



Defence
Safety Authority

Service inquiry

Death of a service person
following completion of a
loaded march at Catterick

24 November 2022

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Part 1.1

Covering note & glossary

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Part 1.1 – Covering note

DSA DG/SI/07/22

24 Nov 23

DG DSA

Service inquiry into the death of a service person following completion of a loaded march at Catterick on 24 November 2022

1. The service inquiry panel assembled at MOD Boscombe Down, on 12 December 2022 by order of the Director General of the Defence Safety Authority (DG DSA) for the purpose of investigating the accident involving Private Joshua Kennington, Royal Logistic Corps on 18 November 2022, and to make recommendations in order to prevent reoccurrence. The panel has concluded its inquiries and submits the provisional report for the convening authority's consideration.

2. The following inquiry papers are enclosed:

Part 1	Report	Part 2	Record of proceedings
Part 1.1	Covering note and glossary	Part 2.1	Diary of events
Part 1.2	Convening orders & TORs	Part 2.2	List of witnesses
Part 1.3	Narrative of events	Part 2.3	Witness statements
Part 1.4	Findings	Part 2.4	List of attendees
Part 1.5	Recommendations	Part 2.5	List of exhibits
Part 1.6	Convening authority comments	Part 2.6	Exhibits
		Part 2.7	List of annexes
		Part 2.8	Annexes
		Part 2.9	Schedule of matters not germane to the inquiry
		Part 2.10	Master schedule

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Royal Navy
President

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Army
Member 1

[Signature]

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Royal Air Force
Member 2

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Glossary

Abbreviation	Full naming convention
5 Med	5 Armoured Medical Regiment
AAPTI	All arms physical training instructor
ACMT	Annual combat marksmanship test
ACSO	Army command standing order
Adjt	Adjutant
ADRS	Air Data Recorder Section
AED	Automated external defibrillator
AFC	Army Foundation College
AFT	Annual fitness test
AGAI	Army General and Administrative Instruction
ALARP	As low as reasonably practicable
ALS	Advanced life support
APRC	Army Personnel Research and Consultancy
APSG	Army Personnel Services Group
ATSB	Australian Transport Safety Bureau
BCAAs	Branched-chain amino acids
BLS	Basic life support
BVM	Bag valve mask
CAD	Computer-aided despatch log
CCTV	Closed-circuit television
Ch	Chapter
CO	Commanding officer
COVID-19	Coronavirus
CPR	Cardiopulmonary resuscitation
CT	Computerised tomography
DAIB	Defence Accident Investigation Branch
DG DSA	Director General of the Defence Safety Authority
DIU	Defence Inquests Unit
█H	█ Hospital
DMICP	Defence Medical Information Capability Programme
DMS	Defence Medical Services
DMSR	Defence Medical Services Regulator
DPHC	Defence Primary Healthcare
DURALS	Defence Unified Reporting and Lessons System
EC	Emergency contact
ECG	Electrocardiogram
ED	Emergency department
ePR	Electronic patient record
EMD	Emergency medical dispatcher
FIFA	Fédération Internationale de Football Association

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GCC	Ground close combat
GDO	Garrison duty officer
	
GP	General practitioner
Gym	Gymnasium
HEMS	Helicopter Emergency Medical Services
HF	Human factors
HM	His Majesty
Hrs	Hours
HSE	Health and Safety Executive
INCREP	Incident report
INM	Institute of Naval Medicine
IRP	Intelligent Routing Platform
ITR	Individual training requirement
ITU	Intensive Treatment Unit
JCCC	Joint Casualty and Compassionate Centre
JOMOC	Joint Operational Meteorology and Oceanography Centre
JPA	Joint Personnel Administration
JSP	Joint Service Publication
KINFORM	Inform next of kin
LAD	Light Aid Detachment
LAIT	Land Accident Investigation Team
Legad	Legal advisor
LSU	Laerdal suction unit
MASA	Medical authorised sickness absence
Min	Minutes
MOD	Ministry of Defence
NHS	National Health Service
NoK	Next of kin
Non-GCC	Non-Ground close combat
NOTICAS	Notification of casualty
OC	Officer commanding
OIC	Officer-in-charge
OPA	Oropharyngeal airway
PC	Personal computer
PEA	Pulseless electrical activity
PES	Physical employment standards
PLCE	Personal load carriage equipment
PM	Post-mortem report (Autopsy report)
PSMA	Pre-Service medical assessment

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PT	Physical training
Pte	Private soldier
PTI	Physical training instructor
QM	Quartermaster
QMSI	Quartermaster sergeant instructor
R2iC	Regimental second-in-command
RA	Risk assessment
RAFCAM	Royal Air Force Centre for Aviation Medicine
RAPTC	Royal Army Physical Training Corps
REME	Royal Electrical and Mechanical Engineers
RFO	Regimental field officer
RFT(S)	Role fitness test (soldier)
RHQ	Regimental Headquarters
RLC	Royal Logistics Corps
RMO	Regimental medical officer
RMP	Royal Military Police
RMT	Representative military task
RNA	Ribonucleic acid
ROO	Regimental orderly officer
ROSC	Return of spontaneous circulation
RSM	Regimental sergeant major
SADS	Sudden Arrhythmic Death Syndrome
SCR	Solder conditioning review
SCSA	Self-certified sickness absence
Sec	Seconds
SI	Service inquiry
SIB	Special Investigation Branch
SP	Service personnel
Sqn	Squadron
SSOW	Safe Systems of Work
TOIL	Time off in lieu
TOR	Terms of reference
TRiM	Trauma risk management
UTC	Coordinated universal time
UWO	Unit welfare officer
VF	Ventricular fibrillation
Vol	Volume
VSI	Very serious injury
WHO	World Health Organisation
WS	WESSEX STORM
YAS	Yorkshire Ambulance Service

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Part 1.2

Convening order and TORs

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10 January 2023

SI President
SI Members

Hd DAIB
DSA HQ Legad

DAIB Mentor
DAIB Office Manager

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DSA DG/SI/07/22 – Service Inquiry into the death of a Service person following completion of a loaded march at Catterick on 24 November 2022 – AL1

1. In accordance with Section 343 of the Armed Forces Act 2006 and Joint Service Publication (JSP) 832 – Guide to Service Inquiries¹ and as Director General of the Defence Safety Authority (DG DSA), I have elected to convene a safety service inquiry (SI).
2. The purpose of this SI is to investigate the circumstances surrounding the incident and make recommendations to prevent reoccurrence.
3. The SI panel members commenced their administrative briefings at 0830 on Monday 12 December 2022 at the Defence Accident Investigation Branch (DAIB), B120 at MOD Boscombe Down. The SI was formally convened by me at 1000 on Monday 12 December 2022.
4. The SI panel comprises 3 members:

President: [REDACTED]
Members: [REDACTED]
[REDACTED]
5. The legal advisors to the SI are [REDACTED] and [REDACTED]. Technical investigation/inquiry support is to be provided by the DAIB and the nominated mentors for this SI are [REDACTED] and [REDACTED].

¹ Issue 1.0 dated October 2008.

[REDACTED] replacing [REDACTED]
[REDACTED].

6. The SI panel is to investigate and report on the facts relating to the matters specified in its terms of reference (TOR) at Annex A. The SI panel is to comply with its TORs and record all evidence and express opinions as directed therein. An initial report is to be submitted to me by **Monday 20 February 2023**.

7. Attendance at SI activities by advisors/observers, unless extended by the convening authority, is limited to the following:

Head DAIB – unrestricted attendance.

DAIB investigators in their capacity as advisors to the SI panel – unrestricted attendance.

Human factors specialists in their capacity as advisors to the SI panel – unrestricted attendance.

Defence Medical Services Regulator appointed medical advisor to the SI panel – as required by the SI panel.

8. The SI panel will continue its induction training at the DAIB facility at MOD Boscombe Down immediately after the SI's convening. Permanent working accommodation, equipment, and assistance suitable for the nature and duration of the SI will be requested at a location decided by the president in due course.

9. Reasonable costs will be borne by DG DSA under UIN [REDACTED]

[REDACTED]

S J Shell CB OBE MA
Air Marshal
DG DSA – Convening Authority

Annex:

A. Terms of reference for the service inquiry into the death of a Service person following completion of a loaded march at Catterick on 24 November 2022.

Record of Changes

Date	Change No.	Detail	Made by
30/05/2023	AL1	Change of DAIB mentor from [REDACTED] [REDACTED] to [REDACTED] [REDACTED] and [REDACTED] [REDACTED]	SI SO1

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**Annex A to
DSA DG/SI/07/22 Convening Order
Dated 9 December 2022**

Terms of reference for the service inquiry into the death of a Service person following completion of a loaded march at Catterick on 24 November 2022

1. As the nominated panel for the subject service inquiry (SI), you are to:
 - a. Investigate and, if possible, determine the cause of the accident, together with any contributory, aggravating and other factors and observations.
 - b. Investigate any medical factors that may touch upon the accident.
 - c. Ascertain whether service personnel (SP) involved were acting in the course of their duties.
 - d. Examine what policies, orders and instructions were applicable and whether they were appropriate and complied with.
 - e. Assess health and safety at work and environmental protection implications in line with JSP 375 and JSP 418.
 - f. Establish the level of training, relevant competencies, qualifications, and currency of the individuals involved in the accident.
 - g. Identify if the levels of planning and preparation were commensurate with the activities' objectives.
 - h. Review the levels of authority and supervision covering the task during which the incident occurred.
 - i. Investigate and comment on weather conditions, particularly the heat, relevant fatigue implications of the individual's activities prior to the matter under investigation, and any human factors that may have played a part in this accident.
 - j. Examine previous similar incidents in order to identify wider issues and trends and to consider whether any lessons identified have been actioned.
 - k. Report and make appropriate recommendations to DG DSA.
2. The investigation should not seek to attribute blame and you should use JSP 832 Guide to Service Inquiries and DSA 03.10 as guidance for the conduct of your inquiry. You are to report immediately to DG DSA should you have cause to believe a criminal or Service offence has been committed.
3. If at any stage the panel discovers something that they perceive to be a continuing hazard presenting a risk to the safety of personnel or equipment, the president should alert

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DG DSA without delay to initiate remedial actions. Consideration should also be given at this time to raising an Urgent Safety² Notice.

² This could be an advice or a recommendation safety note.

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Part 1.3

Narrative of events

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Part 1.3 – Narrative of events

Synopsis

1.3.1. At approximately 09:00³ on 18 November 2022, during a break in a physical training (PT) session at Gaza Barracks (Figure 1.3.1), Private (Pte) Joshua Kennington (referred to throughout as Pte Kennington), of the Royal Logistics Corps (RLC), attached to 5 Armoured Medical Regiment (5 Med),⁴ collapsed without warning. Pte Kennington received immediate first aid at the scene before being transferred by emergency ambulance to [REDACTED] Hospital ([REDACTED] H). Despite medical intervention he never regained consciousness and died in hospital on 24 November 2022.

Exhibit 1



Figure 1.3.1 – Gaza Barracks, Catterick Garrison.

Background

Pte Kennington's medical screening

1.3.2. Prior to enlistment in the Army, Pte Kennington was required to undergo a pre-service medical assessment (PSMA), which he undertook between 14 and 16 January 2020 at Glencorse Barracks, Penicuik. A routine electrocardiogram (ECG) formed part of the assessment and was returned as normal on 15 January 2020. The PSMA notes highlighted that Pte Kennington's entry into the Army was deferred pending further investigation of [REDACTED]. Following further tests by his local medical practice he was deemed medically fit to enter service on 3 February 2020.

Exhibit 2
Exhibit 3

³ All times are coordinated universal time (UTC).

⁴ 5 Armoured Medical Regiment was redesignated 3 Medical Regiment on 1 July 2023. At the time of the accident, the unit was 5 Med, and for the purposes of this report it will be referred to as such.

Pte Kennington's initial training

1.3.3. Pte Kennington's initial training consisted of two phases. Phase 1 training was conducted at the Army Foundation College (AFC), Harrogate, from 10 October 2020 to 5 August 2021. Alongside general education, Pte Kennington was trained and assessed on fieldcraft, skill-at-arms, and PT. Embarking on a career as a driver in the RLC, he started Phase 2 training at the Defence School of Transport, Leconfield on 10 August 2021, which he successfully completed on 25 February 2022. Pte Kennington was then posted as an attached arm⁵ to 24 Squadron (Sqdn), 5 Med on 17 March 2022.

Exhibit 4
Exhibit 5

5 Armoured Medical Regiment

1.3.4. 5 Med was a non-ground close combat (non-GCC) unit of the Army. The regiment's role was to prepare, maintain and deploy medical capability at graduated readiness, in order to contribute to the land component capability.⁶

Exhibit 6

1.3.5. **Pte Kennington's role in 5 Med.** As a driver, Pte Kennington was available to deploy with elements of 5 Med. Outside of deployments he would take part in planned exercises or form part of a pool of drivers used for routine tasking such as airport pickups and transfers around the UK. Between 30 August 2022 and 5 October 2022, he acted as a battlefield ambulance driver during Exercise (Ex) WESSEX STORM.⁷

Witness 1
Exhibit 7

Pte Kennington's lifestyle

1.3.6. Outside of work Pte Kennington was an avid gamer, frequently staying up late into the evening on his computer with friends. He was not known to smoke and consumed alcohol infrequently. However, he had a sedentary lifestyle with a diet that chiefly consisted of fast food, takeaway meals, and snacks. It was known that he enjoyed high-energy drinks, averaging two to three cans each day, though sometimes up to six.

Witness 2

1.3.7. On completion of Ex WESSEX STORM, approximately eight weeks prior to the accident, Pte Kennington and his friends had worked on improving his lifestyle. He began attending the gymnasium, played sport more frequently and worked on his fitness under the advice of others. A reduction in fast food intake and increase in healthier food choices was also reported along with the incorporation of supplements such as bulking whey protein.

Witness 3
Witness 4

⁵ Attached arms were personnel that performed roles within a regiment / unit which could not be fulfilled by serving personnel organic to that regiment / unit. Examples of this included drivers from the RLC or vehicle mechanics from the Royal Electrical and Mechanical Engineers (REME) working in a Light Aid Detachment (LAD).

⁶ Units of the British military were kept at various states of readiness for operations or tasks that ranged from immediate readiness (less than 24 hours) to very low readiness (in excess of 40 days).

⁷ Ex WESSEX STORM 3/22 was a collective training exercise that evaluated 2nd Battalion Royal Anglian Battlegroup.

Role fitness test (soldier)

1.3.8. The role fitness test (soldier) (RFT(S)) was a mandatory individual training requirement (ITR) for all serving Army personnel that ensured soldiers were tested based on the performance of role-related tasks.

Exhibit 8
Exhibit 9

1.3.9. The RFT(S) was broken down into seven representative military tasks (RMT), identified as RMT 1 to RMT 7, with differing standards for ground close combat (GCC) and non-GCC units. RMT 1 consisted of a loaded march, split into two phases. The first phase for non-GCC units was to complete a 4km march, in under 50 minutes whilst carrying 35kg of weight. The second phase was to complete a 'best effort' 2km run, carrying 21kg in under 16 minutes. Table 1.3.1 outlines the RMTs that were in force, for non-GCC units, at the time of the accident.

Exhibit 10

RMT	Description
1	Loaded march. The loaded march simulated patrolling at a slow pace while carrying personal equipment (bergen, webbing and weapon system). It measured aerobic and muscular endurance.
2	Tactical movement. This test measured a soldier's mobility, anaerobic and muscular endurance by completing multiple, short-distance crawls and sprints.
3	Casualty drag. Each soldier would drag a 110kg bag a distance of 15m within 60 seconds, measuring strength, anaerobic and muscular endurance.
4	Stretcher carry. Each soldier would carry two 22kg jerry cans a distance of 120m within 2 minutes. This test measured aerobic and muscular endurance.
5	Vertical lift. Each soldier would lift 60kg in an upright-pull motion. This test measured muscular strength.
6	Repeated lift and carry. Each soldier had to complete 28 shuttle runs within 10 minutes. Each shuttle was a distance of 15m and soldiers alternated between carrying two 22kg jerry cans or a 20kg power bag. This test measured aerobic and muscular strength.
7	Incremental lift. Each soldier had to lift a 25kg power bag off the ground and onto a 1m high platform before lifting the power bag above their head for 2 seconds. This test measured muscular strength.

Exhibit 11

Table 1.3.1 – RMTs assessed in the RFT(S).

1.3.10. **RFT(S) build-up sessions.** 5 Med's regimental PT programme included build-up sessions for the RFT(S). These sessions were conducted on a Friday morning during commanding officer's (CO) PT and took place at the Gaza Barracks gymnasium. The loaded marches took place within the grounds of Gaza Barracks. Sessions were published weekly on regimental orders and were disseminated further in Sqn orders. Parade timings, dress states, kit weight and activities were also published on these orders.

Witness 5
Exhibit 12
Exhibit 13

Pre-accident events

Pte Kennington's health over preceding weeks

1.3.11. Approximately two to three weeks leading up to the accident, Pte Kennington had complained to friends that he may have had a chest infection. He was said to have had a persistent cough, difficulty breathing and would report that his chest would hurt when lying down. Pte Kennington's friends

Witness 2
Witness 3
Witness 4

suggested that he report his symptoms to the medical centre. However, despite the condition seeming to worsen, he did not seek medical attention.

1.3.12. Coincident to the problems with his chest, friends and colleagues reported that Pte Kennington had begun to struggle with PT, where previously he had not. On one occasion it was reported that Pte Kennington could not complete a session and in the week prior to his collapse he dropped to the back of the squad during a 5km run, whereas he would normally remain in the middle or top third of runners.

Witness 4

Pte Kennington's work routine

1.3.13. The number of available RLC drivers within 5 Med had declined over the period preceding Pte Kennington's collapse. It was noted that Pte Kennington would volunteer when a driver was needed, covering up to 75% of any extra driving tasks. It was reported that the additional duties, many of which were at night, had left him feeling exhausted and that he would often be required at parade the next morning. Any time off in lieu (TOIL) was generally allocated for the following week and on numerous occasions was not honoured.

Witness 2
Witness 3
Witness 6

1.3.14. During the week of the accident, Pte Kennington had driving tasks on Monday 14 November 2022 and Wednesday 16 November 2022, with the latter lasting from 06:00 to 18:00. Additionally, on Thursday 17 November 2022, between 07:00 and 16:00 he undertook his annual combat marksmanship test (ACMT) at Strensall range. The prevailing weather conditions, a light north-westerly breeze, temperatures between 10-11 degrees Celsius and some precipitation, were not unduly unseasonal, but it was reported that Pte Kennington told friends that he could not get warm.

Witness 4
Exhibit 14

Evening prior to and morning of the accident

1.3.15. On the evening of 17 November 2022 Pte Kennington and a friend went to McDonald's to collect some food. Once back at Gaza Barracks he used his friend's scales to weigh his equipment for PT the next day. The kit weighed 11kg and Pte Kennington explained to his friend that as he was unwell, he intended to carry a lighter load. That same night whilst in his friend's room, he had a pronounced, spontaneous nosebleed.

Witness 4

1.3.16. On the morning of the accident, Pte Kennington found it difficult to get out of bed, he took no breakfast, as was his habit, and refused the offer of a pastry, stating that the smell made him feel sick. He and his friend then left for morning parade.

Witness 4

Parade for physical training (PT)

1.3.17. The various squadrons of 5 Med paraded outside their respective hangars at 08:20, where a roll call was taken, and personnel were marched to the gymnasium to attend the wider regimental PT parade. At 08:28 personnel filed into the gymnasium (Figure 1.3.2) and awaited their briefing from a member of the PT staff.

Witness 7
Exhibit 15

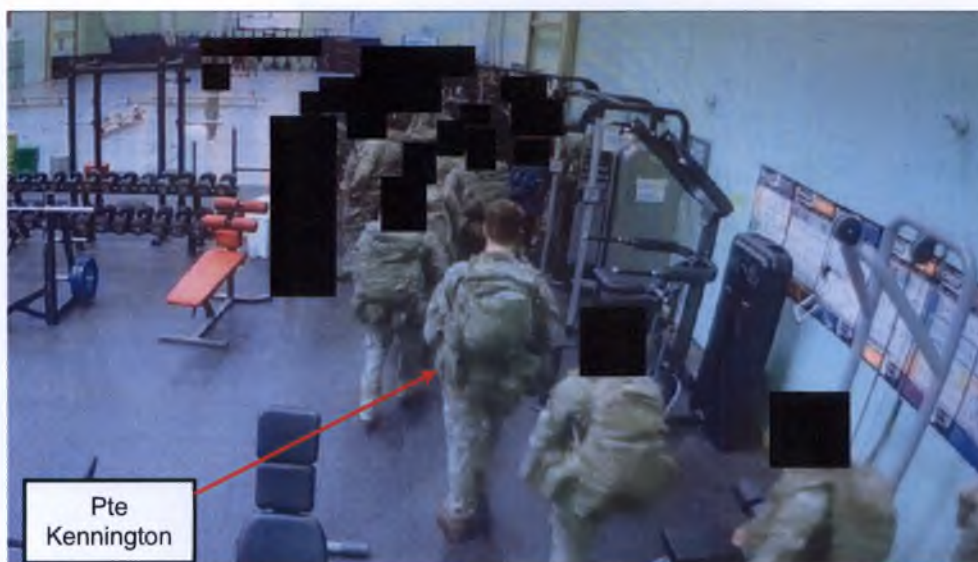


Figure 1.3.2 – Personnel filing into the gymnasium for PT parade.

1.3.18. **PT brief.** The session was being led by five physical training instructors (PTI), who are identified as PTIs 1 to 5 throughout the rest of this report. Between 08:28 and the start of the loaded march at 08:33, PTI 1 briefed assembled personnel. The brief began with PTI 1 asking mandatory safety questions including whether everyone was hydrated and had taken breakfast, whether anyone had consumed alcohol the night before, had received a vaccination within the last 72 hours, or would otherwise want to 'opt-out' of the PT session. Nobody opted out of the session.

Witness 5
Witness 8
Exhibit 16
Exhibit 17

1.3.19. **Opt-out.** To mitigate the risk of exertional collapse it was policy to allow individuals who may otherwise be fit for work to opt-out of PT if they felt they were not well enough to take part. The policy formed an additional, on-the-day, option without the individual having to report to the medical centre or self-certify as sick.

Exhibit 18

1.3.20. There were 43 serving personnel taking part in the RFT(S) build-up session. Several personnel were identified as being relevant to the accident inquiry and are identified in this report as Medics 1 to 9, Drivers 1 and 2, and Officers 1 to 4.⁸ Following PTI 1's initial brief they outlined the structure of the session before separating attendees into their relevant groups.⁹ The 43 personnel undertaking the RFT(S) build-up session were briefed on the route, shown in Figure 1.3.3, by PTI 2. Two all-arms physical training instructors (AAPTI)¹⁰ conducted the march, PTI 3 leading and PTI 4 assisting. Personnel were briefed that following the loaded march the remainder of the RMTs would be conducted by those on the build-up session.

Witness 5
Exhibit 19

⁸ All personnel relevant to the accident were either taking part in the RFT(S) build-up loaded march, or undertaking a different session in the gym as part of CO's PT.

⁹ Personnel who were not fit to undertake the RFT(S) session conducted a spinning class, those who were in-date for their RFT(S) conducted sports and the remainder, including Pte Kennington, undertook the RFT(S) build-up package.

¹⁰ A trained PTI but drawn from the parent Arm or Service. Not a fully qualified member of the Royal Army Physical Training Corps.



Figure 1.3.3 – RFT(S) loaded march route.

Loaded march

1.3.21. The loaded march commenced at 08:33 and consisted of three 1km laps of the route. The weather was dry with a temperature of 10-11 degrees Celsius. Pte Kennington was positioned toward the rear of the squad and showed no noticeable signs of difficulty throughout the march, conversing freely with Medic 1 and Drivers 1 and 2.

Witness 1
Exhibit 20
Exhibit 21

Accident events

Post-march and collapse

1.3.22. On completion of the loaded march personnel were stood in three ranks to the rear of the gymnasium, PTI 2 instructed the squad to drop their daysacks and to hydrate whilst they waited for the next phase, consisting of follow-on RMTs, to be demonstrated by PTI 5. At a time between 08:59 and 09:06 Pte Kennington was seen to stumble without warning and then fall.¹¹ Driver 1 grabbed Pte Kennington's webbing to arrest his fall, however, it was not effective and Pte Kennington's head was seen to hit the tarmac. Driver 1 immediately shouted for a medic.

Witness 8
Witness 9

¹¹ The time is bounded by two known events, the completion of the first part of PT, during which Pte Kennington was conscious, and the time at which the 999 call was made after his collapse.



Figure 1.3.4 – Rear of gymnasium / approximate location of accident.

Immediate first aid

1.3.23. **Immediate actions.** Medic 2 described people being in shock at Pte Kennington's collapse, so immediately told others to roll him over, remove his kit and to elevate his legs. Driver 1 described Pte Kennington as trying to breathe and having checked his radial pulse, noted it was weak. He was also described as having a large cut across his face. Medic 3 was sufficiently concerned to return to the gymnasium to direct someone to call an ambulance. At 09:06, PTI 1 called 999 using their personal mobile phone.

Witness 9
Witness 10
Witness 11
Exhibit 22

1.3.24. Within minutes of his collapse, Pte Kennington was moved onto the grassed area and placed on an exercise mat. At this point Medic 2 noticed that his breathing had stopped. Medic 4 took charge of the incident and shouted for equipment including an automated external defibrillator (AED),¹² a Laerdal suction unit (LSU)¹³ and medical bergens.¹⁴ Prior to delivery of the AED, Medic 5 could not find a pulse and started cardiopulmonary resuscitation (CPR), the first round of which took place at a point between Pte Kennington's collapse and 09:11.¹⁵

Witness 10
Witness 12
Witness 13

1.3.25. **AED and CPR.** At 09:11¹⁶ the AED arrived, was attached to Pte Kennington and powered on. After performing its initial analysis, a shock was advised and subsequently delivered. CPR recommenced immediately after the shock was delivered with Medics 3 and 5 alternately performing rounds of compressions and Medic 4 delivering rescue breaths. CPR was stopped at 9:13am so that the AED could perform its next analysis cycle. A second shock

Witness 11
Witness 12
Witness 13
Exhibit 23

¹² An AED was an electronic emergency medical device which could deliver an electrical shock to a patient in order to restore the heart's normal rhythm.

¹³ An LSU was a portable, battery powered, suction unit used to clear a patient's airway if obstructed by an accumulation of fluids.

¹⁴ At some stage two LSUs were delivered, two medical bergens containing various pieces of equipment and portable oxygen.

¹⁵ One round of CPR consists of 30 chest compressions and two rescue breaths.

¹⁶ Precise timings from the AED data download are contained in the accident timeline at para 1.3.39 below.

was advised and subsequently delivered. Rounds of CPR, delivered by the same individuals, recommenced on completion of the second shock and continued until the third analysis cycle at 09:16 whereupon a third, and final shock using the AED, was delivered.

1.3.26. **Airway.** Concurrent to the AED and CPR activity, [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED], the medics could not secure the airway at any point. A bag valve mask (BVM)¹⁸ was used to improve Pte Kennington's ventilation.

Witness 12

1.3.27. At 09:17 the first ambulance arrived at the main gate of Gaza Barracks. It was met by a member of 5 Med who directed the ambulance to Pte Kennington's location. The AED conducted a further 2 analysis phases at 09:18 and 09:20 respectively; the system did not advise delivery of a shock after either analysis, though CPR was continued. A fast response car with a specialist urgent care paramedic arrived at the main gate at 09:19.

Witness 14
Exhibit 23
Exhibit 24
Exhibit 25

NHS handover

1.3.28. **Initial presentation.** In response to the 999 call Yorkshire Ambulance Service (YAS) despatched four units, two double-crewed ambulances and two fast response cars with paramedics trained in critical care, which arrived on scene at various times.¹⁹ The first unit, a double-crewed ambulance, carrying two paramedics, arrived at Pte Kennington's side and conducted a primary survey, reporting at 09:20 that he had suffered a cardiac arrest. The log of the paramedic in charge noted, at 09:21, that Pte Kennington was unresponsive, was not breathing, had no pulse and had an occluded airway. The 5 Med AED was removed from Pte Kennington at 09:21 and was replaced with equipment from the ambulance.

Exhibit 23
Exhibit 26
Exhibit 27

1.3.29. **Treatment.** During Pte Kennington's treatment, the paramedics administered [REDACTED] at 09:21, 09:26 and 09:31 respectively. After the final dose was administered, they reported a return of spontaneous circulation (ROSC).²⁰ By 09:31 the paramedics also succeeded in placing an advanced airway and noted it made a slight improvement, [REDACTED]. At 09:38, the paramedics informed control²¹ that they were placing Pte Kennington onto a scoop²² to move him into the ambulance and that he may

Exhibit 27
Exhibit 28
Exhibit 29
Exhibit 30
Exhibit 31

¹⁷ The Suction Easy™ was a manual suction device used to extract fluid from the oral pharynx area.

¹⁸ A BVM consisted of a self-inflating bag and reservoir used to provide positive pressure ventilation to patients who were either not breathing or were breathing inadequately.

¹⁹ Only units that took part in Pte Kennington's treatment feature in this section of the report.

²⁰ ROSC is defined as the resumption of a sustained heart rhythm that perfuses (supplies an organ or tissue with blood) the body after cardiac arrest.

²¹ Control referred to the local ambulance service's emergency operations centre where the call handlers were given all the information related to a medical emergency.

²² A specialised stretcher used for moving injured people.

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require intubation. This information was passed onto a specialist helicopter emergency medical service (HEMS) paramedic, who was enroute and trained to intubate patients.²³ The HEMS paramedic arrived on scene in a rapid response car at 09:42. Pte Kennington was intubated and ventilated by 10:05, at which point the first ambulance departed with Pte Kennington on board. The ambulance arrived at [REDACTED] H at 10:18.

Post-accident events

Joint Casualty and Compassionate Centre (JCCC)

1.3.30. Following Pte Kennington's collapse, 5 Med raised a notice of casualty (NOTICAS) to JCCC. JCCC agreed that the CO could inform Pte Kennington's parents; this call took place at approximately 12:40.

Witness 15
Exhibit 32
Exhibit 33

Quarantine of equipment

1.3.31. Following the incident, all medical equipment that was at the scene was quarantined in the 24 Sqn stores at Gaza Barracks. This was to make sure that equipment was available for the service inquiry panel to analyse, if required. Table 1.3.2 shows the list of equipment which was quarantined.

Exhibit 34

Item	Quantity	Remarks
LSU	2	Used for medical treatment.
AED	1	Used for medical treatment.
BVM	1	Used for medical treatment.
Philips HEARTSTART	1	Not used for medical treatment.
TEMPUS PRO patient monitor	1	Not used for medical treatment.
Doctor's bergen	1	Contained medical equipment.
Medical bergen	1	Contained medical equipment.
Oxygen bottle	2	Used for medical treatment.
Pte Kennington's webbing	1	Personal kit.
Pte Kennington's daysack	1	Personal kit.
Gymnasium scales	2	Owned by the gymnasium.

Table 1.3.2 – List of quarantined equipment.

Major incident group

1.3.32. The regimental headquarters (RHQ) established a major incident group to carry out the actions specified in the regiment's standing orders. The following personnel were present: CO, regimental second-in-command (R2iC), adjutant (Adj), quartermaster (QM), quartermaster sergeant instructor (QMSI), officer commanding (OC) 35 Sqn, unit welfare officer (UWO), regimental sergeant major (RSM), regimental medical officer (RMO) and regimental field officer (RFO). Table 1.3.3 contains a record of the actions that took place at 10:30 on 18 November 2022.

Witness 6
Exhibit 33
Exhibit 35

²³ Intubation was a procedure that was used when a patient was unable to breathe on their own. A tube was placed into the windpipe to make it easier for air to move in and out of the lungs.

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Action owner	Action
Adjt	Contact Royal Military Police.
	Contact media operations cell.
	Produce an incident report (INCREP).
QM	Contact Defence Accident Investigation Branch (DAIB).
	Quarantine and isolate medical equipment.
RFO	Produce a notification of casualty (NOTICAS).
	Notify the garrison duty officer (GDO).
RSM	Prepare trauma risk management (TRiM) for Monday 21 November 2022.

Table 1.3.3 – Actions taken by major incident group.

1.3.33. Following the major incident group, the regimental orderly officer (ROO) was directed to attend [REDACTED] and act as the liaison officer between the hospital's medical staff and the regimental command staff.

Witness 6
Exhibit 36

Trauma risk management (TRiM)

1.3.34. TRiM was the endorsed strategy for providing armed forces personnel with support following a traumatic incident. TRiM was conducted for personnel involved in the treatment of Pte Kennington, including his friends within 5 Med.

Witness 15
Exhibit 37

Defence Unified Reporting and Lessons System (DURALS) and informing the Defence Accident Investigation Branch (DAIB)

1.3.35. **DURALS report.** The reporting of the incident to wider defence to initiate response actions was undertaken using DURALS,²⁴ which included a copy of the immediate 5 Med investigation report.

Exhibit 38
Exhibit 39

1.3.36. **The DAIB.** The DAIB was informed by a member of 5 Med, over the telephone, of the incident at 10:59 on 18 November 2022. A triage team was deployed and arrived on scene at 19:00 the same day.

Exhibit 35

Cause of death

1.3.37. **Death.** [REDACTED]
[REDACTED]
[REDACTED] death confirmed at 08:55.

Exhibit 1

Accident timeline

1.3.38. **Timeline of events.** Figure 1.3.5 shows the timeline of events that occurred on 18 November 2022.

²⁴ DURALS was an online system allowing users to report accidents. The aim of this multifunctional platform was to support organisational learning through risk identification and management (RIM), trend analysis and knowledge exploitation (KE).

²⁵ [REDACTED]

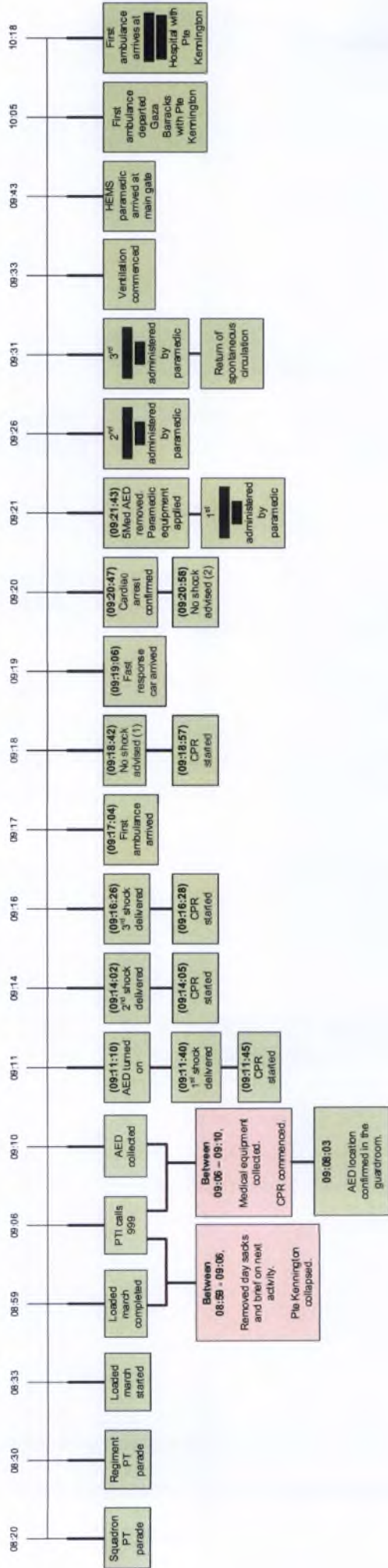


Figure 1.3.5 – Timeline of events.

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Part 1.4

Analysis and findings

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Part 1.4 – Analysis and findings

1.4.1. All times are local²⁶ for the time of the accident and are expressed in hours and minutes (hrs:min), timings derived from electronic equipment such as automated external defibrillator (AED) or the ambulance service computer aided dispatch (CAD) log is expressed in hours, minutes and seconds (hrs:min:sec).

Introduction

1.4.2. The main body of this part of the report contains the analysis and findings of the service inquiry (SI) panel, split into the following sections:

- a. Section 1: Cause of death and medical history.
- b. Section 2: Physical training – policy, risk mitigation and execution.
- c. Section 3: The accident and medical treatment.
- d. Section 4: Accident reporting and trend analysis.

1.4.3. **Medical causation.** The panel differentiated medical causation from the 'causal factors' defined in paragraph 1.4.5 (a-e). An SI's principal aim was to identify lessons that defence could take forward to mitigate the risk of similar accidents happening in the future, making targeted recommendations that could be tracked to closure. To that end, for the purpose of this report, the accident factors were limited to those in which defence could identify lessons and apply measures to reduce the likelihood of recurrence. While it was not the purpose of the SI to ascertain the cause of death, the panel subjected it to analysis in order to provide context to the reader and act as the foundation for the report's recommendations.

Methodology

1.4.4. The panel divided the investigation and analysis into four sections, considering safe people, safe equipment, safe places and safe practices, incorporating elements of the Australian Transport Safety Bureau (ATSB) safety accident investigation methodology in order to capture any organizational factors. The investigation areas covered in this part of the report broadly follow a fact, analysis and conclusion style.

Accident factors

1.4.5. Once an accident factor had been determined to have been present it was then assigned to one of the following categories:

- a. **Causal factor(s).** 'Causal factors' are those factors which, in isolation or in combination with other causal factors and contextual

²⁶ Coordinated universal time (UTC) also referred to as Greenwich mean time (GMT).

details, led directly to the incident or accident. Therefore, if a causal factor was removed from the accident sequence, the accident would not have occurred.

b. **Contributory factor(s).** 'Contributory factors' are those factors which made the accident more likely to happen. That is, they did not directly cause the accident. Therefore, if a contributory factor was removed from the accident sequence, the accident may still have occurred.

c. **Aggravating factor(s).** 'Aggravating factors' are those factors which made the final outcome of the accident worse. However, aggravating factors do not cause or contribute to the accident. That is, in the absence of the aggravating factor, the accident would still have occurred.

d. **Other factor(s).** 'Other factors' are those which, whilst shown to have been present, played no part in the accident in question but are noteworthy in that they could contribute to or cause a future accident. Typically, other factors would provide the basis for additional recommendations or observations.

e. **Observations.** 'Observations' are points or issues identified during the investigation that are worthy of note to improve working practices, but which do not relate to the accident being investigated and which could not contribute to or cause future accidents.

Probabilistic terminology

1.4.6. The probabilistic terminology detailed in Figure 1.4.1 clarifies the terms used in this report to communicate levels of uncertainty within the text. It is based on terms published by the Intergovernmental Panel on Climate Change in their guidance note for Consistent Treatment of Uncertainties²⁷ as well as the ATSB in their paper on Analysis, Causality and Proof in Safety Investigations.²⁸

²⁷ <https://www.ipcc.ch/pdf/supporting-material/uncertainty-guidance-note.pdf>.

²⁸ <https://www.atsb.gov.au/media/27767/ar2007053.pdf>.

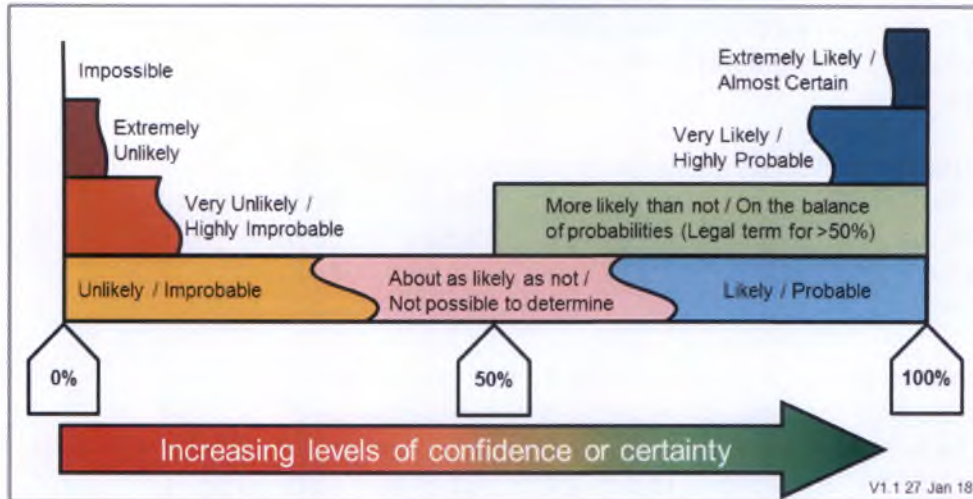


Figure 1.4.1 – probabilistic terminology.

Available evidence

1.4.7. The panel had access to the following evidence:

- a. The Defence Accident Investigation Branch (DAIB) triage report.
- b. The DAIB deployment record.
- c. Formal witness interviews.
- d. Key Ministry of Defence (MOD) and Army policy and documentation.
- e. Environmental and weather data from Joint Operational Meteorology and Oceanography Centre (JOMOC).
- f. Unit risk assessments (RA).
- g. Defence Unified Reporting and Lesson System (DURALS) reports produced by 5 Med.
- h. Maintenance records for medical equipment used to treat Pte Kennington at the scene of the accident.
- i. Army human resources information from the 'MUSTER' application.²⁹
- j. Pte Kennington's service medical records and pre-joining medical screening from the Defence Medical Information Capability Programme (DMICP) system.

²⁹ MUSTER is a personnel management and task tracking tool.

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- k. Pte Kennington's electronic patient record (ePR) detailing his treatment by NHS paramedics.
- l. Pte Kennington's hospital admission notes detailing his treatment at ■■■H.
- m. Technical data taken from the unit AED used during Pte Kennington's initial treatment.
- n. Physical evidence including:
 - (1) Pte Kennington's daysack and webbing used on the day, including items contained within the same.
 - (2) Pte Kennington's various health supplements.
 - (3) Pte Kennington's partially completed driving time sheets.
 - (4) Medical equipment used in the treatment of Pte Kennington.
- o. Various media including:
 - (1) Photographic evidence produced by the DAIB triage team.
 - (2) Photographs taken by the SI panel.
 - (3) Closed-circuit television (CCTV) video from the Gaza Barracks' gymnasium (gym).
 - (4) 999 voice calls produced by the YAS.
- p. Reports:
 - (1) Technical report of 5 Med's AED produced by Zoll Medical.
 - (2) Post-mortem (PM) report produced by a consultant pathologist at ■■■H, including second opinion by professor of histopathology at ■■■■■ Hospital.
 - (3) Expert medical reports by a Defence consultant in cardiology.
 - (4) Human factors (HF) reports provided by psychologists at the Army Personnel Research and Consultancy (APRC) and the DAIB HF specialist.

Services

- 1.4.8. The panel were assisted by the following agencies:
- a. Defence Accident Investigation Branch (DAIB).
 - b. Yorkshire Ambulance Service (YAS).
 - c. Defence Medical Services Regulator (DMSR).
 - d. Zoll Medical.
 - e. Army Personnel Research and Consultancy (APRC).
 - f. [REDACTED] Hospital ([REDACTED]H).
 - g. His Majesty's (HM) Coroner for [REDACTED]
 - h. Defence Inquests Unit (DIU).
 - i. QinetiQ, air data recorder section (ADRS).
 - j. Institute of Naval Medicine (INM).
 - k. 'K International' transcription services.
 - l. Royal Air Force Centre for Aviation Medicine (RAFCAM).
 - m. Joint Casualty and Compassionate Centre (JCCC).
 - n. Fifth Armoured Medical Regiment (5 Med).
 - o. Defence Medical Services (DMS).
 - p. Army Personnel Services Group (APSG).
 - q. Capita.
 - r. North Yorkshire Police.
 - s. Special Investigation Branch (SIB), Royal Military Police (RMP).
 - t. Defence Primary Healthcare (DPHC).

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Analysis of factors

Section 1: Cause of death and medical history

1.4.9. **Introduction.** The following section evaluates the cause of Pte Kennington's death and analyses his medical history (both service and pre-service), medical screening and lifestyle. The aim of the section was to determine whether his accident was foreseeable, and therefore whether it was preventable. Part of this analysis therefore, necessarily considered whether there were any factors that increased his susceptibility to a sudden death.

Key findings

1.4.10. The panel made the following findings in this section:

- a. Pte Kennington suffered a cardiac arrest and died of hypoxic brain injury due to a lack of oxygen. The mechanism by which he went into cardiac arrest was sudden arrhythmic death syndrome (SADS).
- b. Pte Kennington had no underlying conditions that were suggestive of an increased risk of sudden cardiac death³⁰ and the medical screening undertaken as part of his recruit selection was robust and fit for purpose.
- c. There was no firm evidence to suggest Pte Kennington's lifestyle contributed in any way to his death.
- d. Pte Kennington had the opportunity to report a suspected chest infection to a medical professional but chose not to.
- e. There was not enough evidence to positively determine whether he had a pre-existing pneumonia on the date of his accident.
- f. There was no evidence to suggest that a pre-existing pneumonia would have been causal in any event.
- g. Private Kennington's death was not foreseeable.

Medical cause of death

1.4.11. The panel had access to Pte Kennington's post-mortem (PM) report, which was delayed in publication due to the need for a second opinion, conducted by a professor of histopathology.³¹ A medical expert (a consultant cardiologist)³² also provided the panel with a bespoke medical report which was based on all the pre and post medical findings identified during the investigation, including lifestyle, physical fitness and other environmental

Exhibit 40

³⁰ Sudden cardiac death was used as an umbrella term for all cardiac deaths that occurred suddenly, with sudden arrhythmic death syndrome (SADS) being one form of sudden cardiac death.

³¹ A branch of pathology that specialises in the examination of tissue and cell samples in order to study changes and abnormalities associated with diseases.

³² The Defence consultant in cardiology was provided by DMS and held expertise in cardiac electrophysiology and was the Defence expert in sudden cardiac death.

factors. The PM examination, conducted on 8 December 2022 at [REDACTED]H, identified the cause(s)³³ of death as:

- a. PM part 1-a: Hypoxic brain injury.
- b. PM part 1-b: Acute cardiac failure.
- c. PM part 1-c: Sudden adult death syndrome.³⁴
- d. PM part 2: Early terminal bronchopneumonic changes.

1.4.12. The second opinion supported a diagnosis of hypoxic brain injury, but broadly hypothesised an underlying cause of either SADS, or an exercise related sudden death. The expert medical report provided to the panel also suggested hypoxic brain injury with a causal condition of SADS.

Exhibit 41
Exhibit 42

1.4.13. It was clear that all three expert commentators agreed that the ultimate cause of death was a result of hypoxic brain injury. This meant that the lack of oxygen to the brain led to permanent damage to its functions; unlike other organs the brain is highly sensitive to hypoxia and was unable to recover. The key difference in the medical evidence came down to the assessment of the cause of Pte Kennington's cardiac arrest.

Exhibit 43

1.4.14. SADS was defined by a sudden death that was presumed, or proved, to be due to an arrhythmia and it must have occurred in a heart that was found to be normal at the PM. SADS was effectively a subset of sudden arrhythmic deaths within people who had an otherwise normal heart.

Exhibit 44

1.4.15. The panel had the benefit of an analysis report, downloaded by the manufacturer of the AED used during the treatment of Pte Kennington, which recorded his cardiac output and other key events. The initial rhythm recorded on the AED showed Pte Kennington to be in ventricular fibrillation (VF).³⁵ The expert attached to the panel opined that Pte Kennington's collapse with loss of consciousness was a result of an arrhythmia which had degenerated into VF. His collapse was sudden, and witnesses described how he did nothing to arrest his fall or try to protect himself; when all of this was considered, alongside the finding that his heart was structurally normal, the panel concluded it was highly probable that the causal condition that led to Pte Kennington's death was SADS.

Exhibit 23
Exhibit 45
Exhibit 46

1.4.16. The panel was not persuaded by the alternate hypothesis, raised by the professor of histopathology, that Pte Kennington's arrhythmia and cardiac arrest could have been exercise related. The panel's medical expert had

Exhibit 47

³³ The NHS guidance at the time followed the recommendations of the World Health Organisation (WHO) on listing causes of death in medical certificates. It recommended that cause(s) of death be listed in parts; part 1 contained the direct cause of death with its antecedent parts following sequentially, so that cause 1a would be the direct cause of death and the final cause in that part would be attributed to the condition which led to those above it. Part 2 was reserved for conditions present at the time of death which were known or suspected to have contributed to death. The guidance was set out in: [Guidance for doctors completing medical certificates of cause of death in England and Wales \(accessible version\) - GOV.UK \(www.gov.uk\)](#)

³⁴ Sudden adult death syndrome and sudden arrhythmic death syndrome were used interchangeably by medical professionals. The panel prefers the latter term.

³⁵ A fast, chaotic heart rhythm that occurred in the heart's ventricles (lower chambers) that stopped the heart beating effectively and resulted in loss of consciousness, if not reversed it would lead to a cardiac arrest.

access to more background information, including the relative intensity of the exercise, than the professor did, as such they were in a better position to gauge any impact it may have had on Pte Kennington. Additionally, the panel's expert opined that sudden cardiac death in exercise tended to include an underlying cardiac condition; they went on to state that there was no high-quality evidence within the medical literature to support the idea that exercise alone could cause sudden death.

1.4.17. Taking together a sudden death, with evidence of an arrhythmia and an otherwise normal heart, the panel accepted the conclusion of their medical expert that it was highly probable that the causal sequence of Pte Kennington's death was most appropriately described as SADS. Pte Kennington's cardiac arrest led to a hypoxic brain injury, due to the brain becoming starved of oxygen.

Exhibit 48

Pte Kennington's pre-accident medical history

1.4.18. **Introduction.** In light of Pte Kennington's accident and death, the panel felt it necessary to conduct an examination into his pre-accident medical history, and his pre-service medical assessment (PSMA). The rationale behind analysing these events was to understand whether there was anything in his medical history to indicate an increased susceptibility to sudden death. Additionally, it allowed the panel to assess whether the PSMA was a suitable and effective assessment at the time of his enlistment in the Army.

1.4.19. **Pre-enlistment medical history.** Pte Kennington was born on [REDACTED] a review of his medical history from birth, until enlistment in the Army revealed nothing of significance. The panel concluded that the lack of significant medical events over this period did not warrant detailed analysis and concluded that there was nothing in his pre-enlistment medical history to suggest an increased risk of sudden death and was, therefore, **not a factor** in his accident.

Exhibit 49
Exhibit 50

1.4.20. **Medical screening.** Prior to enlistment, it was a pre-requisite for recruits to undergo a medical screen known as a PSMA. Pte Kennington attended his screening between 14-16 January 2020. The PSMA was conducted in accordance with the Army medical employment policy in force from December 2019 and was completed in full.³⁶ A family history³⁷ revealed no episodes of cardiomyopathy,³⁸ or other heart conditions and no history of sudden death under the age of 40. He was required to take an electrocardiogram (ECG), which identified no abnormalities; therefore, no further investigation was conducted. Two minor problems³⁹ were highlighted during his assessment leading to a deferral decision pending further investigation. On 3 February 2020, following confirmation from Pte Kennington's general practitioner (GP) that the concerns had been resolved, he was declared fit to enter the Army.

Exhibit 2
Exhibit 51
Exhibit 52

³⁶ Army General and Administrative Instruction Volume 2 Chapter 78, Army Medical Employment Policy, dated December 2019.

³⁷ This was a stereotyped component of the PSMA and consisted of a self-declaration by Pte Kennington.

³⁸ A group of diseases that affect the heart muscle.

³⁹ [REDACTED]

1.4.21. In respect of the PSMA the panel asked their medical expert three specific questions:

- a. Whether Pte Kennington had a heart condition that was capable of being detected by the recruit medical screening in force at the time?
- b. Whether any such condition was or was not detected?
- c. Whether any such condition could have been detected through changes to screening policy and, if so, what changes would be required?

1.4.22. In answering these questions, the medical expert explained that no heart condition was detected at the screening and since no disease was found during the PM, they had nothing to use as a guide to improve the screening system. However, they did explain that the system of recruit medical screening was performed robustly and to a standard that was more stringent than any international guidelines on athletic screening and ECG interpretation.⁴⁰ The screening involved consideration of the recruit's previous medical history, a family history questionnaire and self-declaration, physical examinations, and an ECG. If the results of the physical examination or ECG raised concerns about a recruit's cardiac health they would be subjected to further tests, including an echocardiogram.⁴¹

Exhibit 53

1.4.23. The panel also noted that no screening test could eliminate the risk of sudden arrhythmic death entirely. It was explained that some inherited diseases were progressive, ECG abnormalities could be intermittent, and certain causes of sudden arrhythmic deaths were not detectable. The panel was almost certain that the medical conducted during Pte Kennington's recruitment could not have done anything more to assess his susceptibility to SADS, and that no changes could be made to the system that would have improved the chances of detecting that condition.

Exhibit 54

1.4.24. The panel concluded that the system for assessing a recruit's fitness prior to enlistment in the Army was robust and fit for purpose. It was highly improbable that any changes could have been made that would improve the chances of detecting a recruit's susceptibility to SADS. The PSMA was, therefore, **not a factor** in Pte Kennington's accident.

1.4.25. **Post-enlistment medical history.** Pte Kennington commenced training at the Army Foundation College (AFC) Harrogate on 10 October 2021. From commencement of training to the date of the accident he had a generally benign medical history. Key incidents over that time consisted of:

Exhibit 4
Exhibit 50
Exhibit 55
Exhibit 56
Exhibit 57

- a. 22 January 2021 – Confirmed COVID-19 infection.
- b. 1 March 2021 – Second confirmed COVID-19 infection.

⁴⁰ The expert gave the example that the standards were more stringent than those advocated by the American College of Cardiology, European Society of Cardiology, the International Olympic Committee, and Fédération Internationale de Football Association (FIFA).

⁴¹ An echocardiogram, often called an echo, used ultrasound to examine the structures of the heart.

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- c. 9 July 2021 – Pte Kennington over-heated whilst on exercise and required medical attention.
- d. 4 December 2021 – Pfizer BioNTech COVID-19 vaccination administered.⁴²
- e. 17 March 2022 – Pfizer BioNTech COVID-19 booster vaccination administered.

1.4.26. The panel deemed it necessary to examine significant medical events within Pte Kennington's service medical record in order to ascertain whether they indicated he was possibly at a higher risk of arrhythmia and subsequent collapse. While the medical records outlined in paragraph 1.4.25.(a-e) are in chronological order, for the purpose of analysis and for ease of reading, this discussion will group like-events together.

1.4.27. **COVID-19.** The panel found no evidence to suggest that Pte Kennington suffered from long-COVID-19⁴³ or any aftereffects resulting from COVID-19 vaccinations. The medical expert explained that the most severe adverse reactions had been found amongst young males who had received the RNA⁴⁴ vaccine types and that these reactions could include myocarditis.⁴⁵ The panel found that Pte Kennington did receive the RNA type vaccines, with his last vaccine being administered 8 months prior to his accident and his last confirmed case of COVID-19 being some 20 months prior to the accident.

Exhibit 55
Exhibit 56
Exhibit 58

1.4.28. It was the opinion of the medical expert that Pte Kennington's last COVID-19 vaccine and last confirmed case of the virus were too distant in time to be a relevant factor. The panel noted that Pte Kennington tested negative for COVID-19 on admission to hospital and concluded that it was extremely unlikely that COVID-19 or vaccination played any part in his collapse and subsequent death; they were, therefore, **not a factor**.

Exhibit 58

1.4.29. **Potential heat illnesses.** Historical evidence suggested that people were more susceptible to heat illnesses if they had suffered previously. Therefore, the panel was interested in this occurrence purely to ascertain whether he had previously suffered from the effects of heat illness. During an incident, on 9 July 2021 on the Otterburn training area (outlined in paragraph 1.4.25.(c)), Pte Kennington was recorded as feeling hot and dizzy; unit-based medics attended to him at the scene, where his section commander had removed his equipment and ensured that he was taking additional fluids. The treatment card contained scant detail, however, amongst other things a temperature of 36.6 degrees Celsius was recorded.

Exhibit 57
Exhibit 59

⁴² Pte Kennington's medical record lists the first vaccine as a booster and the second as a vaccine, the panel believes this to be an erroneous entry.

⁴³ Defined by WHO as the continuation or development of new symptoms three months after the initial covid infection, with these symptoms lasting for at least 2 months, with no other explanation. (www.yalemedicine.org/news/long-covid-symptoms#:~:text=The%20World%20Health%20Organization%20)

⁴⁴ RNA was an abbreviation of ribonucleic acid, a nucleic acid present in all cells that carried instructions from DNA (deoxyribonucleic acid) for the synthesis (production) of proteins. The RNA type vaccines utilised mRNA (the messenger type of RNA) to work.

⁴⁵ Inflammation of the heart muscle or the heart tissue (myocardium).

1.4.30. Having examined the medical record, the panel's expert opined that the symptoms described, which lacked a core body temperature above 40 degrees Celsius, breathlessness, confusion, nausea and vomiting, were inconsistent with a heat illness. Additionally, Pte Kennington's recovery without further treatment or assessment and lack of any evidence to support heat illness, led the panel to conclude that it was unlikely the event on 18 November 2022 was related to heat. The panel concluded that it was extremely likely that heat illness was **not a factor** in his accident.

Exhibit 60

1.4.31. The panel did not discover anything in Pte Kennington's medical history that would indicate a predisposition to SADS. Furthermore, the panel determined that it would not have been possible to detect any such condition during the PSMA regime in force at the time of his enlistment. His previous medical history was benign and instances of COVID-19, and associated vaccinations were deemed too remote in time to be considered relevant to the accident.

Pre-accident fitness and lifestyle

1.4.32. **Introduction and lifestyle.** Witnesses close to Pte Kennington reported that computer gaming was his key passion outside of work; he had a gaming personal computer (PC) in his room and he and his friends would stay up until late at night playing online multi-player games. Along with this, the panel was told that until approximately six-weeks before his accident Pte Kennington's diet had chiefly consisted of fast-food, snacks and energy drinks.

Witness 2
Witness 4

1.4.33. **Energy drinks and fast food.** The panel heard that Pte Kennington would eat upwards of five fast-food meals a week, in addition to any he took whilst on driving duties.⁴⁶ He would also drink upwards of five energy drinks, such as ██████████ and ██████████ each day. The panel was informed of an occasion where he had more than one type of energy drink open at a time and alternated between the two.

Witness 2

1.4.34. **Improvements to lifestyle.** On completion of Exercise WESSEX STORM (Ex WS), on 5 October 2022, the panel was told that Pte Kennington had made changes to his lifestyle. He began to attend the gym regularly, encouraging colleagues to join him, took part in football and was eating healthier food. His intake of energy drinks had also reduced to around two per day.

Witness 2
Witness 3
Witness 4

1.4.35. The panel accepted the premise that exercise and a well-balanced diet were important considerations in maintaining a healthy body. However, the panel was also keen to ensure that pre-conceptions about Pte Kennington's diet did not unduly influence any conclusions drawn in this report. Whilst the panel found that Pte Kennington's lifestyle, prior to Ex WS, had the potential to be unhealthy, they found no evidence to suggest it had played any part in his accident. In any event, approximately six weeks prior to his accident Pte Kennington had made substantially positive steps to improve his lifestyle, including regular attendance at the gym, a reduction in the amount of fast-food he ate and a reduction, by at least 50%, in his daily intake of energy drinks.

Witness 2
Witness 3
Witness 4
Exhibit 61

⁴⁶ The panel found receipts for 3 fast-food meals in one day, dated 16 November 2023, the day he was on a driving detail.

The panel found that such changes were very likely to be beneficial to his health and concluded that it was likely Pte Kennington's diet and lifestyle were **not a factor** in his accident.

Potential pre-accident illness

1.4.36. **Introduction and illness.** The panel heard multiple accounts that Pte Kennington had been unwell in the weeks preceding his accident.⁴⁷ Those accounts described a reduction in his performance during PT, explaining that he would be found toward the rear of running groups, and on one occasion could not finish the run at all. Various colleagues used the term 'chest infection'⁴⁸ to describe symptoms of chest pain, a cough, difficulty breathing, and pain when lying down. It was noted that the PM examination found evidence of a pneumonia in Pte Kennington's lungs.⁴⁹ However, the panel was also told that such changes would have been expected as a result of mechanical ventilation and the hospital care that he received.

Witness 2
Witness 3
Witness 4
Exhibit 62

1.4.37. **Reporting sick.** In the weeks preceding the accident, and on the morning itself, Pte Kennington had the option of reporting his symptoms to a medical professional. Had he reported to the medical centre he would have been properly assessed and, if his symptoms had warranted it, he would have been granted a medical authorised sickness absence (MASA).⁵⁰ The panel also discovered that he could have self-certified as sick, under the self-certified sickness absence (SCSA) regime.⁵¹ Despite being encouraged to attend the medical centre, he told colleagues that he would be fine. The panel found no evidence that Pte Kennington saw a medical professional over this period. Some of those interviewed expressed an opinion that he may have come under scrutiny for reporting sick, and they believed that may have influenced his decision.

Witness 3
Witness 4
Exhibit 63

1.4.38. The evidence from Pte Kennington's friends and colleagues, which was corroborated by a source unconnected to the Army,⁵² made the panel certain that he was unwell in the weeks preceding his accident. The exact nature of that illness, however, was less clear. The PM findings of pneumonic changes in both lungs, allied with the symptoms outlined above, could present an attractive argument that Pte Kennington had a pre-existing pneumonia. However, the fact that bronchopneumonic changes would be expected after the treatment he received in hospital, coupled with a lack of a pre-accident diagnosis, meant that the panel was neither able to determine from what he was suffering, nor its severity. The panel concluded that it was not possible to determine whether there was a causal link between his symptoms and

Exhibit 41
Exhibit 64

⁴⁷ An unrecorded discussion, between the panel president and Pte Kennington's former partner, estimated the illness to have been present on or around 31 October 2022.

⁴⁸ This was never formally diagnosed prior to the accident.

⁴⁹ Noted as 'early terminal bronchopneumonic changes' which described changes in the bronchioles of the lungs due to a pneumonia.

⁵⁰ MASA was an authorised absence, on medical grounds for a period of up to 5 days, it could only be authorised by a medical officer, defence medical services nurse or physiotherapist.

⁵¹ SCSA was a self-certified absence and was intended to cover self-limiting conditions that would likely resolve within 48 hours without the intervention or treatment of a medical professional. A service person could self-certify for a maximum period of 48 hours in any one period with no more than 8 days of absence under this regime in any one leave year. Personnel had to report to a medical centre if symptoms had not cleared up by the morning of the third day.

⁵² A friend of Pte Kennington.

collapse.

1.4.39. The panel was confident that the lack of any entry in his medical records in the weeks preceding his accident demonstrated that he did not seek medical attention, though the reason for not reporting his symptoms was unclear. The panel noted the opinion expressed by some of Pte Kennington's colleagues that he may not have reported sick due to a fear of being stigmatised. However, there was no direct evidence to support these opinions. His colleagues' views, though well intentioned, were not something to which the panel could attach any weight. The panel were, therefore, unable to determine whether his pre-existing illness or failure to report it to a doctor contributed to the accident. However, the panel felt that a reluctance amongst service personnel to report sick when unwell had the potential to cause an accident in the future and this was, therefore, an **other factor**.

1.4.40. **Summary.** The panel agreed with the findings of the PM that Pte Kennington died of hypoxic brain injury brought about by a cardiac arrest, the most appropriate descriptor of that causal chain being SADS. The panel reached the conclusion that nothing in Pte Kennington's medical history indicated a predisposition to sudden death. The PSMA did not detect any cause for concern; it was robust, fit for purpose and was conducted to a higher standard than any international guidelines required. Although unwell at the time of his accident the panel were unable to positively determine from what he was suffering, or whether the illness was related to his collapse and were, therefore, unable to discount it as a potential **contributory factor** in his accident.

Exhibit 48

1.4.41. **Recommendation.** The Head of the Strategic Command Safety Centre should conduct an information campaign for personnel within their area of responsibility, reinforcing the importance of reporting to a medical professional when unwell, in order to mitigate potential risks associated with conducting physical training while carrying an illness.

1.4.42. **Recommendation.** The Navy Safety Director of the Navy Safety Centre should conduct an information campaign for personnel within their area of responsibility, reinforcing the importance of reporting to a medical professional when unwell, in order to mitigate potential risks associated with conducting physical training while carrying an illness.

1.4.43. **Recommendation.** The Assistant Head of Safety of the Army Safety Centre should conduct an information campaign for personnel within their area of responsibility, reinforcing the importance of reporting to a medical professional when unwell, in order to mitigate potential risks associated with conducting physical training while carrying an illness.

1.4.44. **Recommendation.** The Head of the Royal Air Force Safety Centre should conduct an information campaign for personnel within their area of responsibility, reinforcing the importance of reporting to a medical professional when unwell, in order to mitigate potential risks associated with conducting physical training while carrying an illness.

Section 2: Physical training – policy, risk mitigation and execution

1.4.45. **Introduction.** The following section of the report appraises the build-up training undertaken by Pte Kennington and members of his regiment. As build-up training was structured to prepare soldiers for their RFT(S), it was necessary to begin this section by considering the periodic mandatory physical training assessments with which soldiers had to comply. This background will provide the reader with sufficient context to understand the training that was being undertaken on the day of Pte Kennington's accident. The analysis that subsequently follows broadly considers the risk mitigation measures adopted for that training, prior to analysing the execution of those measures on the day of the accident, highlighting, and discussing any divergences from policy where appropriate.

Key findings

1.4.46. The panel made the following findings in this section:

- a. Despite Pte Kennington being out-of-date for his soldier conditioning review (SCR), there was no evidence to suggest it played a part in his accident.
- b. The build-up training, implemented by 5 Med, was a sensible and appropriate means to ensure personnel were prepared for the RFT(S).
- c. The risks associated with build-up training were understood by the chain of command and appropriate control measures were applied to bring risks down to a level that was as low as reasonably practicable (ALARP).⁵³
- d. Minor deviations from planned risk mitigation measures did not contribute to Pte Kennington's accident but constituted **an other factor** for future PT serials.

Introduction to RFT(S) and build-up training

1.4.47. **Mandatory physical assessments.** There were two mandatory physical assessments that all soldiers, irrespective of regiment, were periodically required to undertake, namely the SCR and the RFT(S). Soldiers had to undertake an SCR every six months, whereas the RFT(S) was an annual requirement; it was 5 Med policy not to allow a soldier to undertake RFT(S) unless they were in date for their SCR.

Witness 5
Exhibit 65

⁵³ The Health and Safety Executive (HSE) explained that reducing something to ALARP was an exercise in weighing the risk against the sacrifice needed to reduce it even further. In short, to avoid removing the risk entirely, or from reducing it further than a commander had already identified, it must have been shown that further reductions would involve grossly disproportionate sacrifices.
<https://www.hse.gov.uk/managing/theory/alarpplance.htm>

1.4.48. **SCR.** The SCR was a strength and conditioning diagnostic tool that was gender and age neutral.⁵⁴ The purpose of the SCR was to highlight strengths and weaknesses across all components of military fitness. It allowed instructors to tailor individual or unit PT sessions so that fitness standards could be maintained. Personnel undertaking their SCR had to complete one full attempt at each of the seven elements listed in Table 1.4.1. Personnel who did not meet the required standard in any element would have been subject to mandatory reconditioning training.

Exhibit 66

Ser	SCR element	Description
1	Body composition measurement.	Record of individual's height, weight and waist circumference. ⁵⁵
2	Medicine ball throw.	Participants are to throw a 4kg medicine ball at least 3.2m from the seated position.
3	Deadlift.	Participants are to lift 10 repetitions of 40kg from the floor to mid-thigh level.
4	100m shuttle sprint.	Participants are to sprint 5x 20m shuttles in a maximum of 45 secs.
5	Pull ups.	There is no scoring matrix for pull ups. Each participant is to do as many as possible.
6	Broad jump.	Participants are to jump forward a minimum of 1.2m from the squat position.
7	2km run.	Participants are to run 2km in at least 13mins 10 secs.

Table 1.4.1 – Description of SCR elements.

1.4.49. Pte Kennington's last recorded SCR was dated 23 March 2022; in the absence of evidence to the contrary, the panel concluded that Pte Kennington went out-of-date for his SCR on 23 September 2022 and remained out-of-date at the time of his accident.⁵⁶ However, it was recognised that a soldier did not require an SCR in advance of general PT activity, and this played no part in his accident. The panel **observed** that the status of soldiers' ITR's should be monitored more closely.

Exhibit 67

1.4.50. The panel concluded that the status of Pte Kennington's SCR had no relevance to his accident. The potential for soldiers to be out-of-date for a mandated assessment was considered to be an **other factor**. The risk being that a material change in a soldier's physical condition might be missed and become a trigger for a future incident.

1.4.51. **RFT(S).** The RFT(S) was a mandatory annual ITR that was introduced, as a replacement for the annual fitness test (AFT),⁵⁷ to ensure that all Army personnel were assessed on the components of fitness required to perform role-related tasks. The transition to RFT(S) testing for non-ground close combat (GCC) units commenced on 1 April 2021 and lasted until 1 April 2022, whereupon the AFT ceased to be a recognised and available test.⁵⁸

Exhibit 68
Exhibit 69
Exhibit 70

⁵⁴ Unlike the RFT(S), the SCR was an assessment, so had no pass or fail criteria.

⁵⁵ Serial 1, body composition measurement was purely a recording of fact rather than a standard to be met.

⁵⁶ 23 September 2022 is six months after his last recorded SCR, which took place on 23 March 2022.

⁵⁷ The AFT was an 8-mile loaded march.

⁵⁸ Although the RFT(S) transition was implemented in September 2021, the AFT was still a recognised annual fitness assessment until 1 April 2022 for all non-GCC units.

1.4.52. **RFT(S) development.** Development of the role fitness test commenced in 2016 and was part of the Physical Employment Standards (PES) Project. Its goal was to deliver a series of new tests that reflected the physical requirements of specific military roles. A key driver was the inclusion of female personnel in many GCC roles. Ultimately, the new tests were developed to be both gender and age neutral.

Exhibit 65
Exhibit 71

1.4.53. The representative military tasks (RMT) that made up the RFT(S) were determined by the tri-Service standard setting workshops prior to being adopted by the relevant single Service workshop. The standards that Pte Kennington was tested against are set out in Table 1.4.2.

Exhibit 72

RMT	Name	Standard for RLC
1	Loaded march phase 1.	4km, 50 mins, 35kg
	Loaded march phase 2.	2km, 16 mins, 21kg
2	Tactical movement.	90m bounds, 7.5m crawl, 7.5m sprint in 20 seconds
3	Casualty drag.	110kg, 15m, 60 seconds
4	Stretcher carry.	120m, 2 mins
5	Vertical lift.	60kg
6	Repeated lift and carry.	Medium weight, 32 shuttles in 10 mins
7	Incremental lift overhead.	20kg
	Incremental lift shoulder.	25kg
	Incremental lift 1 meter platform.	30kg

Exhibit 73

Table 1.4.2 – RLC standards on RFT(S).

RFT(S) build-up training

1.4.54. **Introduction and purpose.** To prepare soldiers for their annual RFT(S) assessment, 5 Med provided the opportunity to undertake a programme of build-up training. The aim was for soldiers to undergo four consecutive build-up sessions before attempting their RFT(S); personnel who missed three consecutive sessions had to start the programme again from the beginning. The programme was made available during CO's PT each Friday morning. While the overriding aim was to provide confidence and reassurance to personnel ahead of their test, it had the added benefit of maintaining the fitness levels of personnel in the regiment.

Witness 5
Exhibit 74

1.4.55. **Contents of build-up training.** The build-up training emulated aspects of the real test and took place in two distinct phases over the course of one hour. The first phase required personnel to undertake a loaded march,⁵⁹ covering 3km in 37 minutes whilst carrying personal load carriage equipment (PLCE). The amount of PLCE carried was subject to a progressive increase as personnel worked through each week of the programme, beginning with 10kg during session one and rising to a maximum load of 27.5kg during session four. The second phase of the build-up session was dedicated to practising the remaining RMTs.⁶⁰

Witness 5
Exhibit 74
Exhibit 75

⁵⁹ The march took place within Gaza Barracks (see Figure 1.3.3)

⁶⁰ As Pte Kennington did not progress to the second phase on the day of his accident the panel did not analyse the remaining RMTs.

Risk mitigation measures

1.4.56. **PT policy.** There was no army policy that specifically covered build-up training.⁶¹ However, the conduct of all PT sessions was covered by Army Command Standing Order (ACSO) 1200 which required, amongst other things, that all lessons were subject to an appropriate plan and a risk assessment by regimental staff. The panel was provided with evidence that showed that build-up training was covered in the regiment's physical development directive and that the regiment had an appropriate lesson plan and an in-date risk assessment. Additionally the regiment conducted a daily risk assessment prior to each PT session and an ongoing dynamic assessment throughout the activity. An officer-in-charge of PT (OIC PT) was also appointed as an additional safety measure. The documents described so far are outlined below:

Exhibit 76
Exhibit 77
Exhibit 78

a. **Physical development directive.** This document was locally produced and enabled the CO of 5 Med to outline their policy on physical development and PT within the regiment. It was the highest piece of regimental policy relating to PT.

Exhibit 77

b. **Lesson plan.** This document covered areas such as training phase, the lesson's aims (primary, secondary and tertiary) and other relevant information such as equipment and standards.

Exhibit 75

c. **The risk assessment.** This document was the key risk management tool that allowed the chain of command to mitigate risk through a process of identifying, and where possible eliminating hazards. Where hazards could not be entirely eliminated they were made subject to a control measure such that the risk was reduced to one that was ALARP.

Exhibit 79

d. **Daily risk assessment.** The daily risk assessment prompted PT staff to consider any risks that may have arisen on that day, such as the experience level of participants and instructor, supervision ratios and overall risk level, it was manually recorded in a log held in the gymnasium.

Exhibit 78

e. **Dynamic risk assessment.** The dynamic risk assessment was a real-time assessment of risk that the supervisor would undertake whilst an activity was being conducted.

Exhibit 80

Planning and preparation for the loaded march

1.4.57. **Loaded march lesson plan.** Lesson Plan 87 covered the elements of the build-up session, with the loaded march as the primary focus. The plan called for participants to cover 3km in 37 minutes, which equated to a pace of 4.86km/h, whilst carrying PLCE of differing weights. The main purpose of the

Witness 5
Exhibit 74
Exhibit 75

⁶¹ RFT(S) build-up training was not mandated by higher authority, this was a locally developed programme to ensure soldiers were properly prepared for their annual test.

lesson plan was to provide supervising PT staff with a structure to follow. The panel noted that the lesson plan contained six different weights of PLCE (7.5kg, 12.5kg, 15kg, 17.5kg, 20kg and 25kg), whereas the mandated build-up sessions stipulated one of four different weights, dependent on the session that was being undertaken.⁶² The panel was told that the wider range stipulated in the lesson plan gave the PTI discretion to tailor packages to individuals who may have been returning from injury, and in some instances a soldier may have been told to undertake their first session with no additional weight at all.

1.4.58. **Risk assessment.** As a tool, the risk assessment followed a five-step process:

Exhibit 81

- a. Identify the hazards.
- b. Decide who might be harmed and how.
- c. Evaluate the risks and decide on precautions (control measures).
- d. Record significant findings and implement control measures.
- e. Review risk assessment and update as necessary.

1.4.59. On completion of steps one and two, the individual carrying out the risk assessment (in this case PTI 1) would gauge the potential likelihood of the hazard occurring before proceeding to assess the impact / severity of any such occurrence; both likelihood and impact were given values corresponding to the definitions outlined in Table 1.4.3. An overall risk score for each hazard was generated from the product of those values; the risk score matrix is shown in Table 1.4.4.

Exhibit 81

1.4.60. As the overriding aim was to reduce the risk associated with each hazard to ALARP, control measures would be implemented that should result in a lower risk score. Of note, as set out in the unit risk assessment, any hazard that resulted in a risk score of 10 or higher⁶³ could not be held by the unit CO and had to be passed to a higher authority for review.

⁶² Session 1 required a weight of 10kg, session 2 a weight of 15kg, session 3 a weight of 20kg and the final session a weight of 27.5kg.

⁶³ After application of a control measure.

Likelihood		Definition	Impact / Severity	
5	Highly probable	Is expected to occur in most circumstances.	5	Multiple fatalities or permanent life changing injuries.
4	Probable	Will probably occur at some time, or in most circumstances.	4	A single death or multiple life-threatening injuries.
3	Possible	Fairly likely to occur at some time, or some circumstances.	3	A single life changing injury which have a short-term impact on normal or quality of life.
2	Unlikely	Is unlikely to occur, but could occur at some time.	2	Multiple injuries requiring first aid.
1	Remote / Rare	May only occur in exceptional circumstances.	1	An injury requiring first aid.

Exhibit 82

Table 1.4.3 – Risk likelihood and impact / severity definitions.

Risk Assessment Impact Grid							
Impact / Severity	5	5	10	15	20	25	Very High
	4	4	8	12	16	20	High
	3	3	6	9	12	15	Medium to High
	2	2	4	6	8	10	Medium
	1	1	2	3	4	5	Low
		1	2	3	4	5	Level of Risk
	Likelihood						

Exhibit 82

Table 1.4.4 – Risk assessment impact grid.

1.4.61. The panel was provided with 5 Med's generic⁶⁴ risk assessment that was in force at the time of Pte Kennington's accident; this risk assessment covered all loaded marches and was kept in the PTI office of the gym. The assessment was conducted on 24 May 2022 and was signed by the unit CO on 27 May 2022. Having considered its contents the panel determined hazards 12, 14 and 16 to be worthy of further analysis.

Exhibit 76
Exhibit 83

1.4.62. **Hazard 12 – No medical plan.** PTI 1 identified the lack of a medical plan, in the context of the injury or death of a participant, as a hazard. It was subject to pre-existing control measures, namely access to a first aid kit, and access to a mobile phone to allow instructors to seek assistance if required. PTI 1 explained that by keeping the activity on camp, near the gymnasium and

Witness 5
Exhibit 84

⁶⁴ Generic risk assessments covered activities that were repeated over a period of time, as opposed to specific risk assessments created to cover isolated/one-off activities.

within easy reach of a vehicle⁶⁵ they could easily maintain control of the serial; in their opinion it ensured that the risk posed by the lack of a medical plan was low.

1.4.63. To further reduce the risk posed by this hazard, potential injuries were categorised as minor or major and additional control measures were applied for each type of incident. The risk assessment required instructors to understand what actions they would be required to undertake for each type of incident. Those actions are listed in Table 1.4.5. PTI 1 determined that the additional control measures reduced the risk to very low.

Exhibit 84

Minor casualty control measures	Major casualty control measures
1. Ensure the participant is in a safe place (removed from the activity) and offer first aid treatment as required.	1. Activity is to cease immediately and call for help.
2. Remove participant from the activity and extract to local medical centre if required. Stay with the individual until with medical professions [sic] if applicable.	2. Casualty to be given immediate first aid. Basic life support (BLS) where required. If unconscious but breathing and have no other life threatening conditions, they should be placed in the recovery position.
3. Ensure Army Form 5010 is completed.	3. Emergency services (999) called (simultaneously to step 2 by another person within the activity – prioritise step 2 if alone). Have the following details ready as a minimum; location, mechanism of injury, site of injury and patients current state.
	4. Inform your chain of command (who should raise higher ie LAIT). ⁶⁶
	5. Ensure Army Form 5010 is completed.

Exhibit 84

Table 1.4.5 – Hazard 12 minor / major casualty control measures.

1.4.64. The panel determined that, whilst the hazard associated with a lack of medical plan was assessed as low, it was appropriate for PTI 1 to further reduce that risk to ALARP. The panel also determined that the additional control measures, designed to mitigate the risk posed by not having a medical plan, were appropriate and reasonable. The panel **observed** that there was no definition for what constituted a minor or major injury and that such an assessment would be inherently subjective. However, the panel felt instructors had the requisite military experience to categorise an incident appropriately. The panel determined that other than providing examples for minor and major injuries, nothing further could be done to improve that aspect of the risk assessment. The panel **observed** that serial 3 of the minor casualty control measures and serials 4 and 5 of the major casualty control measures referred to terms that were no longer in use.

1.4.65. **Hazard 14 – Physiological and psychological state of participants.** PTI 1 acknowledged that on any given day participants may not be fit, from a physiological or psychological perspective, to take part in PT. The risk posed by individuals not being well enough to take part was assessed as being low, with an associated matrix score of six. It was subject to existing control measures, which included dividing personnel into appropriate groups

Witness 5
Exhibit 85

⁶⁵ The vehicle could be used to transport a minor injury to the medical centre.

⁶⁶ LAIT was the Land Accident Investigation Team and was an Army based unit until it amalgamated with the DAIB.

and providing the opportunity for any individual to 'opt-out' of PT. PTI 1 explained that they considered the risk as low because they ensured participants were verbally briefed on the 'opt-out' policy prior to the start of every session. Both control measures are covered in turn below.

1.4.66. **Participation in RFT(S) build-up.** Not all personnel would undertake exactly the same session during CO's PT. Some personnel may have been carrying an injury or were otherwise exempt from that level of PT, whilst others may have been some months away from their next RFT(S). Therefore, at the PT parade held at the gym, personnel were assigned to one of three categories (levels 1 to 3).⁶⁷ Those levels were assigned on the following basis:

Witness 5

- a. Level 1 included personnel that were unable to take part in the organised session as they were carrying an injury or otherwise medically excused from that session; these personnel would complete their own recovery programme.
- b. Level 2 included personnel who were in date for their RFT(S) and were, therefore, free to undertake another organised session.⁶⁸
- c. Level 3 included personnel who were preparing for their next RFT(S) and undertook build-up training as part of their preparations.

1.4.67. **Physical activity opt-out.** Also known simply as 'opt-out', was a policy by which a service person could, after having been briefed on the nature of the physical activity, report to the activity owner that they were not well enough to take part. The policy was brought in as a mitigation measure against the risk of exertional collapse. Crucially, a service person could be well enough to conduct work duties, and still opt-out of physical activity if they were not well enough to take part in PT / exertional training. The RA stipulated that opt-out should form part of the verbal brief ahead of the session, ensuring there was enough time for participants to report, in private, prior to session start. The panel was told that this was to ensure that it was always briefed, even if the lead PTI was absent.

Witness 5
Exhibit 86
Exhibit 87

1.4.68. Having considered the low-risk score, and associated control measures for hazard 14, the panel determined, that it was both sensible, and in line with policy, to ensure that personnel only undertook build-up training if they were fit enough to do so. Therefore, the splitting of participants into groups was a reasonable precaution. The inclusion of the ability to opt-out in the risk assessment was also in line with policy and constituted a reasonable precaution to capture any persons who otherwise felt unable to participate. It was also established that briefing personnel on the opt-out policy prior to the start of any session was appropriate and served as a timely reminder of the same. The panel **observed** that allowing participants to report to an instructor in private was good practice as many soldiers would feel uncomfortable doing

Witness 5
Exhibit 88

⁶⁷ These categories are different from the unit physical training structure defined in AGAI Volume 1 Chapter 7. Level 1 was for personnel within a weight management group, medical exemptions, unacclimatised personnel and those that had failed a fitness test. These personnel required reconditioning before advancement to mainstream unit PT. Level 2 was for personnel with reduced physical mobility who were not ready to do mainstream PT. Level 3 was a unit's mainstream or operational specific PT programme. Most personnel within a unit were at this level.

⁶⁸ Although those on level 2 did not need to take part in the build-up training, they were permitted to join in if they wished.

so in front of their peers. There was evidence, provided by an instructor, to suggest that people used the option to opt-out during other PT sessions, leading the panel to conclude that it was generally effective. The panel noted that a safety action had been taken already by PTI 1 incorporating the opt-out brief in the PTI checklist, which was to be read verbatim in the event of PT taking place in their absence.

1.4.69. **Hazard 16 – weighing of PLCE.** From a policy perspective, the document⁶⁹ covering both SCR and RFT(S) stated that it was the responsibility of the person in charge to weigh participants' equipment ensuring that the weight was neither too heavy nor too light. PTI 1, in drafting the risk assessment, accepted that carriage of PLCE during a march presented a hazard to personnel, namely in respect of the risk posed by personnel carrying too much weight. The risk assessment imposed a control measure such that PLCE was to be weighed prior to loaded marches to ensure participants did not carry too much weight.

Exhibit 89
Exhibit 90

1.4.70. PTI 1 deemed the overall risk to be low, owing to the slow pace, short distance, and low intensity of the march. However, they further reduced that risk to 'very low' by requiring a calibrated set of scales to be available. The risk assessment did not stipulate who was responsible for checking the weight prior to each loaded march. PTI 1 explained that during a build-up session there was not enough time for staff members to weigh the kit carried by all participants. To that end, it was an individual responsibility to do so in advance, with staff conducting spot checks on occasion.

Witness 5
Exhibit 90

1.4.71. The panel established that the core health and fitness document and the risk assessment served different purposes. The former considered the weighing of PLCE from the perspective of assessment⁷⁰ whereas the latter covered weight from a safety standpoint. The panel concluded that the control measures and associated risk scores were appropriate, but felt that a revised risk assessment could be clearer on who held the responsibility for checking the weight of PLCE outside of assessments. It may have been appropriate to leave the weighing of kit to individuals but the panel felt that more robust spot checks would have been required in that instance.

1.4.72. The panel considered that preparing soldiers for their annual test by regularly practicing the key elements of that test, was both sensible and appropriate. The panel determined that the benefits of doing so extended beyond test preparation to generally maintaining the fitness of the regiment and providing confidence and reassurance to participants.

Witness 5

1.4.73. The panel concluded that the risk assessment, being the key document used to control the risk posed by hazards during a loaded march, was well-considered and appropriately judged. The control measures imposed by PTI 1 were also deemed fit for purpose and served to reduce the risk posed by the identified hazards to ALARP. The panel felt that the risk assessment could have been clearer, in respect of the weighing of PLCE (hazard 16) by detailing exactly who held the responsibility for checking weight prior to

⁶⁹ ITR core fitness conduct notes version 2.2 November 2022.

⁷⁰ i.e., ensuring all participants were carrying the weight stipulated for their test.

session start. The panel concluded that the weighing of PLCE constituted an **other factor**.

1.4.74. Recommendation. Director of Personnel should produce a policy outlining the requirements for weighing personal load carriage equipment prior to all weighted physical training sessions in order to mitigate the risk of injury imposed by personnel carrying too much weight.

1.4.75. **OIC PT.** Army General and Administrative Instruction (AGAI) Vol 1 Ch7 required the appointment of an OIC PT for all PT sessions; the requirement was brought into force on 26 September 2016 by the Deputy Chief of the General Staff in order to ensure that effective command and control of PT sessions was maintained. It was the OIC PT's responsibility to stop any session if they believed it to be unsafe and they could also remove individuals from a training session if they became injured or were otherwise unable to keep up.

Exhibit 91
Exhibit 92

1.4.76. The 5 Med CO's physical development directive required the OIC to be in date for heat illness prevention training and safety risk management training, whereas AGAI Vol 1 Ch 7 stipulated the rules regarding who may undertake the role. The wording of the AGAI was worth considering in advance of subsequent analysis below:

Exhibit 93

'The individual is to hold sufficient military experience and judgement to be responsible for the safety of individuals during the activity. Hence, they are to be at least a Corporal (only in exceptional circumstances where senior rank is unavailable), but typically a Captain / Sergeant or above. They must be nominated in advance of the activity and be given sufficient time to fully understand their responsibilities.'

1.4.77. The panel found the policy wording, with respect to minimum rank, confusing. There was no definition as to what constituted sufficient military experience and judgement, and the use of the word 'typically' suggested an element of discretion could be used when appointing the OIC. While the OIC PT on the day of the accident was a lieutenant and had conducted the duty on previous occasions,⁷¹ and was in date for the required training, the panel was unable to determine whether their appointment was in line with policy and was, therefore, unable to definitively conclude whether their appointment was appropriate. In respect of the accident itself, the panel concluded that the appointment of a more junior officer was **not a factor**, though the confusion in the policy wording did constitute an **other factor** as it had the potential to lead to the appointment of an OIC who did not hold sufficient military experience and judgement.

Witness 14
Exhibit 91
Exhibit 94
Exhibit 95

1.4.78. Recommendation. Director of Personnel should provide clear direction on the appointment criteria of the officer-in-charge of physical training in order to ensure only those who are suitably qualified and experienced undertake the role.

⁷¹ Approximately 5 other occasions.

Risk mitigation measures applied to the day of the accident

1.4.79. **Lesson plan.** As discussed in paragraph 1.4.54 the lesson plan required the 3km loaded march to be completed in 37 minutes, which equated to a pace of 4.86km/h. On the day of the accident the activity's PT staff had decided that they wanted the focus of the session to be on the other RMTs. To that end they decided to assign 30 minutes to each phase. Evidence provided to the panel, from a participant's fitness tracking watch, showed that the march was completed in 26 minutes and 6 seconds (more than 10 minutes faster than the time stipulated by the lesson plan) and at a pace of 6.9km/h.

Witness 5
Exhibit 20

1.4.80. A staff member indicated that it was their intention to update the lesson plan⁷² to a faster pace as they did not feel that the original pace, stipulated on the plan extant at the time, was properly preparing individuals for their assessment. They explained that if participants conducted the build-up loaded march at the planned pace, they would fail an element of the test by 8 minutes and 40 seconds.⁷³

Witness 5

1.4.81. Although the increased pace of the march conducted on 18 November 2022 constituted a deviation from the lesson plan, the panel noted that it was still of low intensity; personnel who took part described the pace as 'not arduous or strenuous'. Pte Kennington was described as 'chatting away the entire time' and 'comfortably talking'. The panel determined that the increased pace of the march was **not a factor** in Pte Kennington's accident. It had been common practice within the regiment but was yet to be reflected in the lesson plan in force at the time.

Witness 1
Witness 4
Witness 10

1.4.82. There was nothing to suggest that the pace of the build-up march was unsafe. However, the panel concluded that the normalisation of deviations, evident in the change of pace from that detailed in the lesson plan, had the potential to introduce additional risk that may not have been considered in the risk assessment. The panel therefore identified this deviation as an **other factor**.

1.4.83. **Recommendation. Senior Master at Arms of the Royal Army Physical Training Corps should conduct an information campaign to ensure that personnel responsible for lesson plans understand the risks posed by normalising deviations to planned activity, in order to reduce the likelihood of injury in the future.**

1.4.84. **Risk assessment.** While Pte Kennington's accident is discussed in more detail in section 3, the panel noted that there were deviations in the risk assessment on the day of his accident. These deviations are discussed in turn over the following paragraphs.

1.4.85. **Medical plan (hazard 12).** As outlined in paragraphs 1.4.60 to 1.4.61, in the event of an injury, instructors were expected to implement measures corresponding to the category of injury (minor or major). While no examples were provided to describe the difference between the two, the panel found the

Exhibit 96

⁷² They had not updated the lesson plan as all staff members knew of the increased pace, which by objective standards was still of low intensity, and it was therefore not considered a priority.

⁷³ Specifically loaded march phase 2, as outlined in table 1.4.2.

NHS definition useful: '*Major trauma describes serious and often multiple injuries where there is a strong possibility of death or disability*'.

1.4.86. The panel noted that on Pte Kennington's collapse the instructor initially carried on with the lesson whereas the risk assessment would have required them to stop. However, the instructor explained that they thought Pte Kennington would come round and thought that it was only a faint. On seeing he was being attended to by others, they made the decision to move the remaining personnel out of the way as a means to provide some dignity to Pte Kennington whilst he was being treated. There was nothing to suggest that this decision caused any delay to Pte Kennington's treatment and was, therefore, deemed as **not a factor**.

Witness 8

1.4.87. On reflection and based on the definition outlined in paragraph 1.4.82, Pte Kennington's accident constituted a major injury. The instructor clearly explained that they believed Pte Kennington to have fainted and was receiving appropriate medical care. They felt at the time, that the best course of action was to remove those not involved in the care of Pte Kennington from the immediate vicinity. The panel considered that this was an appropriate action to take and gave space to those assisting Pte Kennington to work, as well as providing dignity for all those involved. While there was no evidence to suggest that the decision not to cease activity resulted in any delay to Pte Kennington's care, the panel **observed** that there was no policy covering the categorisation and management of a collapse with loss of consciousness. However, in this instance, as Pte Kennington was receiving immediate care by medically trained personnel, it was determined that failing to cease the rest of the activity promptly was **not a factor** in the accident.

Witness 8

1.4.88. The panel established that there was no defence-level policy, extant at the time of Pte Kennington's accident, that categorised the seriousness of a collapse with loss of consciousness. While it was determined that the decision to not immediately cease training did not contribute to this accident, it could lead others to be injured in the future and it therefore constituted **an other factor**.

1.4.89. **Recommendation. The Medical Director of Defence Medical Services should lead a review into how a collapse with loss of consciousness is managed and categorised in order to ensure current first aid policy is sufficiently robust to mitigate the risk of serious injury in such cases.**

1.4.90. **Weighing of PLCE (hazard 16) on the day of the accident.** As discussed at paragraphs 1.4.66 to 1.4.71, the risk assessment required weight to be checked prior to a loaded march. The panel was told by PTI 2 that there was not enough time allotted to the session for a staff member to weigh the kit of all participants; the panel was also told this was an individual responsibility and that spot checks were often conducted. There was no evidence of spot checks having been undertaken on the day of Pte Kennington's accident. Furthermore, the DAIB team who initially investigated the accident, found that the scales provided for weighing of PLCE were out of date for calibration and, therefore, could not have been relied upon.

Witness 4
Witness 5
Witness 8
Witness 17
Exhibit 97
Exhibit 98

1.4.91. The panel considered that the decision that individuals should be responsible for checking the weight of their own PLCE was valid. However, it was felt that the risk assessment should have clearly stated that this was the case. The panel also felt that, unless PT staff were going to weigh all participants' PLCE, they must ensure spot checks were conducted on every occasion weight was carried, to avoid personnel carrying too much weight. The panel was told that on the day of the accident another participant was carrying 35kg⁷⁴ of PLCE. The panel noted that a safety action had been taken already by adding the scales to a calibration register to ensure they were kept in a serviceable state.

1.4.92. While the panel determined that the decision to not check the weight of PLCE carried on 18 November 2022 did not contribute to Pte Kennington's accident it had the potential to lead to injury in the future. Therefore, the decision to not check the weight of PLCE constituted an **other factor**, subject to the recommendation set out in para 1.4.71.

⁷⁴ 7.5kg above the maximum weight for a build-up session.

Section 3: The accident and medical treatment

1.4.93. **Introduction.** The following section of the report appraises Pte Kennington's accident on 18 November 2022. It will look to analyse his collapse, the equipment used in his treatment, the quality of treatment provided by those on the scene and the arrival of the emergency services. The section will not repeat every detail set out in the narrative of events in part 1.3 to this report but will outline anything specific to assist the readers understanding ahead of any subsequent analysis. Further information on the medical equipment can be found in Annex A to Part 1.4 of this report.

Key findings

1.4.94. The panel made the following findings in this section:

- a. Pte Kennington collapsed between 08:59-09:06 on 18 November 2022.
- b. 5 Med had access to medical equipment that the majority of military units did not; this equipment was used in a timely and appropriate fashion.
- c. There was a delay in the 999-operator answering the emergency call and despatching ambulances to the scene of the accident.
- d. Pulmonary oedema was the most likely source of occlusions in Pte Kennington's airway, this could not have been known at the time and impaired his lung ventilation.
- e. 5 Med personnel did their utmost to save the life of Pte Kennington.
- f. All PT staff who took part in the activity on the day of the accident were suitably qualified and experienced.

Environmental conditions and pre-session physical training brief

1.4.95. **Morning of 18 November 2022.** It was reported to the panel that Pte Kennington had a heavy, spontaneous nosebleed in the presence of Medic 1, on the evening prior to his accident. Medic 1 helped clean him up and he appeared embarrassed but told them he was 'completely fine'. The next morning, before departing for the 08:20 parade, they offered him a pastry for breakfast, however, he declined. It was explained that he did not regularly take breakfast, so this was not unusual. There was also no information as to whether he took on water, or any other fluids, prior to the march. There was no indication from his friends and colleagues that he was suffering from the illness discussed earlier in this report and nothing to indicate that a lack of breakfast was affecting him.

Witness 4

1.4.96. The panel could not find anything to suggest that Pte Kennington's nosebleed the night prior to his accident, was anything other than a 'one-off'. There were no medical records to suggest he regularly suffered from them, and, therefore, no evidence to show what may have caused it. The panel

Witness 4

found that it was not possible to determine whether it had any physiological effect on him the next morning so could not consider it further. The lack of any breakfast prior to PT was of interest to the panel as it was within the common knowledge of serving military members that eating was important to keep energy levels up ahead of physical activity. However, the panel had no evidence to suggest that a lack of breakfast or lack of hydration prior to marching played a part in his accident. The panel felt that it was not possible to determine whether these were factors in his accident but was satisfied that the physical activity opt-out brief covered such situations and offered an opportunity for Pte Kennington to have withdrawn from PT had he needed to.

1.4.97. **Weather conditions.** The weather conditions on the morning of 18 November 2022 were normal for the time of year. The mean temperature that day was 8.35 degrees Celsius,⁷⁵ and there was a light breeze of up to 12 knots⁷⁶ from the west-northwest; humidity was between 83.7% and 85.8%. There was no suggestion that Pte Kennington's accident had been attributed to the local weather conditions.

Exhibit 99

1.4.98. The panel examined the environmental conditions with a view to assessing the possibility that exertional heat illness played a part in Pte Kennington's accident. The panel found that Pte Kennington's cause of death, coupled with a core temperature of less than 40 degrees Celsius⁷⁷ at the time of the accident, and an outside air temperature of 8.35 degrees Celsius, made it extremely unlikely that he was suffering from the effects of heat at the time of his collapse. The panel, therefore, determined that the prevailing weather conditions were **not a factor** in Pte Kennington's accident.

Exhibit 40
Exhibit 100

1.4.99. **PT brief.** Personnel filed into the gym at 08:28, where they were briefed by PT staff. That brief included an explanation of the session and contained a reminder to personnel that they could opt-out of PT if they were not well enough to undertake the lesson. As mentioned in paragraph 1.4.64, the opt-out brief included whether personnel had eaten and were properly hydrated; Pte Kennington did not opt-out of the session.

Witness 4
Witness 5
Witness 10
Exhibit 15

1.4.100. The panel concluded that the PT brief, held prior to the loaded march, provided a suitable opportunity for Pte Kennington, and other soldiers present, to opt-out of the activity had they not felt well enough to partake. Pte Kennington did not exercise his right to opt-out, therefore, the PT brief was deemed **not a factor** in his accident.

The loaded march

1.4.101. **Introduction.** The loaded march took place between 08:33 and 08:59, following the PT brief in the gym. The panel ascertained that all PT staff involved in the session were suitably qualified and in date for relevant mandatory training. Pte Kennington was located towards the rear of the group and was interacting with those around him throughout. The pace, as discussed in paragraph 1.4.78, was not arduous and at no point was Pte Kennington, or

Witness 1
Witness 4
Witness 9
Witness 11
Witness 25
Exhibit 20

⁷⁵ The minimum temperature that day was 5.8 degrees Celsius, and the maximum was 10.9 degrees Celsius.

⁷⁶ 12 knots was 13.8 mph.

⁷⁷ A core temperature of 40 degrees or higher was an indicative factor for heat stroke.

any other participant, struggling with the march. On completion of the march, there was no indication to any of the participants that Pte Kennington was feeling unwell.⁷⁸

Exhibit 101

1.4.102. The panel was informed, through the accounts of multiple witnesses, including Driver 1, that Pte Kennington was neither struggling with the march, nor out of breath. Others explained that he was able to maintain the pace throughout, was easily holding a conversation, and did not show signs of being in difficulty. The panel found this evidence carried significant weight as it came from individuals who had been concerned about Pte Kennington's illness and who could, therefore, be expected to pay particular attention to their colleague.

Witness 4
Witness 9

1.4.103. Evidence from witnesses, including those who had been the most worried about his pre-existing illness, suggested that there was no cause for concern. There appeared to be no indication, during or immediately after the march, that Pte Kennington was in distress or that he would collapse. The panel concluded, therefore, that it was very likely that the loaded march was **not a factor** in Pte Kennington's accident.

Pte Kennington's collapse

1.4.104. **Introduction.** On completion of the loaded march at 08:59, the participants were instructed to hydrate and remove PLCE. The participants, including Pte Kennington, drank water and then formed-up in anticipation of the brief for phase two of the session. During that brief, at a point between 08:59 and 09:06,⁷⁹ Pte Kennington collapsed onto the tarmac floor. Personnel in the vicinity rushed to his aid and the emergency services were called by PTI 1 at 09:06.

Witness 1
Witness 8
Witness 13
Witness 20
Exhibit 20
Exhibit 22

1.4.105. **Motion of collapse.** It was explained to the panel, by the majority of those interviewed, that Pte Kennington made no attempt to break his fall. Various witnesses described the motion of his collapse as akin to a building collapsing, falling 'literally face forward' and seeing his head 'just go'. He fell towards Medic 9, who was stood directly in front of him, and hit his head on the tarmac.

Witness 9
Witness 10
Witness 11
Witness 13

1.4.106. The various descriptions of the motion in which Pte Kennington fell led the panel to believe that it was completely unexpected and likely that he immediately lost consciousness. The medical expert to the panel opined that these descriptions aligned with the symptoms of syncope, which was defined as a collapse with loss of consciousness. They went further and explained that it was likely caused by a ventricular tachycardia.⁸⁰ The panel concluded that it was highly likely that Pte Kennington was unconscious at the time of his collapse and that the episode was both sudden and without warning.

Exhibit 45

Initial response

⁷⁸ Although Pte Kennington had mentioned to his friends previously that he was feeling unwell, there was no indication of this being worse following the march.

⁷⁹ The time period was determined between two known incidents, the end of the run at 08:59 (evidenced by fitness tracking data of one of the participants) and the 999-call made by a member of staff at 09:06 (evidenced by the computer-aided dispatch log).

⁸⁰ Described as a fast heart rate emanating from the ventricles (lower chambers) of the heart.

OFFICIAL-SENSITIVE

1.4.107. Following Pte Kennington's collapse, Medics 1, 2, 9, and Driver 1 rushed to his aid and removed his webbing. They were in the process of moving him when Medic 4 shouted for them to stop and took control of the situation.⁸¹ They initially described Pte Kennington as unresponsive but breathing and having a pulse. It was quickly decided to move him onto the grassed area, and to place him in the recovery position, on top of a gym mat. Shortly after moving Pte Kennington onto the mat, Medic 4 noticed that his breathing had stopped, but that he still had a pulse.

Witness 4
Witness 9
Witness 10
Witness 12
Witness 13
Witness 25

1.4.108. The medics then rolled Pte Kennington onto his back. Medic 1 raised his legs above the level of his heart⁸² and was told by Medic 4 to check for a pulse. Medic 4 noticed a laceration to Pte Kennington's nose, which they believed was sustained during his collapse, and proceeded to clear his mouth, ready to deliver rescue breaths. At some stage prior to the delivery of the first rescue breath Medic 4 called for an AED.

Witness 4
Witness 9
Witness 12
Witness 14

1.4.109. Initially there was no medical kit at the scene, so Medic 4, understanding the need to provide Pte Kennington with oxygen, started to deliver rescue breaths.⁸³ At the same time, they shouted to Medic 3 to call an ambulance via 999. Medic 3, who did not have a mobile phone, went into the gym and relayed the request. During the initial rescue breaths, Medic 4 noticed a build-up of [REDACTED] at the back of Pte Kennington's throat. This required him to be turned onto his side so that the fluid could be drained by gravity (the technique was known as postural drainage).⁸⁴ The source of the [REDACTED] was unknown at the time of treatment. In addition to calling for equipment, Medic 4 requested the presence of nurses or doctors as he believed that there would be a requirement for drugs to be administered.⁸⁵

Witness 7
Witness 12
Witness 13

1.4.110. Medic 5 had heard calls for medical equipment so rushed to the medical store to collect additional devices.⁸⁶ On returning to the scene of the incident, Medic 5 described Pte Kennington as looking visibly unwell and lifeless. On checking, they could not detect a pulse and reiterated the need for an AED; at this stage Medic 4 was delivering rescue breaths and Medic 5 started delivering compressions.

Witness 7
Witness 13

1.4.111. Whilst the panel was certain that Pte Kennington collapsed between 08:59 and 09:06, the precise time of collapse could not be determined through witness statements or interviews. This made it impossible for the panel to establish exactly when each medical intervention took place in relation to Pte Kennington's collapse. In the panel's opinion it was certain that Pte Kennington received prompt medical attention from highly qualified and experienced medics and that the initial reactions, consisting of a primary survey and placing him in the recovery position, were appropriate.

Witness 10
Witness 12
Exhibit 20
Exhibit 22

⁸¹ Medic 4 was qualified as a combat medical technician 1 and held the civilian emergency medical technician qualification.

⁸² Pte Kennington's legs were raised above his heart level to increase the blood flow to his major organs.

⁸³ Also known as mouth-to-mouth resuscitation.

⁸⁴ Changing a patient's posture to allow fluid to drain freely by gravity.

⁸⁵ A nurse or doctor would have been required if drugs were to be administered.

⁸⁶ As a medical regiment, 5 Med had equipment that other units would not normally have access to.

1.4.112. It was also determined that the commencement of rescue breaths, and calling for an AED, was entirely appropriate once they had realised Pte Kennington had stopped breathing. The panel established that these steps were very likely to have taken place prior to the 999-call being answered by an emergency medical dispatcher (EMD) at 09:10:15. It was deemed that Medic 5 began chest compressions as soon as the absence of a pulse became apparent, and that it was certain that chest compressions had begun prior to the 999-call being answered.

Witness 12
Witness 13
Exhibit 102

1.4.113. Without a known time of collapse the panel could not determine how long it took to place the call to the emergency services. However, it was understood that it took time to assess Pte Kennington and that it was more likely than not that his health deteriorated rapidly. The panel considered that every accident that required medical intervention would involve an indeterminate period of assessment before a decision could be made on what specialist support would be required. The panel concluded that, on the balance of probabilities, any potential delay in calling 999 was inevitable and was a result of taking the appropriate time to assess Pte Kennington, within a rapidly evolving and chaotic situation.

Witness 12
Exhibit 103

1.4.114. **999-call.** At 09:06:23, PTI 1 dialled 999 using their personal mobile phone and asked for an ambulance. The call was not answered by an EMD within Yorkshire Ambulance Service (YAS) until 09:10:15, with the first resource being allocated to the incident at 09:11:48.⁸⁷ This meant that PTI 1 had to wait 3 minutes and 52 seconds before speaking to an EMD at YAS, and that it took 5 minutes and 25 seconds for a resource to be allocated, after the call had first been placed. YAS explained that between 08:40 and 09:40 the number of 999 calls BT were handling compromised the intelligent routing platform (IRP),⁸⁸ as such BT placed the system under temporary measures which meant calls had to be manually routed to an available emergency operations centre (EOC) by a BT operator, as and when an incident reached a critical stage. At 09:09:34 PTI 1 told the BT operator that the incident was a critical situation, and the BT operator manually transferred the call to an EMD at YAS.

Exhibit 22
Exhibit 104
Exhibit 105
Exhibit 106
Exhibit 107

1.4.115. A representative from YAS, who conducted an internal review into the call handling of this incident, explained that when the system was in high demand the BT operator could route critical calls to the critical line, effectively prioritising that call above others in the queue. Critical was defined as an imminent or immediate risk to life. The caller could directly identify the matter as critical or the BT operator could make this decision if what they heard indicated it was critical, however, distress alone did not count. The panel **observed** that it may be prudent for a caller to be assisted by the BT operator asking them directly whether the incident posed an immediate or imminent risk to life and was, therefore, critical.

Exhibit 108

1.4.116. The panel's medical expert expressed the view that the sooner defibrillation and resuscitation occurred the more likely it was that the patient

⁸⁷ A resource was the name given to ambulance units.

⁸⁸ The IRP was a mechanism by which calls were dynamically routed from services that were under pressure to those which had additional capacity.

would have gone on to make a recovery. The panel was aware that ambulance crews carried more specialist equipment to assist with resuscitation than that available to the medics treating Pte Kennington and, therefore, could not discount the delay in answering the 999-call as a possible aggravating factor in his death.

Exhibit 109

1.4.117. The time it took for the call to be transferred to an EMD at YAS likely led to a delay in paramedics arriving at the scene of the accident. As the panel's medical expert expressed a view that the earlier arrival of paramedics may have led to a different outcome, this delay could not be discounted. Therefore, the panel could not positively determine whether the delay in the arrival of paramedics constituted **an aggravating factor** in the accident.

Exhibit 109

Pre-ambulance treatment

1.4.118. The resuscitation council guidance extant at the time of Pte Kennington's accident recommended an AED be used as quickly as possible after cardiac arrest.⁸⁹ Whilst the panel could not be certain of the precise moment Pte Kennington went into cardiac arrest, audio from the 999-call confirms an AED was being sought at 09:08:03. This supports the account of Medics 4 and 5 that an AED was used early within Pte Kennington's treatment. The panel concluded that it was highly likely the AED was used within the timeframe recommended by the resuscitation council.

Witness 12
Witness 13
Exhibit 107
Exhibit 110
Exhibit 111

1.4.119. Whilst there appeared to be some confusion as to the location of the device with numerous personnel interviewed believing it would be in the gym.⁹⁰ The panel was told that Medic 8 ran to the guardroom, a little over 215m from the scene of the incident (Figure 1.3.A.1), collected the AED and delivered it to those treating Pte Kennington. The device was attached to Pte Kennington⁹¹ and powered on at 09:11:10,⁹² upon which it entered its first analysis phase. The key event timings from the AED log are contained in Table 1.4.6, with more detailed descriptions following where appropriate.

Witness 1
Witness 7
Witness 23

⁸⁹ If possible within three to five minutes of cardiac arrest.

⁹⁰ Originally there was an AED within the gym, however, some time before Pte Kennington's accident the AED was moved to the guardroom in Gaza Barracks, which was staffed 24 hours a day.

⁹¹ Defibrillator pads were placed on Pte Kennington's chest.

⁹² The AED log was exactly 1 hour ahead of the actual time that day, most likely due to a UTC and British Summer Time setting.

Time	Event
09:11:10	Unit powered on
09:11:22	First analysis phase
09:11:32	First shock advised
09:11:40	First shock delivered
09:13:45	Second analysis phase
09:13:56	Second shock advised
09:14:02	Second shock delivered
09:16:07	Third analysis phase
09:16:18	Third shock advised
09:16:26	Third shock delivered
09:18:31	Fourth analysis phase
09:18:42	No shock advised
09:20:47	Fifth analysis phase
09:20:57	No shock advised
09:21:06	Pads removed
09:21:42	Device powered off

Table 1.4.6 – AED key events.

1.4.120. **Analysis phases.** Once the AED's pads had been placed on Pte Kennington's chest and the device powered on, it entered the first analysis phase. During this period it 'advised' medics to stop CPR whilst it assessed his condition.⁹³ The AED's ECG function was programmed to determine when it was appropriate to deliver an electrical shock to a patient and this analysis took place at intervals of approximately 2 minutes and 20 seconds. The AED would only recommend a shock when it detected an abnormal rhythm that was reversible i.e. a shock that would revert the heart to sinus rhythm.

Witness 13
Exhibit 23
Exhibit 112

1.4.121. **Shocks.** When the AED deemed it necessary it recommended an electrical shock be delivered to the patient. The recommendation was given by a verbal command from the device and required the medic to depress the 'shock' button on the device. The first three analysis phases resulted in the AED recommending a shock. Medic 4 spent time ensuring personnel and metal objects were moved away from Pte Kennington before each shock was delivered. Medic 4 was responsible for delivering all three shocks listed in Table 1.4.6.

Witness 7
Witness 12

1.4.122. **No shock advised.** The panel noted that on completion of the fourth and fifth analysis phases no shocks were advised. The device was removed at 09:21:06 and replaced by a device carried by the first ambulance to arrive on scene; the panel was not provided with data from the NHS ambulance's defibrillator.

1.4.123. **Chest compressions.** Medics 3 and 5 took turns delivering chest compressions,⁹⁴ averaging a rate of 119 compressions per minute. The AED

Witness 11
Witness 13

⁹³ The AED delivered verbal pre-recorded instructions to medics at various stages of treatment.

⁹⁴ The AED recommended a target of between 99-110 compressions per minute.

analysis report demonstrated that CPR was of good quality. The pair only paused when instructed to do so by the device⁹⁵ and, according to the panel's medical expert, the decision to swap the person doing CPR undoubtedly contributed to the quality of care provided. It was the opinion of the panel's expert that the treatment provided by Medics 3, 4 and 5 was the most likely reason that Pte Kennington had a return of spontaneous circulation (ROSC), which was rarely achieved in out-of-hospital cardiac arrests. ROSC is discussed in more detail later in this report.

Exhibit 113
Exhibit 114

1.4.124. The data stored within the AED provided the panel with a highly accurate snapshot of what was happening whilst it was attached to Pte Kennington. The panel can be certain, therefore, that Pte Kennington was in VF when the defibrillator was initially attached and that three shocks were advised and subsequently delivered during that period. During the fourth and fifth AED analysis phases the panel observed a marked change in heart rhythm from the VF shown in the earlier stages. A medical expert explained that whilst this new rhythm might have been one that was compatible with life it likely constituted pulseless electrical activity (PEA).⁹⁶ This meant that the electrical signals in the heart were producing the correct rhythm but for some other mechanical reason the heart was not pumping effectively and could not, therefore, pump blood around Pte Kennington's body. This explained why the medics on the scene continued CPR in accordance with the prompts from the AED. The panel agreed with the opinion of the medical expert that swapping the person delivering chest compressions ensured that the CPR was of good quality and felt it was highly probable that ROSC was only obtained as a result of this care. The panel was certain that the use of the AED and the quality of CPR delivered to Pte Kennington gave him the best chance of survival and concluded that they were **not a factor** in his accident.

Exhibit 23
Exhibit 112
Exhibit 114
Exhibit 115
Exhibit 116

Airway management

1.4.125. **Introduction to airway management.** In addition to chest compressions, those treating Pte Kennington were aware of an urgent need to provide him with oxygen. Whilst the panel could not determine the precise order in which the airway was managed, it was noted that those treating him had to contend with, and periodically clear, [REDACTED] blocking the airway. Those treating him also used different pieces of medical equipment in an attempt to improve the delivery of oxygen. As it was not possible to definitively settle on a chronology for this aspect of his treatment, each area has been discussed in turn below.

Witness 12

1.4.126. **Equipment.** Descriptions of the key equipment used in the treatment of Pte Kennington, along with their storage locations can be found in Annex A to part 1.4. The panel noted that those treating Pte Kennington had access to more equipment than would usually be found in other Army regiments.⁹⁷ However, the equipment was held at readiness level 2 which meant it should

Witness 12
Exhibit 117
Exhibit 118

⁹⁵ During analysis phases.

⁹⁶ A condition where there is electrical activity in the heart that is insufficient to produce a pulse and, therefore, oxygenated blood is not being pumped around the body effectively.

⁹⁷ Due to being a medical regiment.

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have been ready to be used within five days. In short, this meant that the equipment did not need to be ready for immediate use.

1.4.127. **Airway occlusion.** As outlined above, Medic 4 explained that [REDACTED] [REDACTED] was present at the back of Pte Kennington's throat throughout their treatment of him. [REDACTED]

[REDACTED] The build-up [REDACTED] was initially managed through postural drainage until the arrival of the Laerdal suction units (LSU) and a Suction Easy™ manual suction device. Two LSUs were delivered to the scene by Medic 7 and PTI 2 respectively, along with two medical bergens.⁹⁸ As discussed in Annex A to part 1.4, the LSU was a battery-operated suction device used for clearing fluids; both units that were delivered to the scene did not work.

Witness 11
Witness 12
Witness 21
Exhibit 27

1.4.128. [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Witness 11
Witness 12
Exhibit 115

1.4.129. **Source of [REDACTED].** The panel's medical expert opined that the source of the [REDACTED] described by the medics was likely a pulmonary oedema.⁹⁹ This was in keeping with the post-mortem findings that [REDACTED] [REDACTED].¹⁰⁰ According to the panel's medical expert, the best chance to stop the oedema at the scene was to get Pte Kennington's heart started again.

Exhibit 27
Exhibit 119
Exhibit 120
Exhibit 121

1.4.130. Taking the opinion of the panel's medical expert, along with the findings from the post-mortem and the description [REDACTED], the panel found it highly probable that the source of the occlusions was a pulmonary oedema. The panel considered that the use of postural drainage, in the early stages of treatment and prior to the arrival of extra equipment, was an entirely appropriate decision, as was the subsequent use of the manual suction device, which seemed to be effective.

Witness 12
Exhibit 27
Exhibit 122

1.4.131. Whilst it was unfortunate that the battery-powered LSU was not working, the panel noted that it was not required to be available for immediate use¹⁰¹ and that most regiments would not have had access to this equipment. In any event it was very unlikely that the reversion to manual suction and postural drainage led to any delay in attempts to clear the occlusions. The panel concluded that the medics could not have known the oedema was the cause of the build-up of [REDACTED] in Pte Kennington's throat. Even if the army

Witness 12
Exhibit 115

⁹⁸ A bergen was a military rucksack. One of these bergens was for use by medics and the other was a doctor's bergen.

⁹⁹ Pulmonary oedema is a result of blood and plasma leaking out of the lung's blood vessels into the air spaces. This occurs due to a back pressure from the left ventricle to the left atrium and then the lungs, effectively pushing fluid into the lungs. The way to clear it is to increase the air pressure in the lungs to oppose this back pressure, pushing the fluid out, or to get the heart working again.

¹⁰⁰ Oedematous was defined as something relating to or affected with oedema.

¹⁰¹ The device was being held at readiness level R2, which meant it was only required to be at 5 days' notice for use.

medics had been able to identify the source of the occlusions, the panel determined that, with the limited equipment they had available, they could have done nothing more to increase his chance of survival, beyond the resuscitation they were giving him. The panel concluded that whilst it was highly probable that pulmonary oedema contributed to the chain of events which led to the medical cause of death in this case; the medics' treatment of Pte Kennington was deemed as **not a factor**.

1.4.132. **Resuscitation.** Although Medic 4 was initially breathing for Pte Kennington via rescue breaths, they began to use a bag valve mask (BVM) once it arrived in a medical bergen. The BVM, as shown in Annex A to part 1.4, allowed for a greater volume of oxygen to be delivered to a patient using a self-inflating bag and reservoir. The resultant positive pressure, created when the bag was squeezed, would have pushed air into Pte Kennington's airway and, barring any blockages, made its way to his lungs.

Witness 7
Witness 12

1.4.133. Taking the opportunity presented by AED analysis phases, Medic 4 paused to assess the situation. They noted that Pte Kennington was [REDACTED] [REDACTED] during periods where nobody was breathing for him and explained that it was a result of oxygen starvation. At one stage in the treatment, Medic 7 suggested connecting the medical oxygen to the BVM reservoir to increase the percentage of oxygen being delivered to Pte Kennington. However, whilst Medic 4 agreed with the idea in principle, they were concerned it may have led to a reflux of stomach contents as the airway had not been secured. According to other witnesses, Medic 4 switched between the BVM and rescue breaths, potentially with a greater emphasis on rescue breaths.

Witness 7
Witness 12
Witness 13
Witness 21

1.4.134. **Securing the airway.** The panel was told that in cases where a patient was not breathing, the aim would be to protect or secure the airway,¹⁰² this would be managed using specialist equipment. The type of equipment used depended on the level of consciousness of the individual requiring treatment. For example, it was explained to the panel that placing a tube into the throat of an individual who was conscious was risky as it would be likely to stimulate the gag reflex, which could lead to reflux.¹⁰³ This, in turn risked the stomach contents entering the lungs (also known as aspiration), thus compromising the airway.

Witness 11
Witness 12

1.4.135. **Oropharyngeal airway (OPA).** One piece of specialist equipment, used in the management of Pte Kennington's airway was the OPA. The device, which consisted of a curved hollow plastic tube, could be placed into the mouth, and rotated to ensure a patient's tongue did not fall back and block the airway. This device was not designed to secure an airway as it had no means of stopping the reflux of stomach contents entering the lungs and as such required a patient to be unconscious prior to use.

Witness 12

¹⁰² The panel's medical expert explained that securing the airway was to place a tube into the main airway with a cuff inflated around it. This was to stop anything vomited into the mouth tracking into the lungs (also known as aspiration). The expert explained that it does not completely avoid aspiration as patients would commonly suffer from ventilator associated pneumonia later. Other airway adjuncts (such as the OPA) maintained an airway for ventilation of the lungs but did not prevent aspiration.

¹⁰³ Reflux was described as a loosening of the sphincter (muscle) at the lower end of the oesophagus that allowed stomach acid and contents to travel back up into the throat.

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1.4.136. Medic 4 described to the panel that, once the OPA had been inserted, they could not get a proper seal. They estimated that they delivered two breaths through the OPA before it had to be removed due to the build-up of fluid. It was explained to the panel that the medics at the scene were not able to secure the airway at any stage in their treatment of Pte Kennington. However, once the OPA was removed they could continue to get air into him by reverting to the use of rescue breaths, periodically stopping to clear more fluid.

Witness 7
Witness 12

1.4.137. **Medical oxygen.** It should be noted that there was some confusion surrounding the provision of medical oxygen to Pte Kennington. Medic 7 believed that they connected oxygen to an OPA or i-Gel®¹⁰⁴, and Medic 6 made an assumption that the oxygen, being present, would have been attached to the BVM because, in their words 'if you had both, you'd use both', though they conceded that they could not say for certain. However, whilst medical oxygen may have been connected to one of the airway adjuncts, the panel found no evidence to support its use on Pte Kennington. The panel was informed by the medical expert that, given the presence of the pulmonary oedema, lung ventilation would have been impaired, and the delivery of oxygen was likely immaterial to the outcome.

Witness 7
Witness 21
Exhibit 117

1.4.138. The panel concluded that the 5 Med medics at the scene attempted everything that they could to save Pte Kennington's life. Medic 4 took the decision to deliver rescue breaths as soon as it became apparent that Pte Kennington was no longer breathing but had to contend with the build-up of fluid occluding his airway. The panel determined that it was extremely likely that his cardiac arrest resulted in the leakage of [REDACTED] from the lung's blood vessels into their air spaces. This leakage, known as pulmonary oedema, was very likely to be the cause of [REDACTED] collecting in his airway and the back of his throat and undoubtedly hindered resuscitation efforts.

Exhibit 119

1.4.139. The fact that the LSUs were not working was almost certainly irrelevant to the outcome as the reversionary methods, namely manual suction and / or postural drainage to clear fluids, were appropriate and appeared to be timely. The panel understood that Medic 4 attempted to use an airway adjunct, namely an OPA, to try to get more oxygen into Pte Kennington, however, the build-up of fluids, and inability to form a seal around the equipment, made it difficult. It was felt that Medic 4's decision to remove the OPA and rely on rescue breaths, and the BVM, was entirely appropriate and did not affect the ultimate outcome of the accident. Whilst the panel assessed that it was very likely that a medical oxygen canister was delivered to the scene of the incident, it was not possible to determine whether oxygen was provided to Pte Kennington. It was almost certain that the unresolved pulmonary oedema impaired his lung ventilation and delivery of medical oxygen was, therefore, immaterial to the eventual outcome.

Witness 12
Exhibit 117

1.4.140. It was the view of the panel's medical expert that from the moment of collapse Pte Kennington would not have regained consciousness and, therefore, would not have suffered during the CPR or the resuscitation

Exhibit 123
Exhibit 124

¹⁰⁴ An i-Gel® is a malleable airway management device that created a seal over the perilaryngeal framework (see Annex A of 1.4).

attempts. In the expert's opinion the eventual outcome was most likely determined in the first 20 minutes following cardiac arrest when the hypoxic brain injury was sustained.

1.4.141. Whilst this report grouped Pte Kennington's treatment into themes, it was important to recognise that many aspects of his treatment were being undertaken concurrently in a rapidly changing, and probably chaotic, environment. The panel considered the immediate treatment provided by the regiment's medics was above and beyond anything that could have been provided at an out-of-hospital, unforeseen, cardiac arrest, with limited equipment. Medic 4's selflessness was worthy of specific mention; having chosen to deliver rescue breaths without waiting for any personal protective equipment, they put the care of Pte Kennington above their own safety. It was clear that there was effective command and control throughout the incident and the panel concluded that Pte Kennington received the highest standard of care that could have been achieved in those circumstances. The medics' treatment of Pte Kennington was almost certainly **not a factor** in his accident.

Exhibit 103

NHS paramedic treatment

1.4.142. **Introduction.** NHS paramedics from YAS arrived at Gaza Barracks at 09:17 and, following a brief handover from Medic 5, assumed control of Pte Kennington's care. They conducted a primary survey at 09:21 noting that his airway was occluded and that he was unresponsive. Their records stated that on arrival they found his airway was being managed and that he was receiving effective CPR from his colleagues. The 5 Med AED was removed at 09:21 and replaced by the paramedic's defibrillator, which showed Pte Kennington to be in asystole¹⁰⁵ prior to a period of pulseless electrical activity.¹⁰⁶

Witness 13
Exhibit 23
Exhibit 24
Exhibit 27
Exhibit 125

1.4.143. The NHS paramedics placed an airway adjunct, namely an i-Gel®, which reportedly made a slight improvement, though it was hindered by the same build-up of [REDACTED] that the regimental medics had reported. The paramedics requested a helicopter emergency medical service (HEMS) team, in order to place an advanced airway, namely intubation.¹⁰⁷ Whilst waiting for the HEMS team to arrive, the NHS paramedics administered [REDACTED] [REDACTED], the paramedics reported a return of spontaneous circulation (ROSC).

Exhibit 27
Exhibit 28

1.4.144. A HEMS / critical care paramedic arrived on the scene at 09:42 and placed an advanced airway into Pte Kennington before the ambulance departed for [REDACTED]H at 10:05. It was noted, in the electronic patient record that approximately 300ml of fluid was suctioned from Pte Kennington whilst the paramedics were treating him. At 10:18, Pte Kennington arrived at the emergency department of [REDACTED]H where doctors took over his care.

Exhibit 27
Exhibit 30
Exhibit 125

¹⁰⁵ Sometimes described as 'flat-line' where the heart was not beating.

¹⁰⁶ A condition in which despite electrical activity in the heart, it does not beat, therefore there was no pulse.

¹⁰⁷ YAS, in line with many other ambulance trusts, ceased the use of intubation by paramedics. At the time of Pte Kennington's accident only HEMS teams would conduct out-of-hospital intubation of patients as it required regular practice.

¹⁰⁸ Noted as Epinephrine on the medical notes.

1.4.145. The notes from the attending paramedics confirmed that Pte Kennington's airway was being managed by members of 5 Med and that they had been providing effective CPR over 2-minute cycles. The 300ml of fluid that paramedics suctioned from Pte Kennington, allied with the requirement for additional support from the HEMS team, led the panel to determine that Pte Kennington's airway was very difficult to manage.

1.4.146. While ROSC was obtained after administering a [REDACTED] [REDACTED] it was the view of the panel's medical expert that the quality of CPR delivered by members of 5 Med was likely the reason ROSC was obtained after such a long period of time. The panel's medical expert explained that ROSC in out-of-hospital cardiac arrests was rare. The panel concluded that it was highly likely that Pte Kennington would not have left Gaza Barracks alive if it was not for the care that he received by his colleagues and attending paramedics.

Exhibit 114
Exhibit 117

Care in hospital

1.4.147. **Introduction.** In general, the care that Pte Kennington received at [REDACTED]H fell outside the scope of this inquiry, however, the panel felt that the limited discussion that follows would provide useful context to the reader.

1.4.148. **Time in the intensive treatment unit (ITU).** Pte Kennington was admitted to the ITU at [REDACTED]H at approximately 10:18 on 18 November 2022. On admission to the unit, [REDACTED]
[REDACTED]
[REDACTED] indicating areas where fluid had displaced air. [REDACTED] can be attributed to pneumonia but could also be found as a result of a pulmonary oedema, aspiration of stomach contents and numerous other conditions.

Exhibit 31
Exhibit 126
Exhibit 127
Exhibit 128

1.4.149. [REDACTED]
[REDACTED]
[REDACTED] death was confirmed [REDACTED] at 08:55.

Exhibit 126

1.4.150. The panel determined that it was extremely unlikely that Pte Kennington's prognosis improved at any stage during his time in the ITU. In the opinion of the medical expert the outcome was likely decided in the first 20 minutes following cardiac arrest when the hypoxic brain injury was sustained. This was supported by Pte Kennington's hospital notes which documented no improvement to neurological function over successive scans. The panel's medical expert explained that the brain was highly sensitive to hypoxic injury and usually suffered permanent damage when deprived of oxygen.

Exhibit 42
Exhibit 124

1.4.151. The hospital notes did not conclusively determine the origin of the [REDACTED] discovered in Pte Kennington's lungs, though the medical expert opined that it could be associated with the pulmonary oedema and potential aspiration of stomach contents that could occur during CPR. Despite pneumonia being a potential cause of Pte Kennington's symptoms in the weeks leading up to his

Exhibit 62
Exhibit 64

¹⁰⁹ GGN was defined as an area of hazy opacification within an x-ray or increased attenuation during CT scans and was caused by fluid occupying spaces within the lungs that should have been occupied by air.

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collapse, it was impossible to determine whether this was the source of the [REDACTED]. This is due to the fact that, in the opinion of the medical expert, the bronchopneumonic changes reported at post-mortem would be almost expected as a result of his treatment.

1.4.152. The panel **observed** that the treatment provided to Pte Kennington by the NHS paramedics and [REDACTED]H was of the standard expected following an out-of-hospital cardiac arrest. It was extremely unlikely that his hospital treatment contributed to his death and, therefore, was **not a factor** in Pte Kennington's accident.

Exhibit 64

1.4.153. **Summary.** The panel was almost certain that Pte Kennington's accident could not have been foreseen. Despite the unexpected and chaotic nature of the incident, the panel **observed** that the care given to Pte Kennington by members of 5 Med was appropriate, efficient, and timely. The panel concluded that the hypoxic brain injury was almost certainly sustained within the first 20 minutes of cardiac arrest, and that there was nothing that those on the scene, or in the hospital could have done to reverse it. The panel concluded that the care he received by all those involved in his treatment was almost certainly **not a factor** in Pte Kennington's accident.

Exhibit 129

Section 4 – Accident reporting and trend analysis

1.4.154. **Introduction.** This section of the report evaluates factors and observations which, although not causal or contributory to the accident, arose during the investigation. It was the view of the panel that the areas covered below were of interest to wider defence safety and the promotion of better working practices.

Key findings

1.4.155. The panel made the following findings in this section:

- a. 5 Med reported Pte Kennington’s accident in line with extant policy.
- b. All parties worked hard to ensure Pte Kennington’s family was informed as quickly and sensitively as possible. However, the panel felt this process could have been undertaken more quickly than it was.
- c. The location of the AED used to treat Pte Kennington was not known by all personnel interviewed, though there was nothing to suggest a delay to his treatment.

Accident reporting

1.4.156. **Introduction.** It was defence policy that all accidents and incidents were reported and recorded correctly. This requirement served a purpose beyond merely informing wider defence, it also ensured that sufficient information was captured to support the analysis of accident trends. 5 Med produced standing orders that covered the reporting requirements in order to satisfy the wider defence policy outlined above.

1.4.157. Following Pte Kennington’s accident, at approximately 10:30, Officer 2 established an incident room¹¹⁰ made up of key persons within the regimental headquarters (RHQ). The aim of the incident room was to log the actions that had already taken place, to determine any follow-on actions and to provide a record of decision making. Table 1.4.7 outlines the authorities and organisations to which 5 Med reported the incident.

Authority	Notification method	Date of notification
JCCC.	Notification of Casualty (NOTICAS).	18-24 November 2022. ¹¹¹
DAIB.	Phone call.	18 November 2022.
DURALS.	Occurrence report.	22 November 2022.
	Investigation report.	23 January 2023.
HSE.	Injury report.	25 November 2022.

Table 1.4.7 – Authorities notified by 5 Med.

Exhibit 35
Exhibit 130
Exhibit 131

Witness 6
Exhibit 36

Exhibit 32
Exhibit 33
Exhibit 38
Exhibit 132
Exhibit 133
Exhibit 134
Exhibit 135

¹¹⁰ Also known as a major incident group.

¹¹¹ Four separate NOTICAS reports were made on 18, 21, 23 and 24 November 2022.

1.4.158. The panel reviewed 5 Med's standing order for death and serious injury and found that it covered the appropriate reporting considerations for such incidents. Comparing the standing order with the record of decisions taken on the day, and various documents supplied to the inquiry, the panel was content that the defence policy on reporting was adhered to.

Informing Pte Kennington's emergency contacts

1.4.159. **Introduction.** It was defence policy that a service person's emergency contact (EC) was to be informed if they became a casualty.¹¹² This policy formed part of defence's wider reporting policy and was contained within Joint Service Publication (JSP) 751 Volume 1, which stated: 'casualty reporting must be undertaken as quickly and sensitively as possible'. The Joint Casualty and Compassionate Centre (JCCC) was responsible for co-ordinating the notification process. However, unit commanding officers were to notify an EC directly if they lived near to the reporting unit.¹¹³

Exhibit 136
Exhibit 137

1.4.160. JCCC were initially informed by telephone at 10:00 followed by a notification of casualty (NOTICAS),¹¹⁴ which was sent prior to 10:30. Pte Kennington had been listed as very seriously injured (VSI)¹¹⁵ and the NOTICAS and telephone call provided JCCC with the information they required to begin the notification process. At approximately 11:30, Officer 2 took a call from the regimental orderly officer (ROO),¹¹⁶ who was acting as medical liaison between the hospital and the regiment. During that call the ROO explained that they had information to suggest that Pte Kennington's parents were away on holiday within the UK and may not have been at home.

Exhibit 33
Exhibit 138

1.4.161. The CO described that they were aware that the hospital staff wanted to contact Pte Kennington's next of kin (NoK) and that JCCC, who were responsible, from a defence perspective, for notifying his parents, were still attempting to identify a notification officer.¹¹⁷ The CO explained that they also felt the process would have been subject to additional delay if a notification officer was sent to the EC address, knowing there may have been nobody home. The CO described becoming increasingly uncomfortable and contacted JCCC to ask if they could KINFORM¹¹⁸ directly over the phone; that call took place at approximately 11:30.

Witness 26
Exhibit 33

1.4.162. At approximately 12:35, following further telephone calls between the CO and JCCC, permission was given for the CO to inform Pte Kennington's parents, that telephone call took place at approximately 12:40.

Exhibit 33

¹¹² In policy a casualty was defined as: 'any person lost to his / her organisation by reason of having been declared dead, wounded, detained, captured or missing'.

¹¹³ For example, in service family accommodation located near to the casualty's unit.

¹¹⁴ A NOTICAS was a form sent to JCCC and submitted either through the JPA system or via email or fax.

¹¹⁵ VSI was defined as an illness of such a severity that life was imminently endangered.

¹¹⁶ The ROO was essentially the duty officer, a role undertaken by a senior non-commissioned officer or junior commissioned officer and held for a specific period of time ranging from 24 hours to a week.

¹¹⁷ A notification officer would be responsible for visiting the EC in person to deliver the news that their loved one was a casualty.

¹¹⁸ KINFORM was a military term meaning to inform the next of kin.

1.4.163. The first call, notifying JCCC of Pte Kennington's accident, was made at approximately 10:00 and was promptly followed by a NOTICAS. This procedure was in line with the policy extant at the time and the initial notification was made within an hour of Pte Kennington's accident. It was clear from the information recorded in the major incident group's decision log, as well as testimony from the ROO and the CO, that both the hospital and 5 Med wanted to contact Pte Kennington's family as quickly as possible. It was also apparent that JCCC were following procedure and working hard to get a notification officer to Pte Kennington's family home.

Witness 26
Witness 27
Exhibit 33

1.4.164. However, whilst it was highly likely that 5 Med and JCCC were following the correct procedure, and that casualty reporting was **not a factor** in the accident, the panel felt that a more pragmatic approach could have been adopted. The panel **observed** that JCCC could have granted permission for the CO to contact Pte Kennington's family sooner than it did, particularly in light of information suggesting they may not have been at their home address.

1.4.165. The panel did not discount the fact that the hospital had mechanisms by which it could have informed Pte Kennington's family. However, it was likely that the presence of the ROO, as liaison officer, resulted in the hospital leaving that responsibility to the Army.¹¹⁹

1.4.166. The panel concluded that 5 Med followed extant policy and informed JCCC of Pte Kennington's accident promptly. Therefore, it was **not a factor** in Pte Kennington's accident.

Automated external defibrillators in MOD establishments

1.4.167. **Introduction.** There was no legislation extant in the UK at the time of Pte Kennington's accident requiring AEDs to be provided at any venue or establishment. However, the UK Government was in the process of bringing such legislation into force through The Automated External Defibrillator Bill,¹²⁰ which was awaiting its second reading in the House of Commons.¹²¹

Exhibit 139

1.4.168. **MOD policy.** The only policy, which the panel found, referencing AEDs was JSP 375 Volume 1 Chapter 5; it was extant at the time of the accident.¹²² That policy directed that all AEDs needed to be strategically placed in a prominent location, with appropriate signage around the establishment. The signage was to highlight the location of the device and provide information on access to the equipment; this was also to be communicated to personnel.

Exhibit 140

1.4.169. **5 Med AED.** The AED was a critical piece of life saving equipment and was held in the guardroom of Gaza Barracks, which was always staffed.

Witness 1
Witness 4

¹¹⁹ There is no criticism, direct or implied, levied at the regiment for providing a liaison officer or at the hospital for leaving the Army to notify family.

¹²⁰ [Automated External Defibrillators \(Public Access\) Bill - Parliamentary Bills - UK Parliament](#) (accessed: 17 Aug 23).

¹²¹ The UK Government website indicated that the Bill was introduced in the 2019-21 Parliamentary session and passed its first reading in December 2020. Whilst the website said it was awaiting its second reading, the panel was unsure whether the Bill was still live owing to the general rule that Bills would fail if not enacted before the Parliamentary session was dissolved.

¹²² JSP 375 Vol 1 covered the management of health and safety in defence, Chapter 5 covered first aid. Paragraph 13 of chapter 5 authorised units to purchase an AED if their risk assessments identified the need for one.

Despite various visits to the barracks, the panel was unaware of any signs indicating the location of the device and a number of witnesses, when questioned, could not tell the panel where an AED could be found. Medic 6 said they believed everyone should have known it was in the guardroom, however, the panel was aware that during Pte Kennington's accident at least 2 individuals entered the gym in the expectation of finding it there. It was also noted that a decision had been made at garrison-level to remove the AED from the gym and to relocate it to the guardroom; the panel could not identify when this happened. However, the panel was notified that safety action had already taken place as 5 Med had now placed an AED within the gym, in addition to the one located in the guardroom. The panel **observed** that placing an additional AED in gyms, where the risk of cardiac arrest may be higher, was a sensible step which defence may wish to adopt more broadly.

Witness 5
Witness 7
Witness 8

1.4.170. As the guardroom was situated at the entrance to the barracks and was continuously staffed¹²³ the panel considered it to be a prominent place and, therefore, in line with the direction laid down in JSP 375. However, the panel felt that the lack of signage,¹²⁴ and apparent lack of knowledge of the AED location made it more likely than not that personnel were not adequately briefed on its location. Whilst the device was used effectively in Pte Kennington's treatment, the panel concluded the lack of signage and general lack of knowledge as to where the device was located constituted an **other factor**.

Witness 1

1.4.171. Recommendation. Director Directorate of Defence Safety should provide direction on the provision of automated external defibrillators across defence to ensure personnel have access to a device within the timelines set by the Resuscitation Council.

Trend analysis

1.4.172. **SADS trends within HM Forces population.** The panel was keen to understand the average number of deaths attributed to SADS within the UK Armed Forces in order to identify any emerging trends. It was also felt that understanding the figures would allow defence to monitor the efficacy of medical screening at identifying those at risk of sudden cardiac deaths. The panel was provided with a study, undertaken by a defence medical practitioner, as part of their PhD; the study considered deaths resulting from cardiovascular diseases (CVD) in the 18-year period between 1995 to 2013.

Exhibit 141

1.4.173. The study found that there were 279 deaths related to CVD between 1995 and 2013, accounting for approximately 10% of deaths within the UK Armed Forces. Over that period 64 of the deaths fitted the SADS descriptor or other unexplained but presumed cardiac causes. The author of the study noted that CVD deaths trended downward over the period opining that such a downward trend was most likely due to a reduction in ischemic heart disease. The data gathered over the period pre-dated the improvements made to the

Exhibit 142
Exhibit 143
Exhibit 144
Exhibit 145

¹²³ The guardroom was constantly staffed by a rotation of personnel from 5 Med and the Light Dragoons, as both regiments shared Gaza Barracks.

¹²⁴ The panel accepts that signage could have been placed around Gaza Barracks but did not see evidence of this during any of their visits.

pre-service medical assessment (PSMA) undertaken by potential army recruits.

1.4.174. The data collected over the period suggested that fewer than four service people died of SADS each year¹²⁵ and that all deaths due to CVD were on an overall downward trend. The panel determined that improvements to medical screening, that were in place at the time of Pte Kennington's accident, (and post-dated the data collected in the study) made it more likely than not that recruits at risk of SADS would be screened out prior to joining the army. This led the panel to conclude that there would likely be fewer deaths in service due to SADS than the average of four per year seen in the study data.

1.4.175. Noting that the most recent data in the study was 10 years old at the time of writing this report, and the oldest data in that set was some 28 years old, the panel felt that defence would benefit from a new study to update findings and report on the efficacy of current cardiac screening. The panel also felt that a new study would present an opportunity for defence to consider whether ECG screening should be read across to all three services to better protect its people.

1.4.176. Recommendation. Head Defence Medical Services Regulator should commission a report into the number of deaths attributed to sudden arrhythmic death syndrome, within the United Kingdom armed forces population, since the introduction of the most recent medical screening programme such that an early indication of any rising trends can be monitored.

Exhibit 144

¹²⁵ 64 SADS deaths over an 18-year period equated to a simple average of 3.5 SADS deaths per year.

Summary of findings

Causal factors

1.4.177. The panel did not identify any causal factors which led directly to the accident.

Contributory factors

1.4.178. The panel identified one potential contributory factor that may have made the accident more likely.

- a. Although unwell at the time of his accident the panel were unable to positively determine from what he was suffering, or whether the illness was related to his collapse and were, therefore, unable to discount it as a potential **contributory factor** in his accident. 1.4.40

Aggravating factors

1.4.179. The panel identified one potential aggravating factor that made the outcome worse.

- a. The time it took for the call to be transferred to an EMD at YAS likely led to a delay in paramedics arriving at the scene of the accident. As the panel's medical expert expressed a view that the earlier arrival of paramedics may have led to a different outcome, this delay could not be discounted. Therefore, the panel could not positively determine whether the delay in the arrival of paramedics constituted an **aggravating factor** in the accident. 1.4.117

Other Factors

1.4.180. The panel identified eight other factors that, whilst not causal or contributory in the accident, may cause or contribute to a future accident.

- a. The panel felt that a reluctance amongst service personnel to report sick when unwell had the potential to cause an accident in the future and this was, therefore, an **other factor** . 1.4.39

- b. The panel concluded that the status of Pte Kennington's SCR had no relevance to his accident. The potential for soldiers to be out of date for a mandated assessment was considered to be an **other factor**. 1.4.50

- c. The panel felt that the risk assessment could have been clearer, in respect of the weighing of PLCE (hazard 16) by detailing exactly who held the responsibility for checking weight prior to session start. The panel concluded that the weighing of PLCE constituted an **other factor**. 1.4.73

- d. In respect of the accident itself, the panel concluded that the appointment of a more junior officer was **not a factor**, though the confusion in the policy wording did constitute an **other factor** as it had 1.4.77

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the potential to lead to the appointment of an OIC who did not hold sufficient military experience and judgement.

e. There was nothing to suggest that the pace of the build-up march was unsafe. However, the panel concluded that the normalisation of deviations, evident in the change of pace from that detailed in the lesson plan, had the potential to introduce additional risk that may not have been considered in the risk assessment. The panel therefore identified this deviation as an **other factor**. 1.4.82

f. While it was determined that the decision to not immediately cease training did not contribute to this accident, it could lead others to be injured in the future and it therefore constituted an **other factor**. 1.4.88

g. While the panel determined that the decision to not check the weight of PLCE carried on 18 November 2022 did not contribute to Pte Kennington's accident it had the potential to lead to injury in the future. Therefore, the decision to not check the weight of PLCE constituted an **other factor**. 1.4.92

h. The panel felt that the lack of signage,¹²⁶ and apparent lack of knowledge of the AED location made it more likely than not that personnel were not adequately briefed on its location. Whilst the device was used effectively in Pte Kennington's treatment, the panel concluded the lack of signage and general lack of knowledge as to where the device was located constituted an **other factor**. 1.4.170

Observations

1.4.181. The panel made the following observations:

a. The panel **observed** that the status of soldiers' ITR's should be monitored more closely. 1.4.49

b. The panel **observed** that there was no definition for what constituted a minor or major injury and that such an assessment would be inherently subjective, however, the panel felt instructors had the requisite military experience to categorise an incident appropriately. 1.4.64

c. The panel **observed** that serial 3 of the minor casualty control measures and serials 4 and 5 of the major casualty control measures referred to terms that were no longer in use. 1.4.64

d. The panel **observed** that allowing participants to report to an instructor in private was good practice as many soldiers would feel uncomfortable doing so in front of their peers. 1.4.68

¹²⁶ The panel accepts that signage could have been placed around Gaza Barracks but did not see evidence of this during any of their visits.

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- e. The panel **observed** that there was no policy covering the categorisation and management of a collapse with a loss of consciousness. 1.4.87
- f. The panel **observed** that it may be prudent for a caller to be assisted by the BT operator asking them directly whether the incident posed an immediate or imminent risk to life and was, therefore, critical. 1.4.115
- g. The panel **observed** that treatment provided to Pte Kennington by NHS paramedics and hospital staff was of the standard expected following an out-of-hospital cardiac arrest. 1.4.152
- h. The panel **observed** that the care given to Pte Kennington, by members of 5 Med, was appropriate, efficient and timely. 1.4.153
- i. The panel **observed** that JCCC could have granted permission for the CO to contact Pte Kennington's family sooner than it did, particularly in light of information suggesting they may not have been at their home address. 1.4.164
- j. The panel **observed** that placing an additional AED in gyms, where the risk of cardiac arrest may be higher, was a sensible step which defence may wish to adopt more broadly. 1.4.169

Safety actions

1.4.182. The panel was pleased to note the following safety actions had already been addressed:

- a. The panel was pleased to note that a safety action had been taken already by PTI 1 incorporating the opt-out brief in the PTI checklist, which was to be read verbatim in the event of PT taking place in their absence. 1.4.68
- b. The panel noted that a safety action had been taken already by adding the scales to a calibration register to ensure they were kept in a serviceable state. 1.4.91
- c. The panel was notified that safety action had already taken place as 5 Med had now placed an AED within the gym, in addition to the one located in the guardroom. 1.4.169

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**Annex A to
DSA/SI/07/22 – Part 1.4
Medical equipment used in treatment**

Medical equipment used in treatment

1.4.A.1. **Introduction.** As a medical regiment in the Army, 5 Med held a stock of medical equipment that was used in the treatment of Pte Kennington. This annex provides an overview of the equipment and what it was used for. The analysis of how the equipment was used in the treatment of Pte Kennington can be found in Section 4 of part 1.4 of this report. The list of medical equipment that will be explained can be found below:

- a. Oropharyngeal airway (OPA).
- b. i-Gel®.
- c. Suction Easy™.
- d. Bag valve mask (BVM).
- e. Portable oxygen.
- f. Pulse oximeter.
- g. Laerdal Suction Unit (LSU).
- h. Automated external defibrillator (AED).

Equipment locations

1.4.A.2. The medical equipment used by 5 Med was held in various locations in Gaza Barracks. Figure 1.4.A.1 outlines where those locations were in relation to the accident. Table 1.4.A.1 outlines the distances from the accident to each equipment location.¹²⁷

Witness 10
Witness 13
Witness 21
Witness 23



Figure 1.4.A.1 – Medical equipment locations.

¹²⁷ The distances were measured by the SI panel on their visit to Gaza Barracks on 9 Feb 23.

Medical equipment	Equipment location	Distance from accident
OPA	24 Sqn stores	135.3 meters
LSU	24 Sqn stores	135.3 meters
BVM	24 Sqn stores	135.3 meters
Suction Easy™	24 Sqn stores	135.3 meters
Pulse oximeter	24 Sqn stores	135.3 meters
Portable oxygen	Quartermaster's (QM) stores	107.8 meters
AED	Guardroom	216.2 meters

Table 1.4.A.1 – Distance of medical equipment from the accident.

Equipment descriptions

1.4.A.3. **Oropharyngeal airway (OPA).** An OPA was a piece of medical equipment normally used in advanced airway management. It consisted of a rigid tube that was inserted into the mouth and placed above the tongue to prohibit it from blocking the back of the throat. An example of an OPA can be seen in Figure 1.4.A.2.

Exhibit 146

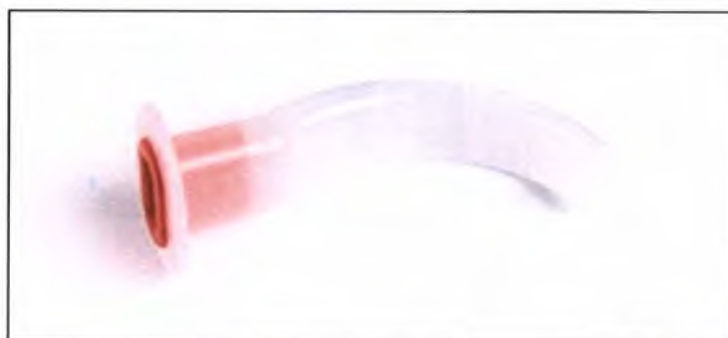


Figure 1.4.A.2 - Oropharyngeal airway (OPA).¹²⁸

1.4.A.4. **i-Gel®.** An i-Gel® was another airway management device which was softer and more malleable than an OPA, being constructed of polyvinyl chloride and latex. This allowed the device to be pushed into the upper airway where it would create a seal over the perilaryngeal¹²⁹ framework without inducing trauma to the patient. Of note, these devices had a mount connection for catheters or other connections, such as a tube to deliver oxygen.

Exhibit 147

¹²⁸ Dragon.Industry Co.Ltd, Available at: [Pharyngeal Oropharyngeal Airway - Motorized Stair Chair \(dragon-iec.com\)](http://Pharyngeal Oropharyngeal Airway - Motorized Stair Chair (dragon-iec.com)) (accessed: 06 Apr 23).

¹²⁹ The area surrounding the larynx.



Figure 1.4.A.3 – i-Gel®.¹³⁰

1.4.A.5. **Suction Easy™**. A Suction Easy™, as shown in Figure 1.4.A.4, was a manual suction device that consisted of a bag attached to a bulb and tube mechanism. When the bulb was squeezed, fluid could be extracted from the oral pharynx area.¹³¹ The device was delivered to the scene in one of the medical bergens.

Exhibit 148

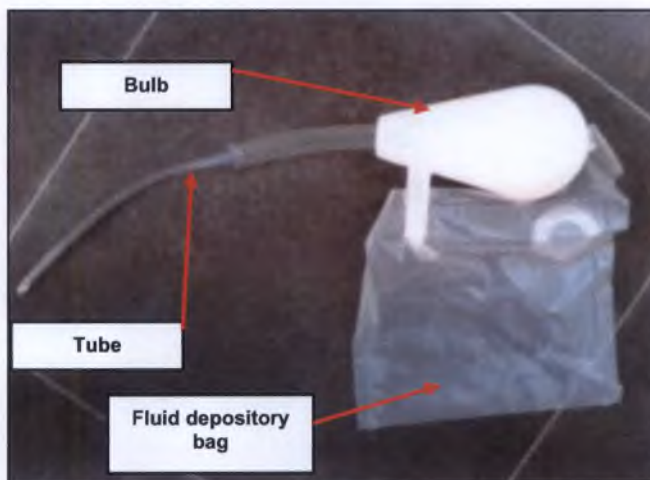


Figure 1.4.A.4 – Suction Easy™.¹³²

1.4.A.6. **Bag valve mask (BVM)**. A BVM was a common piece of equipment used in the resuscitation of patients. It consisted of a face mask which was attached to a self-inflating bag via an air-inlet valve. BVMs were used to provide 'positive pressure ventilation'¹³³ to a person who was not breathing or

Exhibit 149

¹³⁰ Intersurgical Complete Respiratory Systems. Available at: [i-gel@supraglotticairway \(intersurgical.com\)](http://i-gel@supraglotticairway.intersurgical.com) (accessed: 15 Aug 23)

¹³¹ The oral pharynx begins at the back of the mouth and extends as far down as the epiglottis in the throat.

¹³² Prestige Tactical (2021), Available at: [Suction Easy Manual Suction Device - Prestige Tactical - high quality products at reasonable prices](#) (accessed: 06 Apr 23).

¹³³ Positive pressure ventilation is the process of using a mask or a ventilator to deliver breaths and decrease the work of breathing in a critically ill patient.

was otherwise breathing inadequately. An example of the BVM used in the treatment can be seen in Figure 1.4.A.5.

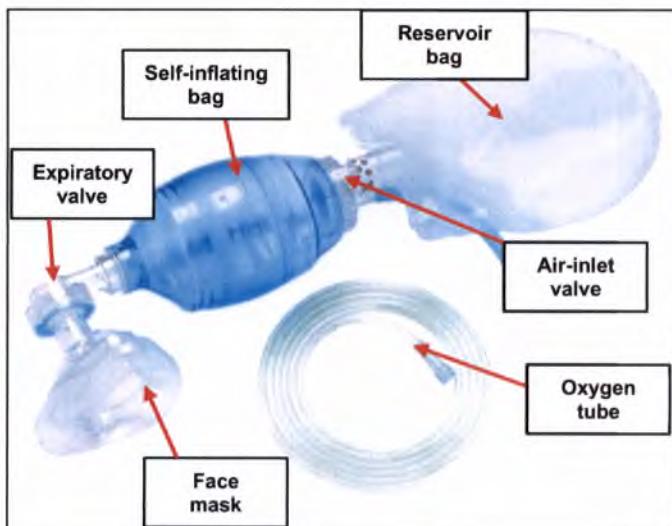


Figure 1.4.A.5 - Bag valve mask (BVM).

1.4.A.7. **Portable oxygen.** A portable oxygen cannister contained high-purity oxygen used to increase the amount of oxygen delivered to a patient. 5 Med held a limited supply of oxygen cannisters, as seen in Figure 1.4.A.6, for use on deployment. The oxygen cannisters could be attached directly to a mask to provide a constant flow of oxygen to a casualty or attached to the reservoir of a BVM to increase the oxygen content of air delivered through the bag. The oxygen cannisters were located in a locked cage outside the QM's department.

Witness 10
Witness 13
Exhibit 150



Figure 1.4.A.6 - Portable oxygen.

1.4.A.8. **Portable pulse oximeter.** A pulse oximeter measured the amount of oxygen in the blood, also known as oxygen saturation or SPO2. The device expressed the SPO2 level as a percentage.

Exhibit 151



Figure 1.4.A.7 – Pulse oximeter.¹³⁴

1.4.A.9. **Laerdal suction unit (LSU).** An LSU was a portable suction unit manufactured by Laerdal, a Norwegian healthcare company. It was battery operated and provided a powerful vacuum to clear a patient's airway. The device allowed the user to control the power of the vacuum using the dial on the front of the unit. The suction tube could be applied to the visible area of the patient's airway to remove any blockage.

Exhibit 152

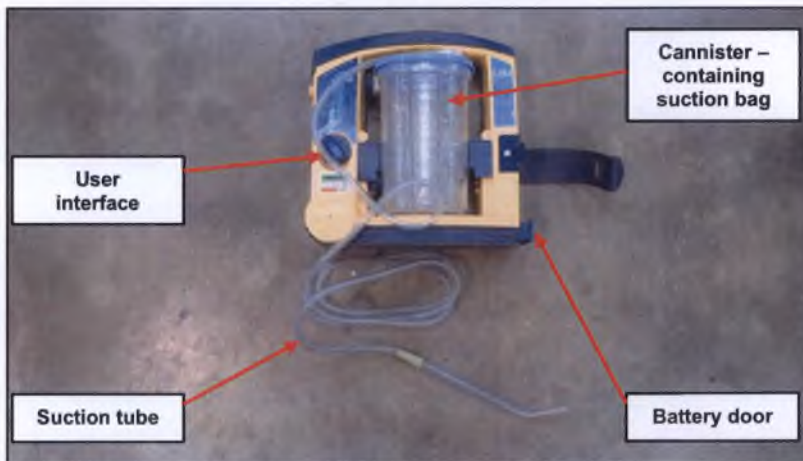


Figure 1.4.A.8 - Laerdal suction unit (LSU).

1.4.A.10. **Automated external defibrillator (AED).** An AED was an electronic emergency medical device which analysed the heart's rhythm. The device provided prompts during CPR and, if necessary, would advise the user to deliver an electrical shock¹³⁵ to a patient in order to restore the heart's normal rhythm.

Exhibit 153

¹³⁴ Steroplast Healthcare, Available at: [Creative Medical Fingertip Pulse Oximeter \(steroplast.co.uk\)](https://www.steroplast.co.uk) (accessed: 06 Apr 23)

¹³⁵ The user must press a button to deliver the electrical shock.



Figure 1.4.A.9 - Automated external defibrillator (AED).

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Part 1.5

Recommendations

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Part 1.5 – Recommendations

- 1.5.1. **Introduction.** The following recommendations are made in order to enhance Defence Safety:
- 1.5.2. **The Head of the Strategic Command Safety Centre should:**
- a. Conduct an information campaign for personnel within their area of responsibility, reinforcing the importance of reporting to a medical professional when unwell, in order to mitigate potential risks associated with conducting physical training while carrying an illness. 1.4.41
- 1.5.3. **The Navy Safety Director of the Navy Safety Centre:**
- a. Should conduct an information campaign for personnel within their area of responsibility, reinforcing the importance of reporting to a medical professional when unwell, in order to mitigate potential risks associated with conducting physical training while carrying an illness. 1.4.42
- 1.5.4. **The Assistant Head of Safety of the Army Safety Centre should:**
- a. Conduct an information campaign for personnel within their area of responsibility, reinforcing the importance of reporting to a medical professional when unwell, in order to mitigate potential risks associated with conducting physical training while carrying an illness. 1.4.43
- 1.5.5. **The Head of the Royal Air Force Safety Centre should:**
- a. Conduct an information campaign for personnel within their area of responsibility, reinforcing the importance of reporting to a medical professional when unwell, in order to mitigate potential risks associated with conducting physical training while carrying an illness. 1.4.44
- 1.5.6. **Director of Personnel should:**
- a. Produce a policy outlining the requirements for weighing personal load carriage equipment prior to all weighted physical training sessions in order to mitigate the risk of injury imposed by personnel carrying too much weight. 1.4.74
 - b. Provide clear direction on the appointment criteria of the officer-in-charge of physical training in order to ensure only those who are suitably qualified and experienced undertake the role. 1.4.78
- 1.5.7. **Senior Master at Arms of the Royal Army Physical Training Corps should:**
- a. Conduct an information campaign to ensure that personnel responsible for lesson plans understand the risks posed by normalising deviations to planned activity, in order to reduce the likelihood of injury in the future. 1.4.83

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- 1.5.8. **The Medical Director of Defence Medical Services should:**
 - a. Lead a review into how a collapse with loss of consciousness is managed and categorised in order to ensure current first aid policy is sufficiently robust to mitigate the risk of serious injury in such cases. 1.4.89
- 1.5.9. **The Director Directorate of Defence Safety should:**
 - a. Provide direction on the provision of automated external defibrillators across defence to ensure personnel have access to a device within the timelines set by the Resuscitation Council. 1.4.171
- 1.5.10. **Head Defence Medical Services Regulator should:**
 - a. Commission a report into the number of deaths attributed to sudden arrhythmic death syndrome, within the United Kingdom armed forces population, since the introduction of the most recent medical screening programme such that an early indication of any rising trends can be monitored. 1.4.176

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Part 1.6

Convening authority comments

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PART 1.6 – Convening authority comments

Introduction

1.6.1. This service inquiry (SI) was convened on 12 December 2022 to investigate the circumstances surrounding the tragic death of Private (Pte) Joshua Kennington of the Royal Logistics Corps (RLC). Pte Kennington's death, in hospital, on 24 November 2022 followed his collapse during an organised physical training (PT) session at Gaza barracks on 18 November 2022.

1.6.2. The SI panel has submitted its report to me after 12 months of detailed evidence gathering, interviews and analysis. While the cause of Pte Kennington's death was brought about by sudden arrhythmic death syndrome, and was, therefore, not foreseeable, the panel felt that it could not discount his pre-accident illness as having played a part in his collapse. Similarly, the panel was unable to positively determine whether the delay in arrival of paramedics, resulting from the time taken for the 999-call to be passed to an emergency medical dispatcher at Yorkshire Ambulance Service, made the outcome of Pte Kennington's collapse worse. The panel identified several other factors and observations which, although not contributory to Pte Kennington's death, may be capable of causing or contributing to another accident.

1.6.3. The panel has submitted its recommendations to me, and I would urge all commands to consider their wider applicability, particularly in the planning and execution of physical training activities. Having reviewed the report, I agree with the panel's findings and recommendations and offer the following observations.

Medical care

1.6.4. The high-quality care provided to Pte Kennington by his colleagues, including the prompt use of an automated external defibrillator, gave him the best chance of survival. The unforeseeable nature of this accident underlines the importance of basic life support training and regular drills to ensure personnel are confident to act quickly and appropriately.

1.6.5. Although Pte Kennington's friends and colleagues were unable to save his life, it was clear that they worked extremely hard to do so and they should be commended for their efforts.

Sudden arrhythmic death syndrome trends

1.6.6. The panel was provided with evidence from a defence study into sudden cardiac deaths in the military. This study indicated that the number of sudden cardiac deaths was on a downward trend, but that defence could expect an average of four service deaths per year as a result of sudden arrhythmic death syndrome. I am confident that pre-joining medicals are robust, and that there is no additional test available at present that can reduce those numbers. However, defence should continue to monitor trends and, where appropriate, take advantage of emerging technologies to reduce these figures wherever possible.

Conclusion

1.6.7. Having read the report, I am content that this tragic accident has been investigated, analysed, and reported thoroughly, accurately and rigorously. On behalf of the Defence Safety Authority, I offer my sincere condolences to Pte Joshua Kennington's family, friends and loved ones.

S J Shell CB OBE MA
Air Marshal
Director General Defence Safety Authority