge observed[88], it is notable that just as the presence of tachycardia and hypertension was influential in Mr Peters' initial decision to administer salbutamol, the subsequent development of the very opposite conditions – bradycardia and hypotension – was influential in Mr Peters' decision

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87 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,709 [132] per Henry J.

88 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,710 [137] per Henry J.

to switch to the administration of adrenaline. And as the primary judge said[89], it was unsurprising, in light of the expert evidence, that the presence of a high heart rate and high blood pressure was influential in the determination of the initial pharmacology.

103 In a witness statement by Mr Peters dated 5 July 2009, seven years after the event, Mr Peters described the choice of initial treatment thus:

> "We then commenced oxygen therapy via a bag valve mask resuscitator at a flow of 14 litres per minute which delivered approximately 100% oxygen. As Ms Masson's respiratory rate was only two breaths per minute, we immediately commenced intermittent positive pressure breathing ('IPPB') or assisted ventilation."

As the primary judge observed[90], that response entailed the first two actions prompted by following the arrow to the right of the first diamond in the flowchart. They were not actions that were prompted by the arrow to the right of the second diamond, which relevantly referred only to high concentration oxygen therapy, not to 100 per cent oxygen and assisted ventilation. As the primary judge concluded[91], this was powerful evidence that Mr Peters followed the arrow to the right of the first diamond in the flowchart.

104 Mr Peters' statement continued:

> "As we were … commencing IPPB with 100% oxygen, Officer Stirling secured cardiac monitoring electrodes to Ms Masson's chest and attached the monitor/defibrillator … The monitor revealed that Ms Masson's cardiac rhythm was sinus tachycardia and the rate was 150 per minute.
>
> The QAS guidelines for the management of a patient with asthma, in July 2002, are set out in section A2-7 to A2-8 of the CPM, a copy of which is annexed ... The management is determined having regard for the patient's clinical presentation and vital sign recordings and may include: high concentration oxygen therapy, intravenous Adrenaline if bradycardic (pulse

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89 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,710 [138] per Henry J.

90 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,710 [141] per Henry J.

91 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,710 [141] per Henry J.

> rate less than 60 beats per minute) or absent pulses; nebulised and intravenous Salbutamol; and consideration for intravenous Hydrocortisone.
>
> In view of the fact that Ms Masson was tachycardic, that is she had a heart rate that was greater than 100 beats per minute and peripheral pulse were palpable, intravenous *Adrenaline was not permitted under the Asthma protocol*. I therefore elected to administer intravenous Salbutamol." (emphasis added by primary judge)

105 As the primary judge observed[92], the reasons given in that section of the witness statement for asserting that the administration of adrenaline "was not permitted" were confusing. They suggest that, at the time of making the statement, seven years after the event, Mr Peters favoured an interpretation of the first diamond in the flowchart to the effect that the presence of an indicium opposite to any of those listed in the diamond precluded following the arrow to the right of it. But, as has been seen, two aspects of the initial treatment in fact given were those recommended by following the arrow to the right of the first diamond, and they were not actions recommended by following the arrow to the right of the second diamond. That accords with Mr Peters' evidence-in-chief. There was also the following evidence given by Mr Peters in cross-examination as to why he chose salbutamol over adrenaline in the initial stage of treatment:

> "[A]s July of 2002 it was your belief, was it not, that you were prohibited from administering adrenaline because of the content of the asthma guidelines? --- The guideline stated a maximum dose of one milligram, that's correct.
>
> No, that you were prohibited from administering adrenaline was your understanding based on your reading of the guidelines as at July of 2002. That's the position, isn't it? --- No, *I was prohibited from administering adrenaline with a patient's vital signs as Jennifer's were presenting*.
>
> Well, you were prohibited from administering it is what you believe the position was? --- Yes, that's correct.
>
> HIS HONOUR: At the time is that what your belief was? --- At the time the guideline indicated that I should give IV salbutamol and that adrenaline was the inappropriate drug for Jennifer's presentation. …

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92 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,711 [143] per Henry J.

Do you recall one way or the other, whether when you were initially making your decision that led you introducing salbutamol ---?--- Yes.

--- whether or not in making that decision you gave consideration to the option of using adrenaline? Do you remember one way or the other whether you considered that option then? --- Not really. It was – it was very clear which pathway I was required to go down.

So does 'Not really' mean you didn't – you don't remember one way or the other or you recall that you did not consider that option? --- *I would have considered both adrenaline and IV salbutamol*, and IV *salbutamol was clearly the defined pathway I was required to go down*.

So you're saying you would have considered the option of adrenaline. Do you recall actually considering it? --- Certainly. So *if Jennifer was initially presenting bradycardic/hypotensive, would have been straight into adrenaline.* So it certainly would have been considered. So both options would have been in any mind in preparation for my actions dependent on how she presented.

Thank you. Yes, Mr Campbell.

MR CAMPBELL: You, as I understand your evidence – because she was tachycardic said you were prohibited, you were not permitted, you were unable to administer adrenaline? --- That's one of the parameters. The other one was her blood pressure. *So she was tachycardic and hypertensive*.

And if the position were that the guidelines permitted the administration of adrenaline in circumstances where the patient had a Glasgow Coma Score of less than 12, you, because of the fact of there being tachycardia, believed you could not implement those guidelines. Is that right? --- *Tachycardia and hypertension*, considering all the components of the – of the assessment tool.

And is that as a result of something that you were trained in or was this a result of your interpretation of the words in the guideline? --- Both. So there was quite a – a specific module in the appropriate pharmacological treatment of asthma in the intensive care paramedic program. It was both some reading material, there was verbal tutorials and there was case scenarios." (emphasis added by primary judge)

106 The primary judge noted[93] that the tone and manner in which Mr Peters gave those answers made it obvious that Mr Peters had difficulty distinguishing between hindsight assumption and actual recollection. His Honour attributed that to the very long lapse of time and possibly contaminating contributions of others in legal fora regarding the event in which Mr Peters had participated over the years since it occurred. But, his Honour said[94], it was clear that Mr Peters had well appreciated that salbutamol and adrenaline were potential pharmacological options in treating an asthma attack. And it was similarly obvious on the whole of Mr Peters' testimony that he had considered that Ms Masson's tachycardia and hypertension militated against the administration of adrenaline; for, as Mr Peters had said, if Ms Masson had been bradycardic and hypotensive, he would have administered adrenaline. His Honour added[95] that the fact that Mr Peters had considered the administration of adrenaline in the context of rejecting it – because of the presence of those conditions – did not inevitably lead to the conclusion that Mr Peters had not considered it at all. The primary judge concluded[96] that such a clinical assessment was a reasonable response to the risk associated with Ms Masson's tachycardia and hypertension as well as the risk of pharmacological intervention worsening her already dire condition. As his Honour put it[97]:

> "In arriving at that conclusion, I am conscious of the curious and erroneous references in Mr Peters' evidence to the asthma guideline prohibiting or not permitting the administration of adrenaline. However, they are not inconsistent with him also having considered, as I find he did, that the administration of adrenaline was too risky by reason of Ms Masson's tachycardia and hypertension."

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93 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,712 [146] per Henry J.

94 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,712 [146] per Henry J.

95 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,712 [148] per Henry J.

96 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,712 [148] per Henry J.

97 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,712-66,713 [149] per Henry J.

(ii) The Court of Appeal's reasoning

107 In the Court of Appeal, McMurdo JA began his analysis of the primary judge's assessment of that evidence with this observation[98]:

> "At this point, something should be said of the advantage of adrenaline over salbutamol in the case of a patient who is bradycardic. Each of these two drugs can have the effect of dilating the bronchial passages. Each has the effect of what is called a β_2-agonist. As the CPM stated, adrenaline also can increase the heart rate, thereby explaining its indicated use in cases of 'Cardiac arrest' and 'Bradycardia and/or perfusion unresponsive to other measures.' As the CPM also stated, adrenaline can have side effects which include palpitations, tachyarrhythmias and hypertension. The point is that, whilst adrenaline has a particular use for a patient who is bradycardic, it does not follow that it does not have a proper use for a patient who is tachycardic. *Notably, the flowchart does not refer to tachycardia, let alone suggest that it could be a reason for not using adrenaline where it was otherwise the indicated drug*." (emphasis added)

108 With respect, it is not entirely clear what McMurdo JA meant by that. Possibly, it was that, although Ms Masson presented as tachycardic and hypertensive, with an altered level of consciousness, and had a history of severe asthma, there was no basis in the flowchart for Mr Peters to have concluded that Ms Masson's tachycardia and hypertension militated against the administration of adrenaline in favour of salbutamol. If so, that observation was misplaced. Granted, the flowchart did not refer to tachycardia, but that does not mean that there was not reason for avoiding adrenaline. The flowchart was one aspect of the CPM, of which another, as has been seen[99], was the warning that the use of adrenaline may lead to hypertension, stroke, heart attack or life-threatening arrhythmias. And, as the expert evidence established, that was especially so in the presence of an already elevated heart rate and elevated blood pressure. Consequently, as the primary judge concluded, in determining the pharmacological component of the broader treatment to be administered, Mr Peters was presented with the dilemma that, because Ms Masson was tachycardic and hypertensive, the administration of the drug ordinarily favoured for administration to a patient in extremis, namely, adrenaline, would carry a real risk of worsening Ms Masson's condition.

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98 *Masson v Queensland* [2019] QCA 80 at [60].

99 See [94], [98] above.

109 McMurdo JA held[100] that the primary judge erred in finding that Mr Peters made the clinical assessment which the primary judge described, because, in McMurdo JA's view, that finding was inconsistent with the witness statement of 5 July 2009 and inconsistent with Mr Peters' oral evidence. McMurdo JA identified[101] what his Honour perceived as that inconsistency by reference to the following extract from Mr Peters' witness statement of 5 July 2009:

> "In view of the fact that Ms Masson was tachycardiac, that is she had a heart rate that was greater than 100 beats per minute and peripheral pulse was palpable, intravenous Adrenaline was not permitted under the Asthma protocol. I therefore elected to administer intravenous Salbut[a]mol."

His Honour explained[102] his reasoning in respect of the extract thus:

> "[T]he unambiguous statement of Mr Peters was that the administration of adrenaline was not permitted by the CPM. In that respect, it might be inferred that the statement was the basis for the [State's] pleading [that Ms Masson's case did not fall within the 'imminent arrest' category of the flowchart]. There is no reference in the statement (or the earlier statement) to a consideration of adrenaline as an alternative to salbutamol. Nor is there a reference to Ms Masson being in the category of 'imminent arrest'. On the face of the statement, Mr Peters misunderstood the CPM, by thinking that Ms Masson's tachycardia precluded the possible use of adrenaline. The same reasoning is evident from paragraph 37 of his 2009 statement, where Mr Peters said that it was only when Ms Masson became bradycardic that she met the criteria for the administration of adrenaline."

110 With respect, however, the difficulty with that is that the statement that the administration of adrenaline was not permitted by the CPM was not "unambiguous". As the primary judge reasoned in effect, the curious and, in one sense, erroneous reference to the guideline *not permitting* the administration of adrenaline was not inconsistent with Mr Peters having considered that the administration of adrenaline was too risky by reason of Ms Masson's tachycardia and hypertension. That was confirmed by his statement in the extract that "I therefore *elected* to administer intravenous salbutamol"; since an election necessarily implies a choice.

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100 *Masson v Queensland* [2019] QCA 80 at [66].

101 *Masson v Queensland* [2019] QCA 80 at [41].

102 *Masson v Queensland* [2019] QCA 80 at [43].

111 Possibly, if Mr Peters had been a judge or a lawyer or someone else whose education and experience has more to do with semasiology than the applied science of critical emergency care, he might have chosen an expression such as "not recommended" or "not appropriate". But it is neither surprising nor at all unlikely that a paramedic whose day-to-day business is one of making life and death decisions should conceive and speak of a "not recommended" or "not appropriate" course of initial treatment as one that is "not permitted". Common sense and ordinary experience dictate that, just as a paramedic's initial treatment must be immediate and unhesitating, a paramedic is likely to be inclined to conceive and speak of actions in perfunctory and unqualified terms. Of course, exceptionally, such a person might be so particular in his or her choice of language as to convey that, by stating that something is "not permitted", he or she means that all choice is excluded. But whether that was the case here could only be decided by seeing and hearing the witness give his oral evidence.

112 The oft unspoken reality that lay witness statements are liable to be workshopped, amended and settled by lawyers, the risk that lay and, therefore, understandably deferential witnesses do not quibble with many of the changes made by lawyers in the process – because the changes do not appear to many lay witnesses necessarily to alter the meaning of what they intended to convey – and the danger that, when such changes are later subjected to a curial analysis of the kind undertaken in this matter, they are found to be productive of a different meaning from that which the witness intended, means that the approach of basing decisions on the ipsissima verba of civil litigation lay witness statements is highly problematic[103]. It is the oral evidence of the witness, and usually, therefore, the trial judge's assessment of it, that is of paramount importance[104].

113 Turning to the oral evidence, although acknowledging that the primary judge had the advantage of seeing and hearing Mr Peters give his evidence, McMurdo JA said[105] that he was unable to accept the primary judge's assessment of it:

> "It is said that the trial judge had the advantage of seeing and hearing the evidence of Mr Peters as it was given in Court. But I am unable to accept

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103 See, eg, *Concrete Pty Ltd v Parramatta Design & Developments Pty Ltd* (2006) 229 CLR 577 at 635 [175] per Callinan J; Spigelman, "Truth and the Law", in Perram and Pepper (eds), *The Byers Lectures 2000-2012* (2012) 232 at 253.

104 See, eg, *Thomas v SMP (International) Pty Ltd* [2010] NSWSC 822 at [23]-[29] per Pembroke J; *Lloyd v Belconnen Lakeview Pty Ltd* (2019) 377 ALR 234 at 269 [110]-[113] per Lee J.

105 *Masson v Queensland* [2019] QCA 80 at [61]-[66].

his Honour's analysis of the tension between the 2009 witness statement and some of the oral evidence of Mr Peters. The witness statement is unambiguous: Mr Peters there said that, by the terms of the CPM, more particularly the flowchart, the use of adrenaline was not permitted. That was a misstatement of the effect of the CPM. Nevertheless it was apparently the carefully considered recollection of the witness at a time which was closer to the event.

In his oral evidence, Mr Peters did not say that there was a mistake in his witness statement, and that what he had meant to say was that the use of adrenaline was open, but that he did not administer it because of a concern about the risk of side effects, such as a stroke.

And it was the [State's] pleaded case that Ms Masson did not fall within the description of 'imminent arrest' and therefore the administration of adrenaline was not permitted.

Further, in some parts of his oral evidence ... Mr Peters gave evidence, consistently with his 2009 statement, that he was 'prohibited' from administering adrenaline, on his understanding of the effect of the CPM.

In answer to one of his Honour's questions, Mr Peters said that he 'would have considered both adrenaline and IV salbutamol', but added that 'salbutamol was clearly the defined pathway I was *required* to go down.' Even then, Mr Peters appeared to say that the 'pathway' was prescribed by the CPM, as he interpreted it. In my respectful view, the evidence of Mr Peters did not support the trial judge's finding ... that Mr Peters did make 'a clinical assessment, considering the possibility of administering adrenaline, deciding not to administer it because of the risk of serious adverse reaction to it raised by the presence of tachycardia and hypertension and instead deciding to administer salbutamol.' At no point in his testimony did Mr Peters say that he was concerned by the risk of a serious adverse reaction to adrenaline, which he then weighed against the apparent benefits, according to the CPM, of adrenaline as the preferred drug for a patient in the category of 'imminent arrest'.

At [147] of the [primary judge's reasons], the judge referred to what he described as 'a responsible body of opinion in the medical profession in support of the view that Ms Masson's tachycardia and hypertension, in the context of her overall condition, provided a medically sound basis to prefer the administration of salbutamol as an acceptable option to the administration of adrenaline.' But Mr Peters did not say that he was applying that body of opinion; his evidence was that the course he took was prescribed by the CPM. In my opinion, the trial judge erred in finding that Mr Peters made the clinical assessment which his Honour described ... The

> finding was not only inconsistent with the 2009 statement by Mr Peters, it was also inconsistent with his oral evidence." (emphasis added by McMurdo JA)

114 A number of aspects of that section of McMurdo JA's judgment are unsustainable. The first is the proposition that the 2009 witness statement was unambiguous. It was not. For the reasons already given[106], the use of the expression "not permitted" was not necessarily inconsistent with Mr Peters' evidence that he considered adrenaline and concluded that it should not be administered because Ms Masson was tachycardic and hypertensive. As the primary judge incisively observed[107], such views were not mutually exclusive.

115 The second aspect is McMurdo JA's statement that Mr Peters did not say in his oral evidence that there was a mistake in his witness statement or that he did not administer adrenaline because of a concern about the risk of side effects such as stroke. That is true, but why should he do so? Mr Peters said in his oral evidence that he considered both adrenaline and salbutamol, and administered salbutamol rather than adrenaline because Ms Masson initially presented as tachycardic and hypertensive, that if Ms Masson had initially presented as bradycardic and hypotensive, he would have administered adrenaline, and that his choice to administer salbutamol in preference to adrenaline was based in part on the CPM, and in part on his training in the course of the specific module on the appropriate pharmacological treatment of asthma in the intensive care paramedic programme, which included reading material, verbal tutorials and case scenarios. It was not put to Mr Peters that that evidence was inconsistent with his 2009 statement. Why, therefore, should he suppose that it was? His oral evidence was unimpeached and, coupled with the expert evidence adduced at trial that the use of adrenaline in a tachycardic and hypertensive patient might make matters worse, provided a sound basis for the primary judge's conclusion that Mr Peters well appreciated that salbutamol and adrenaline were potential pharmacological options and made a clinical assessment that he should not administer adrenaline because of the risk of adverse reaction raised by the presence of tachycardia and hypertension.

116 True it is that the State's pleaded case at trial alleged that Ms Masson did not fall within the description of "imminent arrest" and therefore the administration of adrenaline was "not permitted". It is also true, as McMurdo JA elsewhere observed[108] in his Honour's reasons, that that pleading may have been based on the

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106 See [110]-[112] above.

107 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,710 [140] per Henry J.

108 *Masson v Queensland* [2019] QCA 80 at [43].

2009 witness statement. But it was not put to Mr Peters that the pleading was inconsistent with his oral evidence, still less that he had adopted the pleading. And in any event, in the end, such inconsistency as there may be between the 2009 witness statement and the pleading and Mr Peters' oral evidence is of relatively little consequence, given that, as the primary judge demonstrated, it plainly could not have been the case that Mr Peters believed at the time that Ms Masson was not facing imminent arrest and for that reason was precluded from administering adrenaline; because, to repeat, two of the aspects of the initial treatment in fact given were those recommended by following the arrow to the right of the first diamond, which would only have been appropriate if Mr Peters had considered that Ms Masson was facing imminent arrest and which would not have been appropriate if he had not. Regardless of the pleadings, there is no suggested explanation for the course of treatment adopted, unless Mr Peters believed that he was presented with a case of imminent arrest.

117 True it is, too, as has been seen, that Mr Peters stated in his oral evidence that he was "prohibited" from administering adrenaline because Ms Masson presented as tachycardic and hypertensive. But that takes the matter no further than the likelihood, already addressed[109], that the use of the word "prohibited" in that context is just as consistent with "not recommended" or "not appropriate" as "proscribed".

118 Lastly on this aspect of the matter, it is correct that Mr Peters did not say that he was applying a responsible body of opinion in the medical profession in support of the view that Ms Masson's tachycardia and hypertension, in the context of her overall condition, provided a medically sound basis to prefer the administration of salbutamol as an acceptable option to the administration of adrenaline. But, as has been noticed[110], he did say that he chose to administer salbutamol in preference to adrenaline because Ms Masson presented as tachycardic and hypertensive, and that he based that choice in part on the CPM and in part on his training. Furthermore, as will be seen, the expert evidence did establish that there was a responsible body of opinion in the medical profession in support of the view that Ms Masson's tachycardia and hypertension, in the context of her overall condition, provided a medically sound basis to prefer the administration of salbutamol as an acceptable option to the administration of adrenaline.

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109 See [110]-[112] above.

110 See [115] above.

119 A good deal has been said by this Court about the propriety of an appellate court setting aside a trial judge's finding of fact based on the credibility of a witness[111]. For present purposes, it is enough to repeat the observations of Gleeson CJ, Gummow and Kirby JJ in *Fox v Percy*[112] that, at least where the trial judge's decision might be affected by his or her impression about the credibility of the witness, whom the trial judge sees and hears but the appellate court does not, the appellate court must respect the attendant advantages of the trial judge. If, making proper allowance for such advantages, the appellate court concludes that an error has been shown, it is authorised and obliged to discharge its appellate duties in accordance with the statute conferring appellate jurisdiction[113]. In particular cases, it may be demonstrated that the trial judge's conclusions are erroneous, despite being based upon or said to be based upon an assessment of credibility. That will be so where the trial judge's findings of fact are contrary to "incontrovertible facts or uncontested testimony"[114], "glaringly improbable"[115], or "contrary to compelling inferences"[116]. But where, as here, that is not so, it is no justification for appellate intervention that the appellate court might consider that the trial judge did not give sufficient weight to matters that the appellate court

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111 See, eg, *Edwards v Noble* (1971) 125 CLR 296 at 308-309 per Menzies J; *Jones v Hyde* (1989) 63 ALJR 349 at 351-352 per McHugh J (Brennan, Deane, Dawson and Toohey JJ agreeing); 85 ALR 23 at 27-28; *Abalos v Australian Postal Commission* (1990) 171 CLR 167 at 179 per McHugh J (Mason CJ, Deane, Dawson and Gaudron JJ agreeing); *Devries v Australian National Railways Commission* (1993) 177 CLR 472 at 479 per Brennan, Gaudron and McHugh JJ, 482-483 per Deane and Dawson JJ; *Fox v Percy* (2003) 214 CLR 118 at 127 [26], 128 [29] per Gleeson CJ, Gummow and Kirby JJ, 138-147 [65]-[93] per McHugh J; *Robinson Helicopter Co Inc v McDermott* (2016) 90 ALJR 679 at 686-687 [43] per French CJ, Bell, Keane, Nettle and Gordon JJ; 331 ALR 550 at 558-559; *Lee v Lee* (2019) 93 ALJR 993 at 1003 [55]-[56] per Bell, Gageler, Nettle and Edelman JJ; 372 ALR 383 at 396.

112 (2003) 214 CLR 118 at 127-128 [26]-[29].

113 *Warren v Coombes* (1979) 142 CLR 531 at 551 per Gibbs A-CJ, Jacobs and Murphy JJ.

114 *Fox v Percy* (2003) 214 CLR 118 at 128 [28] per Gleeson CJ, Gummow and Kirby JJ.

115 *Brunskill v Sovereign Marine & General Insurance Co Ltd* (1985) 59 ALJR 842 at 844 per Gibbs CJ, Wilson, Brennan, Deane and Dawson JJ; 62 ALR 53 at 57.

116 *Chambers v Jobling* (1986) 7 NSWLR 1 at 10 per Kirby P, 20 per Samuels JA.

considers assist the plaintiff's case. In this matter, it was not open to the Court of Appeal to reject the primary judge's analysis of Mr Peters' oral evidence.

Responsible body of medical opinion supporting the administration of salbutamol

(i) The primary judge's reasoning

120 There was a large amount of expert medical evidence adduced at trial. The Estate called Professor Gordian Fulde, Associate Professor John Raftos, and Dr John Vinen, each of whom was a highly qualified specialist in emergency medicine, and Mr Jeff Kenneally, an intensive care paramedic and intensive care team manager and, more recently, a senior lecturer in paramedicine at Victoria University. The State called Professor Anthony Brown, Associate Professor Rob Boots, and Dr Geoffrey Ramin, each of whom was also a highly qualified specialist in emergency medicine, and Mr Tony Hucker, a long-experienced critical care paramedic and now director of clinical quality and patient safety for QAS.

121 Based on a detailed assessment of the evidence of each of those witnesses, the primary judge concluded[117] that, as at 2002, the practising medical profession had traditionally regarded adrenaline as the ordinarily preferred drug to administer to asthmatics in extremis, but that since then there had been a shift in opinion. His Honour concluded that adrenaline continues to be regarded as the preferred drug by a credible body of medical practitioners, albeit that there is now also a credible body of medical practitioners who regard salbutamol as an at least equally efficacious drug to administer to asthmatics in extremis. The primary judge noted[118] that it was difficult to discern from the evidence exactly when that shift occurred, although there were doubtless credible views favouring the equivalent utility of salbutamol for asthmatics in extremis in 2002. Nonetheless, his Honour concluded[119] that it could reasonably be inferred from the whole of the expert evidence that, as at 2002, the practising medical profession's traditional view in

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117 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,697-66,698 [55] per Henry J.

118 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,698 [56] per Henry J.

119 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,698 [56] per Henry J.

favour of ordinarily administering adrenaline to asthmatics in extremis was then still likely the predominant view in the profession.

122 That said, however, the primary judge then went on to observe[120] that the preference for adrenaline was really only a "default starting point", inasmuch as the mere characterisation of a patient as being in extremis (which is to say, close to death) says nothing of the broader detail of the patient's condition. The traditional view did not preclude the administration of salbutamol in preference to adrenaline if that were medically appropriate having regard to the discrete aspects of the patient's condition. The issue was thus whether the fact that Ms Masson presented as tachycardic and hypertensive militated against the administration of adrenaline.

123 Based on a further detailed assessment of each witness's evidence the primary judge found that[121]:

> "At the time of initial treatment Ms Masson was not known to be in cardiac arrest or suffering an anaphylactic reaction, so it was not inevitable that adrenaline should have been administered. Nor was she suffering from conditions known to mitigate against the utility of salbutamol, such [as] bradycardia, decreased perfusion and decreased cardiac output.
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> Ms Masson was however in extremis, which meant that adrenaline would ordinarily have been the preferred drug to administer, subject to her discrete conditions. Of those conditions her cyanosis and likely acidosis were conditions reinforcing the extremely dire state she was in and tending to confirm the appropriateness of administering adrenaline. On the other hand, her high heart rate and blood pressure were conditions founding a legitimate concern that the administration of adrenaline might worsen her state by plunging her into a dangerous arrhythmia or causing her heart to stop – that is, that it would heighten the risk of death.
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> That concern provided a logical basis to prefer the administration of salbutamol and, if Ms Masson's condition did not improve, or if it worsened, revert to considering the administration of adrenaline. That course carried risks, particularly that salbutamol would not improve her condition and hypoxia may continue with irreversible results. Reasonable

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120 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,698 [57] per Henry J.

121 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,703 [90]-[92] per Henry J.

> minds may differ as to whether those risks were outweighed by the above risks associated with administering adrenaline to an asthmatic in extremis with high heart rate and blood pressure."

124 On the basis of those findings, the primary judge concluded[122] that in 2002 there existed a responsible body of opinion in the medical profession in support of the view that Ms Masson's high heart rate and high blood pressure, in the context of her overall condition, provided a medically sound basis to prefer the administration of salbutamol to the administration of adrenaline at the time of initial treatment.

(ii) The Court of Appeal's reasoning

125 In essence, McMurdo JA reasoned[123] that, since Ms Masson was at imminent risk of respiratory arrest and exhibited a GCS of less than 12:

> "The flowchart required the officer to 'consider adrenaline', not to 'consider adrenaline or salbutamol'. In other words, the flowchart did not suggest salbutamol as an alternative to adrenaline. Nor did it suggest that salbutamol was as effective an agent in bronchodilation as adrenaline. The flowchart showed salbutamol as the drug to be 'considered' only in the circumstances of a less serious case.
>
> The Drug Data Sheet for adrenaline showed that the use of that drug was indicated where there was a bronchospasm 'unresponsive to Salbutamol'. It prescribed dosages for a patient with '[a]sthma or severe bronchospasm with imminent arrest', whereas the Drug Data Sheet for salbutamol did not refer to a case of asthma in that category. If Mr Peters had weighed up the use of one drug against the other, then consistently with the CPM he would have been wrong to think that one drug was as good as the other in effecting bronchodilation."

126 McMurdo JA acknowledged[124] that Mr Peters chose salbutamol over adrenaline because Ms Masson was tachycardic and hypertensive, and

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122 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,703 [93] per Henry J.

123 *Masson v Queensland* [2019] QCA 80 at [153]-[154].

124 *Masson v Queensland* [2019] QCA 80 at [151].

acknowledged[125], too, that the drug data sheet for adrenaline referred to adrenaline's potential side effects of tachyarrhythmias and hypertension. But McMurdo JA in effect rejected that as having any significant relevance, because, his Honour said[126]:

> "[N]either the Drug Data Sheet nor the flowchart said that, in a case of imminent arrest, adrenaline should not be used where the patient was tachycardic or had high blood pressure. In particular, under the heading 'Contra-indications' in the Drug Data Sheet, a high pulse rate and high blood pressure were not mentioned. What was mentioned was a '[k]nown severe adverse reaction'."

127 That reasoning is, with respect, incorrect. First, the fact that Ms Masson was in imminent risk of respiratory arrest and had a GCS of less than 12 did not dictate the immediate administration of adrenaline. It dictated that adrenaline be considered, and, as the primary judge found, Mr Peters did consider it and rejected it in favour of salbutamol. That finding, which was based on the primary judge's assessment of Mr Peters, after seeing and hearing him give his evidence, was not contrary to clearly established facts or compelling inferences and should not have been rejected[127].

128 Secondly, properly understood, the flowchart did suggest consideration of salbutamol. As the primary judge accepted, and in any event is obvious, the content of the flowchart is textually and contextually important, and, to some extent, the content of each diamond is designed to inform the choices to be made in relation to each other diamond. More specifically, in the circumstances which obtained in this matter, the first diamond explicitly dictated consideration of adrenaline, and implicitly dictated, if there were reason to hesitate in the selection of adrenaline, looking down the inclined line to the right of the chart for other options, which included the salbutamol listed in the second diamond. That is confirmed by the designation "[i]f no better" on the upwards pointing curved arrow to the right of the chart, which naturally and ordinarily implies that, if adrenaline is rejected and salbutamol selected as an alternative, but it is found that salbutamol does not achieve the results that were hoped for, one should move back up the curved arrow to the first diamond to the reconsideration of adrenaline.

129 Thirdly, the fact that neither the drug data sheet for adrenaline nor the flowchart stated explicitly that "adrenaline should not be used" in no way detracts

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125 *Masson v Queensland* [2019] QCA 80 at [155].

126 *Masson v Queensland* [2019] QCA 80 at [155].

127 See [119] above.

from the conclusion that, by directing that adrenaline be "considered", the flowchart required that a clinical judgment be made as to whether the risks were in favour of or against the immediate administration of adrenaline. As can be seen from the adrenaline drug data sheet, only paramedics at a certain level of seniority were permitted to administer adrenaline as a pharmacological intervention and, even then, paramedics not yet at the highest level were permitted to do so only on the basis of a "medical consult". Plainly, the only purpose of a "medical consult" would be to confirm or contradict a paramedic's clinical judgment. Mr Hucker's evidence that the CPM was designed to be flexible and used by well-educated paramedics exercising clinical judgment, and Mr Peters' uncontradicted evidence that he based his choice of salbutamol over adrenaline in part on his pharmacological training, further confirm that the flowchart called for an exercise in clinical judgment rather than directing but one course be followed.

130 Fourthly, while it is true that the only "contra-indication" mentioned in the adrenaline drug data sheet was "[k]nown severe adverse reaction", Mr Peters considered that the presence of tachycardia and hypertension contra-indicated the immediate administration of adrenaline, and called for the administration of salbutamol in its place, and, as the primary judge found, that accorded to a responsible and respected body of medical opinion.

131 McMurdo JA reasoned[128] that the primary judge's finding that there was such a responsible body of medical opinion was not supported by the evidence, because:

> "Each of the three medical practitioners who gave evidence in the [State's] case subscribed to the view that salbutamol was an equally effective drug for bronchodilation. None of them said that, *upon the premise that adrenaline was the superior drug for the treatment of an asthmatic at immediate risk of cardiac failure and death* ... the risk from using an inferior drug was outweighed by the risk of side effects from the adrenaline." (emphasis in original)

132 So to reason, however, is tantamount to a proposition that, because the responsible body of medical professionals referred to did not share the view of the majority of the profession in 2002 as to the superiority of adrenaline in terms of its capacity to effect bronchodilation, the view of that body of medical opinion as to the risks of administering adrenaline to a patient exhibiting tachycardia and

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128 *Masson v Queensland* [2019] QCA 80 at [165].

hypertension was incapable of constituting a responsible body of opinion. That is not so.

133 Following this Court's decision in *Rogers v Whitaker*[129], and at all relevant times for the purposes of determination of the present appeal[130], the standard of care to be observed by a person possessing special skills is that of "the ordinary skilled person exercising and professing to have that special skill"[131]. Although that standard is not to be determined solely, or even primarily, by reference to the practice followed or supported by a responsible body of opinion in the relevant profession or trade[132] – in the sense that a court is not required to defer to the opinions of experts rather than determine for itself the applicable standard of care[133] – evidence of responsible professional opinion may nonetheless "have an influential, often a decisive, role to play"[134]. And where, as here, a body of professional opinion is relied upon as evidence that a particular course of treatment fell within the standard of care expected of a reasonable and competent practitioner, the body of opinion will generally be thought "reasonable", "responsible" or "respectable" provided it has a logical basis[135]. In particular, in

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129 (1992) 175 CLR 479.

130 The present case falls for determination by reference to the common law, the events in question having occurred prior to the commencement of the *Civil Liability Act 2003* (Qld). Any modification of the common law standard of care applying to professionals by operation of s 22 of the *Civil Liability Act* does not arise: cf *Dobler v Halverson* (2007) 70 NSWLR 151.

131 *Rogers v Whitaker* (1992) 175 CLR 479 at 483 per Mason CJ, Brennan, Dawson, Toohey and McHugh JJ.

132 *Rogers v Whitaker* (1992) 175 CLR 479 at 487 per Mason CJ, Brennan, Dawson, Toohey and McHugh JJ; *Naxakis v Western General Hospital* (1999) 197 CLR 269 at 275-276 [20] per Gaudron J; *CGU Insurance Ltd v Porthouse* (2008) 235 CLR 103 at 122 [72] per Gummow, Kirby, Heydon, Crennan and Kiefel JJ; cf *Bolam v Friern Hospital Management Committee* [1957] 1 WLR 582; [1957] 2 All ER 118.

133 cf *Bolam v Friern Hospital Management Committee* [1957] 1 WLR 582; [1957] 2 All ER 118.

134 *Rogers v Whitaker* (1992) 175 CLR 479 at 489 per Mason CJ, Brennan, Dawson, Toohey and McHugh JJ.

135 *Bolitho v City and Hackney Health Authority* [1998] AC 232 at 241-242 per Lord Browne-Wilkinson.

cases involving, as the present case does, the weighing of risks and benefits, a body of opinion may be treated as responsible or respectable if it can be shown that the experts said to constitute that body of opinion have "directed their minds to the question of comparative risks and benefits and have reached a defensible conclusion on the matter"[136].

134 Ex hypothesi, a body of professional opinion does not need to align to majority opinion in order to be regarded a responsible body of professional opinion; and, for the same reasons, a body of opinion does not need to be premised on the same assumptions as underscore the majority opinion in order to be regarded a responsible body of opinion. Consequently, the body of medical opinion adhering to the view that the risks posed by the use of adrenaline justified the use of salbutamol was well capable of amounting to a responsible body of opinion, whether or not it proceeded from the premise that adrenaline was a superior bronchodilator. It might have been different if it had been established as a fact that adrenaline was superior to salbutamol in achieving fast and effective bronchodilation. Conceivably – although, even then, not necessarily – the establishment of that proposition might have so cast doubt on opinion premised upon its denial as to render that opinion unrespectable. But that was not the case here. The uncontested evidence was that there was no evidence that adrenaline was superior to salbutamol in achieving fast and effective dilation.

135 McMurdo JA reasoned[137] that, in any event, the existence of a responsible body of medical opinion in favour of salbutamol in circumstances where the patient had a high heart rate and high blood pressure was beside the point, inasmuch as an ambulance officer could not be expected to know of the existence of competing bodies of medical opinion and was not competent to make an assessment of their respective merits. It followed, according to his Honour, that the exercise of reasonable care required no more and no less than that Mr Peters' "consideration" of adrenaline be guided by the CPM, and, since the CPM made "sufficiently clear" that adrenaline was the preferred drug for achieving fast and effective dilation of bronchial passages, Mr Peters should have administered adrenaline immediately.

136 So to reason, however, was to repeat the mistake earlier made, albeit now in different terms, of construing the CPM as if it mandated the immediate administration of adrenaline rather than calling for an exercise in clinical judgment

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136 *Bolitho v City and Hackney Health Authority* [1998] AC 232 at 241-242 per Lord Browne-Wilkinson.

137 *Masson v Queensland* [2019] QCA 80 at [161]-[162].

which took into account the patient's discrete conditions. As has been seen, Mr Peters was required to make a clinical judgment, and he made one.

137 In order for the Estate to establish negligence, it needed to prove, on the balance of probabilities, that Mr Peters' clinical judgment fell below that standard. As the primary judge held, it did not. The Estate proved on the balance of probabilities that the majority of specialist emergency physicians operating in hospital emergency rooms in 2002 would have chosen adrenaline from the outset. But, as has been explained, the fact that the majority of specialist emergency practitioners may have chosen adrenaline from the outset does not mean that the minority who would have chosen salbutamol as first preference would have been regarded as negligent; still less that an emergency paramedic operating in the field without the assistance and certitude of the facilities of an emergency room would be so regarded.

138 Evidence as to common practices or professional opinion among emergency paramedics may have assisted[138], but such evidence of that kind as the Estate adduced was scant. The only paramedic the Estate called was Mr Kenneally, and most of his evidence-in-chief was directed to his preferred construction of the flowchart as compelling the administration of adrenaline. That accorded to the Estate's pleaded case, but, as has been seen[139], was correctly rejected. Mr Kenneally expressed the opinion in cross-examination that "[n]o one ever has a problem with adrenaline in asthma", but he also accepted that salbutamol was equally efficient as adrenaline as a bronchodilator; and, as the primary judge observed[140], he conceded that many people in Mr Peters' position in 2002 would have elected to administer salbutamol. Given that concession, Mr Kenneally's evidence, far from denying the efficacy of Mr Peters' clinical judgment, significantly supported it. Mr Hucker's evidence also supported the conclusion that Mr Peters acted in accordance with the standard expected of a competent emergency paramedic in Mr Peters' position.

139 In the result, the overall effect of the evidence led before the primary judge was that a responsible body of opinion in the medical profession in 2002 supported the view that Ms Masson's high heart rate and blood pressure in the context of her overall condition provided a medically sound basis to prefer salbutamol to

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138 *CGU Insurance Ltd v Porthouse* (2008) 235 CLR 103 at 122 [72] per Gummow, Kirby, Heydon, Crennan and Kiefel JJ.

139 See [98]-[99] above.

140 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,702 [88] per Henry J.

adrenaline at the time of initial treatment. Further, as his Honour observed[141], he was bound to bear in mind that paramedics are not medical practitioners specialising in emergency medicine. In the urgent reality with which Mr Peters was presented, he was faced with the dilemma of choosing between the administration of adrenaline, which he correctly understood would carry a real risk of worsening the patient's condition, and salbutamol, which did not carry that risk. Consistently with a responsible body of medical opinion, he chose the latter, and such evidence as there was of practice among paramedics was that it was not an inappropriate decision. The reality was, as his Honour said[142], that this was a decision which could reasonably, in light of the competing risks, have gone either way. No breach of duty of care was established.

Conclusion

140 The appeal should be allowed with costs. The orders of the Court of Appeal should be set aside, and, in their place, it should be ordered that the appeal to the Court of Appeal be dismissed with costs.

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141 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,713 [152]-[153] per Henry J.

142 *Masson v Queensland* (2018) Aust Torts Reports ¶82-399 at 66,713 [154] per Henry J.