# Kent Helicopter Ambulance Service final report on assessment study

AA Foundation for Road Safety Research

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Presented to the AA Foundation for Road Safety Research
by
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# The AA Foundation for Road Safety Research

The AA Foundation was formed by the Automobile Association in December 1986 as part of its continuing efforts in the road safety field and as a major contribution to European Road Safety Year.

Registered as a charity, the objectives of the Foundation are:

> To carry out, or procure, research into all factors affecting the safe use of public roads;
>
> To promote and encourage the safe use of public roads by all classes of users through the circulation of advice, information and knowledge gained from research; and
>
> To conceive, develop and implement programmes and courses of action designed to improve road safety, these to include the carrying out of projects or programmes intended to educate young children or others in the safe use of public roads.

Control of the AA Foundation is vested in a Council of Management under the Chairmanship of Sir Peter Baldwin.

Support for the Foundation in its sponsorship of research projects is encouraged from companies and other bodies that have a concern for and interest in road safety. During the time the research reported here was undertaken, the Foundation was supported by:

The Caravan Club, Coopers & Lybrand Deloitte, Europcar (UK), ICL, The Society of Motor Manufacturers and Traders, and insurance companies Bishopsgate, City of Westminster, Commercial Union, Cornhill, Eagle Star, GRE, London & Edinburgh, Minster, Municipal Mutual, NEM, Norwich Union, Orion, Provincial, Rose Thomson Young Underwriting, Royal, Sphere Drake and Sun Alliance.

# 1 Introduction and study methodology

This is the final report prepared under a contract between the AA Foundation for Road Safety Research and Margaret Heraty ("the Consultant").

The terms of reference for the study were:

1 to examine the records of the use of the helicopter ambulance in Kent and to assess the value of the service so rendered by reference to its use and in comparison with the level of service of the Kent Ambulance Service without its assistance;

2 to draw such inferences as can reasonably be deduced from (1) concerning the possibility of minimising the consequences of accidents particularly on the roads; and

3 to report to the AA Foundation on the findings.

The study covered the three-month operational period 16 March to 18 June 1990, beginning just after the resolution of the ambulance service dispute.

The primary data source was the set of flight records kept by the Kent Ambulance Service (KAS) paramedic personnel, two of whom are carried on the helicopter; these records were provided by KAS Headquarters' staff who also analysed them for their own monitoring purposes. For each flight on which a patient was conveyed to hospital from an accident or emergency, a standard form AMB46 (as used on land ambulances) was also completed with details of the patient's condition and any treatment given. A sample of each form is shown in Appendix A. These forms had been in use since the helicopter started operation in December 1989.

Each AMB46 was inspected by Mr Jim Walker, Accident and Emergency Consultant at Kent and Sussex Hospital, Tunbridge Wells. Those cases in which the use of the helicopter appeared to be "justified", in terms of potential saving of life or reduction in recovery time or long-term disability, were identified and Mr Walker – albeit with some difficulty – obtained follow-up information from the large number of different medical consultants (both inside and outside the county) who had subsequently treated the relevant patients. A broad assessment (although in qualitative rather than quantitative terms) was then generally possible of the value of using the helicopter as distinct from conveying the patient by land ambulance.

There was one flaw in this approach to the assessment of benefits which was not evident at the time of designing the study around the pre-existing record keeping system, but which has led to an under-estimation of the benefits from the helicopter operation. It emerged during the study that there appears to be a significant number of cases in which the paramedics on board the helicopter treat a patient (often an accident victim) at the site of the incident until he or she is stabilised,

but the patient is then carried by land ambulance to hospital. No record of these events is kept by the helicopter crew (as distinct from the bare record of their attendance at the incident and details of the flights to and from the site) and their frequency has had to be estimated from inspection of the length of time the helicopter was at the site: the assumption being made that if it were there for more than a few minutes, some medical help had been provided by its crew.

Control Commanders at KAS Headquarters at Linton Hospital, Coxheath (near Maidstone) provided not only explanations of how the emergency ambulance service works and how the helicopter is activated but also their views on when it should be sent to an incident. Mr Martin Read and his colleagues in the KAS Training School on the same site provided the data records and also their own analyses, interpretations and comments. KAS Control staff added to these their estimates of the land ambulance time saved in each case when the helicopter was used to convey a patient. Estimates of land ambulance costs were provided variously by KAS and the Medway District Health Authority (which administers the Ambulance Service for the whole of Kent, on behalf of all six District Health Authorities).

South East Thames Regional Health Authority's (SETRHA) Helicopter Steering Committee invited the Consultant to several of its meetings, when further background information was gleaned from the perspectives of the Health Authority and the Ambulance Service.

During the course of the study, the Consultant had the opportunity to observe the helicopter operation first hand and flew with the aircraft to a number of road accidents. Lengthy discussions were also held with the pilot and with a number of the core team of paramedics from which the flying pair are drawn each week.

Technical and operational aspects were discussed with Mr Jim Webb of the College of Aeronautics at the Cranfield Institute of Technology (a specialist in helicopter design and operation) and Mr David Lewis of McAlpine Helicopters at Hayes, who was able to provide actual and hypothetic costs for alternative operating patterns, as well as further insights into the present operation and the feasibility of alternative schemes.

Contact was made with specialists in the valuation of life and injury at the Transport and Road Research Laboratory (Dr Goff Jacobs), the University of Newcastle upon Tyne (Professor Mike Jones-Lee), the Medical School at Aberdeen University (Professor Gavin Mooney) and the Department of Transport (Phil Martin and Kate McMahon).

Comparative information was obtained from discussions with Mr Laurie Caple, Chief Ambulance Officer of the Northumbria Ambulance Service NHS Trust, whose own helicopter ambulance was launched at about the beginning of the study.

The consultant would like to acknowledge the enormous help and collaboration provided by all the people and organisations mentioned above, without whom the study could not have been carried out.

# 2 The helicopter operation

## 2.1 Service provision and funding

The service is operated by an Aérospatiale Twin Squirrel helicopter, based at Rochester Airport in the Medway towns. Internal fitting was carried out with advice from KAS and enables the pilot and one stretcher case to be carried in the front, with two paramedics in the rear, one of whom has direct access to the patient. The aircraft and pilot are provided by McAlpine Helicopters (the British agents for Aérospatiale helicopters) under a contract to SETRHA.

In addition to the contract with McAlpine, which covers standing charges, maintenance, provision for overhauls and insurance, as well as the pilot (charged virtually at cost), SETRHA has to bear the cost of refuelling the helicopter (generally done at Rochester) and of liquid oxygen replenishment. (The oxygen system has since been changed.) Landing fees and standing charges at Rochester Airport have been waived by the aerodrome owner.

The contract is for a three year-period, with break points at various times throughout. Some subsidy is being provided by McAlpine in that the contract calls for payment for the costs of only four of the first six months' operation and for only 29 of the ensuing 30 months. SETRHA hoped to cover the costs by corporate and public fund-raising; after an initially disappointing start, a public lottery and other fund-raising activities were covering the costs of the month-to-month operation by the end of the study. Corporate sponsorship has, on the other hand, still largely failed to materialise.

Details of the current costs and those of possible alternative patterns of operation are given in Section 3.

## 2.2 Choice of helicopter

The Aérospatiale Twin Squirrel has many advantages for the present operation. It is economical, operates on any terrain with its skids, and is small and manoeuvrable. Its major disadvantages are that it can only take one patient and, because of its construction and layout, was equipped until recently with a liquid oxygen system which requires constant replenishment. This problem now appears to have been overcome.

It should be said that the restriction to one patient proved a problem on only two occasions during the monitoring period, although there have been further occasions when a doctor or parent has wanted to accompany the patient and could only do so if one of the paramedical staff were left behind. The liquid oxygen refills were more of an inconvenience than a great cost, at 5-10 minutes flying time.

Different aircraft are used in other places. Obviously, larger machines are more expensive in operation and this has to be a guiding factor: thus the MBB (Bolkow) 105, as used in Cornwall and the Highlands and Islands of Scotland, which can take two stretchers, presents levels of expenditure above that of the Twin Squirrel, while offering inferior

standards of patient accessibility and crew comfort in flight and more limited storage capability for emergency medical supplies. The MBB 117 is larger and more expensive still but overcomes some of the practical problems of the 105; its weight does, however, restrict its use on rooftop helipads.

The larger (and more expensive) Aérospatiale Dauphin, used by the London HEMS service, appears to be readily available only with a (retractable) wheeled undercarriage; for use in Kent, skids are greatly to be preferred because of the frequency of landing on unpaved terrain. The Dauphin also has a larger rotor arc than the Squirrel, which restricts its manoeuvrability in restricted areas (*vide*, the occasion when HEMS landed in the Fulham Palace Road and struck a traffic light on take-off, removing a rotor arm cap).

The Aérospatiale Gazelle is smaller than the Squirrel and is not a reasonable proposition for the carriage of patients on stretchers.

The only remaining common types of helicopter, which present reasonable opportunities for good spares and maintenance provision, are found in the Bell range but this offers little other than the single-engined Jet Ranger, which would not be permitted to fly over built-up areas, and the larger and more expensive 212, which has the same disadvantages as the MBB 117 and also a reputation (justified or not) with some police forces for having a poor record of reliability.

It does appear, therefore, that the Twin Squirrel presents a reasonably "good buy" for KAS. Its remaining drawback is the lack of length and height for carrying patients in traction (e.g. spinal injuries), but none of the slightly larger helicopters offers both internal length and height, and the significantly larger ones are so much more expensive that it is not considered that they would be a realistic proposition in the current funding situation.

It is reported that the Northumbria Ambulance Service NHS Trust's Twin Squirrel, which has a somewhat different internal layout from the one used in Kent, appears to be more roomy. In any future adaptation, it would be worth McAlpine and their customer taking some time to consider alternative layouts and reach some optimised design, which might then be able to be produced as an "industry standard" (possibly at reduced cost).

## 2.3 The nature of the service

The aircraft operates from Thursday to Monday inclusive with a basic eight-hour day, although the paramedic crews may extend on "overtime" within the constraints of the regulations limiting the pilot's hours to 10 per day, or the length of daylight in winter months.

When not in use, the pilot and paramedics are located at Rochester (unless the helicopter has been temporarily relocated for fund-raising purposes, for example to be on show at some local event: in these cases it remains on call). They are called out by telephone or radio by the KAS Control Centre at Linton Hospital. Emergencies ("Primary Incidents") attract an instant response from where the helicopter is based (or in flight if it is returning from another incident); pre-booked flights, for

example urgent inter-hospital transfers ("Secondary Incidents"), may be arranged as far ahead as one or two days before.

The decision to use the helicopter can only be taken by the KAS Control Commander on duty at the time, using the information which he has; this often comes from a member of the public via a 999 call. He also decides whether or not to send a land ambulance as well. Police and Fire Brigade officers on the site of accidents or emergencies may request the helicopter if they have identified a need in their own minds but they cannot require that it be sent.

On occasion a land ambulance without a paramedic may reach an incident and its crew then request that an ambulance with a paramedic be sent; in that case the helicopter may be sent as the second, paramedic-carrying, ambulance. The incidence of such events should diminish, however, as more KAS crews receive paramedic or extended training.

There has been a learning process for the Control Commanders and there does still appear to be some perceptible variation at the margin between different individuals (a year after the beginning of the operation) in terms of the circumstances in which the helicopter is selected to be dispatched. On some occasions the helicopter crew has volunteered its services, on hearing an incident reported on the radio, although it had not been formally called out.

The decision on whether to send it is based on a combination of the nature of the incident and its location (in terms of both the ease of landing the helicopter and remoteness from land ambulance access). The more difficult the location for the helicopter to land, the more it would only be used for very serious cases; conversely it can be used for much less serious cases if the location is appropriate.

In general the helicopter is sent to emergencies where a life threatening condition is reported (for example, suspected heart attacks and other sudden collapses, or where the patient is unconscious from, for example, a diabetic coma or attempted suicide) and to accidents potentially involving serious injury, where these are accessible by air and especially when the location is far from a land ambulance station and/or a road. Road accidents on rural roads including (and, perhaps, especially) motorways, falls from horses in rural areas (with the high risk of head injury) and farm accidents are commonly attended. Because of their location (often far from a motorable road) and the ease of landing the helicopter, less serious accidents on playing fields and farms are sometimes attended even when the level of injury is known to be slight. Similarly several cases of sudden illness on the roadside or on clifftops have been attended.

The geography of the Isle of Grain and the Isle of Sheppey makes these attractive locations for the carriage of a patient by helicopter, as with the remoter areas of Romney Marsh. Patients in these cases may be carried in the interest of convenience (to the patient and the ambulance service) even if time is not critical in terms of treatment.

There is an extensive network of motorways in Kent, including the nine-

mile length of M26 with no slip roads, which can lead to an ambulance having to run 18 miles on the motorway to reach an accident and return. The length of motorways makes helicopter use at the scene of road accidents possibly more common and more effective (c.f. land ambulance access) in the county than it would be elsewhere.

Furthermore, the helicopter pilot has now demonstrated that the aircraft can be set down in many urban or other restricted settings to which it would not initially have been directed. The Police and Fire Brigade are also becoming more expert at finding and clearing landing sites. Thus the locational aspect has become a rather less significant criterion as the period of operation has progressed.

Landing sites have been identified at or near all the major receiving hospitals (in Kent and adjacent counties), some of which have installed paved paths to the designated adjacent grassy area, to facilitate the movement of stretcher trollies. In addition to the standard published guide to hospital landing sites throughout the UK, the pilot has collated, and keeps up to date, more detailed records of these sites with aerial photographs on which hazards (for example, wires) are clearly marked; these enable temporary replacement pilots to operate safely and efficiently.

## 2.4 Operating parameters in the first year of service

As an overview, the following statistics, which were prepared by Mr Martin Read, are of interest. They cover the first 51 effective weeks of operation from 21 December 1989 to 10 December 1990.

During the 51-week period, 2,040 hours of availability had been planned (based on a standard eight-hour day for the ambulance crews) but some extra hours were operated on paramedic overtime and some extra days were operated by the pilot, so that even with downtime for repairs, planned/unplanned maintenance, etc., a total of 2,078 hours were available for operation. Interestingly, only 2¼ hours were lost due to bad weather in the 51 weeks.

Flights totalled 963: 656 Primary Incidents, 175 Secondaries or transfers (of which four were cancelled on arrival, thus only 171 patients were conveyed by the helicopter) and 132 "Tertiaries": liquid oxygen refills, promotional flights and the like.

Flying times on those Primary Incidents where patients were then carried to hospital included averages of:

1.5 minutes mobilisation (from call to take-off)
7.6 minutes flying to the scene
5.3 minutes flying to the hospital.

Secondary Incidents (transfers) are estimated to have taken an average flying time of 19 minutes between hospitals.

Of the 656 calls to Primary Incidents:

86 were cancelled en route by Ambulance Control

257 were incidents where the helicopter attended but no patient was conveyed to hospital, although in some of these cases the paramedic team may have treated one or more patients at the scene

313 patients were carried to hospital

Of the 313 patients carried from Primary Incidents:

53 were infused (drips)

2 were intubated (tubes)

5 received artificial ventilation (oxygen masks)

4 received drugs

2 were defibrillated.

There is no comparative data on the average or typical levels of incidence of extended paramedic skills being used by land ambulance crews but the above figures are thought by KAS probably to be higher.

The landing sites used were recorded for 464 of the Primary Incidents as shown in Table 2.1. Fields and grassy areas are clearly the most common (66 per cent), with roads (ranging from suburban housing estates to major trunk routes) at 16 per cent and motorways at six per cent making up the vast majority.

***Table 2.1 – Landing sites used for primary incidents***

| | | | |
|---|---|---|---|
| Fields/grassy areas | 307 | Cliffs | 3 |
| Roads | 74 | Gardens | 2 |
| Motorway | 28 | Golf courses | 2 |
| Car parks | 14 | Railway lines | 2 |
| Building sites | 11 | Tennis courts | 2 |
| Beaches | 7 | Paddock | 1 |
| Wooded areas | 5 | Parade ground | 1 |
| Docks | 4 | Playground | 1 |

The nature of 311 of the 313 Primary Incidents from which patients were conveyed to hospital was recorded as shown in Table 2.2. Road traffic accidents (RTAs) formed the single biggest group, at 118 (38 per cent), followed by sports injuries at 64 (21 per cent). Collapses, falls and works injuries/accidents are the largest other specified types of incident (between five and eight per cent each).

***Table 2.2 – Nature of the incident from which patients were conveyed***

| | | | |
|---|---|---|---|
| Accident (unspec.) | 16 | "Other" | 10 |
| Burns | 3 | Overdose | 4 |
| Collapse | 26 | Railway incident | 1 |
| Convulsions (child) | 2 | Respiratory problem | 1 |
| Crush | 1 | RTA | 118 |
| Doctor's call | 1 | Sports | 64 |
| Epileptic fit | 2 | Sudden illness (not otherwise specified) | 6 |
| Fall | 21 | Works accident/injury | 17 |
| Fight | 1 | Suicide attempt | 2 |
| Injury (unspec.) | 15 | | |

Table 2.3 summarises the nature of the patient's expressed "complaint" and/or the paramedics' diagnoses for a sample of the 570 Primary Incidents which the helicopter attended and where the paramedics became involved. (Although this sample totals 311, it is not exactly the same sample as that of patients conveyed which is shown in Table 2.2 due to data deficiencies which are understandable given the nature of the paramedics' primary tasks.) It should be stressed that these did not always accord with the eventual medical diagnosis in hospital, but illustrates the bases on which the paramedics treated the patients and/or on which the decisions were made to convey the patients by helicopter or land ambulance. The predominant broad categories were fractures (totalling 77 or 25 per cent), head injuries (with or without other injuries) (totalling 52 or 17 per cent) and back injuries (30 or 10 per cent).

***Table 2.3 – Complaints of patients conveyed to hospital***

| | | | |
|---|---|---|---|
| "Felt faint" | 1 | Dead on arrival | 13 |
| "Felt unwell" | 1 | Dislocated limb | 6 |
| Fractures: | | Dog bite | 1 |
| Ankle | 20 | Elbow injury | 2 |
| Arm | 10 | Epileptic fit | 5 |
| Femur | 12 | Epistaxis (nosebleed) | 1 |
| Foot | 2 | Facial injury | 3 |
| Hand | 1 | Gangrenous leg | 1 |
| Jaw | 1 | Head injury + other injury | 23 |
| Knee | 1 | Head injury alone | 29 |
| Lower leg | 18 | Internal bleeding | 1 |
| Ribs | 5 | Knee injury | 5 |
| Skull | 1 | Lacerations | 7 |
| Spine (paralysed) | 1 | Leg injury | 5 |
| Wrist | 5 | Minor injuries | 4 |
| Abdominal injury | 2 | Multiple injuries (severe) | 10 |
| Abrasions | 1 | Overdose | 2 |
| Anaphylactic shock (allergy) | 1 | Rectal bleeding | 1 |
| Back injury | 30 | Respiratory difficulties | 2 |
| Blocked shunt | 1 | Shock | 4 |
| Boil | 1 | Shoulder injury | 4 |
| Burns | 2 | Unstable traction device | 1 |
| Chest injury | 8 | Whiplash | 15 |
| Chest pain | 11 | Others | 18 |
| Collapsed/unconscious | 10 | | |

The final table in this annual overview, Table 2.4, shows the destination of all 171 Secondary flights which were made carrying patients transferring from one hospital (in Kent) to another. This is usually done to obtain treatment at a regional or national specialised centre (for example, Stoke Mandeville for spinal injuries) or a London teaching hospital, usually still within SETRHA; sometimes the referral and transfer occur almost immediately after the patient has arrived at the first hospital as an emergency, shortly after they have been examined, while on other occasions the patient may have been in hospital for some time before being transferred. In rarer cases, the helicopter was used for expediency for long distance transfers purely to enable a patient to be nearer his/her home and family; this practice has, however, now virtually stopped.

The single most common destination is the Brook Hospital in south-east London which provides Computerised Axial Tomography (CAT) scan facilities for Kent. East Grinstead, the second most common destination, has a plastic surgery and burns unit. In a few cases the helicopter seems to have been used for a local transfer within Kent for reasons which are not entirely clear (these are not believed to be records of return journeys which, if undertaken at all, are either made as part of the same flight – a "wait and return" – or carried by land ambulance).

***Table 2.4 – Destination hospitals of transfers made by helicopter***

| | | | |
|---|---|---|---|
| Greater London: | | Kent: | |
| Atkinson Morley | 6 | Hurst Wood Park | 1 |
| Brook | 60 | Kent Opthalmic | 1 |
| Dulwich | 2 | Kent and Canterbury | 1 |
| Great Ormond Street | 2 | Medway | 2 |
| Guys | 12 | Maidstone General | 5 |
| Hackney | 1 | William Harvey, Ashford | 2 |
| Hammersmith | 3 | | |
| Harefield | 1 | Sussex: | |
| Joyce Green | 1 | East Grinstead, Sussex | 28 |
| King's College | 10 | Eastbourne, Sussex | 1 |
| Maida Vale | 1 | | |
| Maudsley | 6 | Other: | |
| Queen Elizabeth, Woolwich | 3 | Ashford, Middlesex | 1 |
| Roehampton | 2 | Bangor, north Wales | 1 |
| Royal Free | 2 | Prestwick, Scotland | 1 |
| St Thomas's | 5 | Queen Elizabeth, Birmingham | 1 |
| University College | 1 | Rotherham, South Yorkshire | 1 |
| Westminster | 1 | Southampton General, Hampshire | 1 |
| Whipps Cross | 1 | Stoke Mandeville, Buckinghamshire | 4 |

## 2.5 Operations in the study period

Appendix B contains details of every flight made during the 14-week (three month) study. During that period, quite significant changes in operations were made, and it is convenient for the purposes of analyses to divide the weeks into three monthly periods as follows:

| Month | | |
|---|---|---|
| **1** | Week 1 (3 days only) | 16-18 March 1990 |
| | Week 2 | 22-26 March |
| | Week 3 | 29 March – 2 April |
| | Week 4 | 5-9 April |
| | Week 5 (incl Easter) | 12-16 April |
| **Month** | | |
| **2** | Week 6 | 19-23 April |
| | Week 7 | 28-30 April (only operated 3 days) |
| | Week 8 (incl Bank Hol) | 3-8 May (operated 6 days) |
| | Week 9 | 10-14 May (only operated 4 days: not on the 11th) |

| Month | | |
|---|---|---|
| 3 | Week 10 | 18-21 May (only operated 4 days) |
| | Week 11 (incl Bank Hol) | 26-28 May (only operated 3 days) |
| | Week 12 | 30 May – 4 June (operated 6 days) |
| | Week 13 | 7-11 June |
| | Week 14 | 13-18 June (operated 6 days) |

The study concentrated on the period after the ambulance dispute and therefore also excluded the early period when both KAS Control and the crew were learning how the service might be run.

During the study period 346 flights were operated, as shown in Table 2.5.

***Table 2.5 – Flight operations during the study period***

| | Month 1 | Month 2 | Month 3 | Total |
|---|---|---|---|---|
| Primary flights | 74 | 45 | 101 | **220** |
| Secondary flights | 19 | 25 | 38 | **82** |
| Tertiary flights | 14 | 15 | 15 | **44** |
| Total flights | 107 | 85 | 154 | **346** |
| Days operated | 23 | 18 | 24 | **65** |
| Flights per day | 4.7 | 4.7 | 6.4 | **5.3** |
| Flying time (mins) | 2291 | 2025 | 3147 | **7463** |
| Flying time/day (mins) | 99.6 | 112.5 | 131.1 | **114.8** |
| Flying time/flight (min) | 21.4 | 23.8 | 20.4 | **21.6** |

During the beginning of Month 1, long distance inter-hospital transfers were not uncommon but, due to possibly funding problems, overall operations were restricted towards the end of that month and at the beginning of Month 2, and longer distance trips were beginning to be curtailed. By the beginning of Month 3, operations had been restored but the decision was taken to limit long distance transfers to a minimum. During Month 3, which included one Bank Holiday and the beginning of the summer holiday period, the helicopter was particularly busy and a third again as many flights were made per day compared to the previous two months. There is, however, remarkable consistency in terms of average flying time per flight made, at between 20 and 24 minutes.

Despite these operating policy changes, the percentage of flights which were to Primary Incidents (accidents and emergencies) dropped from 58 percent in Month 1 to 53 per cent in Month 2 and rose again to 66 per cent in Month 3. The average over the study period was 64 per cent.

The nature of the Primary Incidents to which the helicopter was called out are shown in Table 2.6. (Because two flights generated two patients each, and due to the nature of the records used, the total comes to 222, rather than 220 as shown above.) Of these, 127 were road traffic accidents (RTAs), forming 57 per cent of the total number of calls to Primary Incidents; 23 of the RTAs were on a motorway (18 per cent of all RTAs). Sudden illness accounted for 30 calls (14 per cent) and sports injuries for 20 (9 per cent).

***Table 2.6 – Primary incidents to which helicopter was called***

| | Month 1 | Month 2 | Month 3 | Total |
|---|---|---|---|---|
| RTAs | 38 | 32 | 57 | **127** |
| of which: Motorway | 5 | 7 | 11 | **23** |
| Isle of Grain | 1 | | | **1** |
| Isle of Sheppey | 2 | | 2 | **4** |
| Sudden illness | 8 | 4 | 18 | **30** |
| of which: Motorway | 2 | 1 | 1 | **4** |
| Isle of Sheppey | 3 | 2 | 2 | **7** |
| Sports injuries | 11 | 4 | 5 | **20** |
| of which: Isle of Sheppey | | | 1 | **1** |
| Falls | 1 | 5 | 4 | **10** |
| of which: Motorway | | 1 | | **1** |
| Isle of Sheppey | | | 1 | **1** |
| Work/industrial injuries | 5 | 0 | 2 | **7** |
| of which: Motorway | | | 2 | **2** |
| Attempted suicides | 1 | | 2 | **3** |
| of which: Isle of Sheppey | | | 1 | **1** |
| Other | 0 | 1 | 4 | **5** |
| Cause not stated | 9 | 1 | 9 | **19** |
| of which: Isle of Sheppey | | | 1 | **1** |
| Hoax call | 1 | | | **1** |
| Total Primary Incidents | 74 | 47 | 101 | **222** |
| of which: Motorway | 7 | 9 | 14 | **30** |
| Isle of Grain | 1 | | | **1** |
| Isle of Sheppey | 5 | 2 | 8 | **15** |

In all, 30 incidents (14 per cent of the total) were on or beside motorways and 15 (7 per cent) on the Isle of Sheppey – disproportionately high in relation to the island's population.

Obviously not all calls result in a patient being carried by the helicopter, and Table 2.7 gives the data for those patients who were conveyed to hospital, in terms of the cause of the incident. In all, 104 patients were carried to hospital from Primary Incidents to which the helicopter was called, representing 0.47 per incident (roughly equivalent to 47 per cent of the calls generating a patient; the figure is not exact as some incidents generated more than one patient). The ratio is not, however, consistent across all types of incident and the figure for RTAs is noticeably lower at 0.35; this is due to practice of dispatching the helicopter to RTAs, especially on motorways, even when the extent of the injuries are unknown, because of the high probability of serious injury. Information on road accident victims' conditions are often less good than for other incidents, not least because many 999 calls come in from passing motorists using car 'phones. The helicopter may then be cancelled en

route, as further information becomes available from the various emergency services on the scene, or the helicopter crew may treat and stabilise the patients who are then carried by land ambulance.

***Table 2.7 – Nature of incidents from which patients conveyed***

| | Month 1 | Month 2 | Month 3 | Total |
|---|---|---|---|---|
| RTAs | 15 | 5 | 25 | **45** |
| of which: Motorway | 3 | 1 | 5 | **9** |
| Isle of Grain | 1 | | | **1** |
| Isle of Sheppey | 1 | | 2 | **3** |
| Sudden illness | 7 | 3 | 9 | **19** |
| of which: Motorway | 2 | | 1 | **3** |
| Isle of Sheppey | 3 | | | **3** |
| Sports injuries | 10 | 5* | 5 | **20** |
| of which: Isle of Sheppey | | | 1 | **1** |
| * 2 carried on 1 flight | | | | |
| Falls | 1 | 3 | 4 | **8** |
| of which: Motorway | | 1 | | **1** |
| Isle of Sheppey | | | 1 | **1** |
| Work/industrial injuries | 3 | 0 | 2 | **5** |
| of which: Motorway | | | 2 | **2** |
| Attempted suicides | 1 | 0 | 2 | **3** |
| of which: Isle of Sheppey | | | 1 | **1** |
| Other | 0 | 1 | 2 | **3** |
| Cause not stated | 0 | 0 | 1 | **1** |
| Total Patients conveyed | 37 | 17 | 50 | **104** |
| of which: Motorway | 5 | 2 | 8 | **15** |
| Isle of Grain | 1 | | | **1** |
| Isle of Sheppey | 4 | | 5 | **9** |

There are also instances of no patient at all being conveyed from a reported road accident, or even of no evidence of an accident being found on arrival at the reported location.

Conversely, all the attempted suicides and most of the patients with sports injuries, falls and industrial/works injuries to whom the helicopter was sent were then carried by it. About two-thirds of the cases of sudden illness were carried by the helicopter.

In line with the proportions for RTAs, half the motorway incidents resulted in a patient being conveyed by helicopter and 60 per cent of those on the Isle of Sheppey.

On average, 1.6 patients were conveyed to hospital by helicopter on each operating day. Month 1 was near the average figure, but the number was below 1 in Month 2 and rose to over 2 in Month 3.

The medical justification for the use of the helicopter in different instances is discussed in Section 4.

# 3 Cost aspects and alternative options

## 3.1 Historical costs of operation

Estimates of the cost of the helicopter ambulance service are based upon the following assumptions:

Fixed costs (paid to McAlpine) in £ per month:

| | |
|---|---|
| Standing charges | 15,000 |
| Maintenance contract | 3,500 |
| Insurance (hull/3rd party) | 2,500 |
| Pilot | 3,750 |
| Total per month | £ 24,750 |

Variable costs are set per flying hour as follows:

| | | |
|---|---|---|
| Provision for overhaul | 165 | (paid to McAlpine) |
| Fuel | 50 | (paid to refuellers) |
| Total per hour | £ 215 | |

The relatively high standing charges mean that the unit costs per flight are very sensitive to the utilisation, as the calculations in Table 3.1 show for the study period.

*Table 3.1 – Costs of operation*

| | Month 1 | Month 2 | Month 3 | Total |
|---|---|---|---|---|
| Fixed costs | 24,750 | 24,750 | 24,750 | |
| Operating costs: | | | | |
| 38.18 hours @ £215 | 8,209 | | | |
| 33.75 hours @ £215 | | 7,256 | | |
| 52.45 hours @ £215 | | | 11,277 | |
| Total cost per month | 32,959 | 32,006 | 36,027 | **100,992** |
| Cost per flight | 308 | 377 | 234 | **292** |
| Cost per patient conveyed (primary + secondary) | 588 | 762 | 409 | **543** |

Clearly, the unit costs fall off dramatically the more the aircraft is used, and there is a strong suggestion that it is more cost effective to use it intensively, so long as its use in each case presents some benefits.

If the three-month study period is assumed to be representative, the total annual costs would be just under £404,000, at an average cost of £543 per patient conveyed. If the utilisation can be maintained at Month 3 levels, the annual cost would rise to £432,324 (7 per cent more), but at an average cost of only £409 per patient conveyed (only 75 per cent of the figure above).

In practice, Month 3 benefited from having virtually the longest hours

of daylight of the year and it would be impossible to maintain those levels of utilisation in winter months with one pilot operation restricted to daylight hours. If the average for the three months is taken, the annual utilisation would be a little under 500 hours, in practice it may well be lower (the actual figure for the first year is probably not typical, because of the effect of the ambulance service dispute and also the learning period in how to operate the service).

The other factor which has not been included in the above calculations is the effect of patterns of use on the cost of provision for overhaul. At the time of preparing the figures, McAlpine were thinking of increasing the £165 per hour quoted above, to take account of the greater number of short flights being made with the pattern of operation then being undertaken compared to previous months (the "stop and start" effect).

## 3.2 Alternative patterns of operation

At present the helicopter operates for eight (or at the most 10) hours a day, five days a week, with one pilot. This restricts the period of operation to less than the common times of day when road accidents, in particular, occur. To extend the period of daylight operation, which would be feasible especially during the summer period, would require one additional pilot.

This would add about £50,000 per annum to the operating cost (McAlpine would wish to charge more for the second pilot than for their present pilot who is made available virtually at cost) but would permit seven day a week operation with longer days operated when daylight permits in the summer. An annual average utilisation of about 700 hours could be achieved at an annual cost broken down as follows:

| | | |
|---|---|---|
| Standing charges as now | 297,000 | |
| Extra pilot | 50,000 | |
| 700 hours @, say, £225 | 157,500 | allowing for the increase in provision for overhaul |
| Total | £ 504,500 | |
| Cost per hour | £ 720 | |
| Cost per flight | £ 259 | if the pattern of the study period were maintained, ie 21.6 mins per flight. |

An increased expenditure of £100,000 per annum (about 25 per cent of the present) would thus result not only in significantly increased availability but also in a notional decrease from £292 to £259 (about a 12 per cent saving) in the cost per flight. This is an attractive option, especially during summer months.

To cover the hours of darkness to a significant extent, three pilots would be required; this would provide 20 hours/day service five days a week and 10 hours/day on two days. This is not considered a viable option, considering the pattern of ambulance demand and the reduced utilisation that would be likely to occur during night-time hours because of the very limited number of landing sites that could be used.

At present, the helicopter does not have a back-up for down-times.

Although routine maintenance and checks are carried out as far as possible during the Tuesday-Wednesday rest days, nearly 18 per cent of the basic potential operating hours were lost in the first 51 weeks due to maintenance and technical failures carried out on scheduled operating days (although the hours were then boosted back to a slightly greater extent by overtime and rest day working). It is not feasible to have a back-up aircraft, but if there were to be more extensive helicopter ambulance coverage (say, six or eight aircraft for south-east England), it could be feasible to provide one back-up aircraft for the whole area.

# 4 Benefits from the service

## 4.1 Identification of benefits

The potential benefits from the service can be divided into five main areas:

(a) Saving of loss of life
(b) Prevention of long-term disability
(c) Reduction in pain and suffering
(d) Reduction in medical care needed
(e) Savings in the provision of land ambulances.

Not all of these items can be quantified at present. In particular the Department of Transport is undertaking a major revision of the values to be used in relation to road accident savings in its road investment appraisal. (The Department's figures are possibly the most relevant in the context of this study.) Some consideration is given below to the latest thinking in this field.

## 4.2 Saving of loss of life

The valuation of life has traditionally been undertaken in the road safety field, as an input to highway appraisal techniques. The classical method, which was used until recently, relied on the pioneering work of Dawson (1967), who established from empirical research the component costs of fatal, serious and slight road accidents, including vehicle and property damage, and the costs of medical and other services. A major element of this was the discounted value of the injured person's lost production or output from which was subtracted the value of the consumption forgone, to produce a net value of the loss to society. As it was assumed that elderly people have a net consumption, the value of their lives (or non-productive time while injured) was calculated at a negative amount; to avoid this, an arbitrary subjective cost was added in all cases (usually known as "pain, grief and suffering") such that all people had a positive value of life.

The benefits of Dawson's approach were that the elements of the calculations were transparent, could be indexed to current prices and also applied in other countries if necessary. However, the arbitrary amount remained philosophically displeasing and, over time, assumed an overwhelming importance in the total valuation.

A recent review of the standard method of the valuation of life by Jones-Lee (see, for example, *ibid* 1990) for the Department of Transport used the "willingness to pay" approach to risk minimisation, in which people's expressed willingness to pay for small reductions in risk was extrapolated to the point where the value to them of death-avoidance could be estimated.

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Dawson, RFF, 1967. Cost of road accidents in Great Britain, RRL Report LR 79, Road Research Laboratory, Crowthorne.
Jones-Lee, MW, 1990. The value of transport safety, Oxford Review of Economic Policy, Vol. 6, No. 2.

This produced a range of values for life, from which a conservative figure of £500,000 was initially selected by the Department of Transport (1988). The latest figure in use by the Department is £608,600 in June 1989 prices. Inflating this to June 1990 (at 9.11 per cent per annum) gives a figure relevant to the study period of **£664,043**. (There still remains, however, some debate about the approach and alternative methods are also available (see Dalvi, 1988).)

## 4.3 Prevention of long-term disability

Methods of costing the effects of long-term and permanent disability (to the individual and to society) are beginning to be established and, depending on the age and circumstances of the victim, can be estimated with some degree of precision. For younger people, the cost would be likely to exceed the standard valuation of a death. Each individual case ideally needs to be considered on its merits.

## 4.4 Reduction in pain and suffering

Valuation in this area is complex. Use of the helicopter should reduce the time for which a patient suffers, as the paramedics on board can administer pain-killing drugs and also as the patient arrives earlier in hospital. As a proportion of the total pain and suffering accruing from the incident in the longer term, however, this may be small.

Research at the Universities of Newcastle-upon-Tyne and East Anglia is being carried out for the Department of Transport into people's "willingness to pay" to reduce the risk of serious and slight injuries; this includes consideration not just of pain and suffering but also, and probably more significantly, of loss of earnings and the inconvenience of temporary or permanant disability of various levels. The pilot studies into survey methods were completed at the end of 1990 and it is expected that contracts will be let shortly for the main research, which will not be reported until the end of 1991 or in 1992.

Best estimates are that the results will be of the order of £30-40,000 for a serious injury accident and £1-2,000 for a "slight" (Jones-Lee, 1990: unpublished correspondence). These compare with the Dawson arbitrary figure for pain and suffering alone which was latterly set at about £50,000 in the case of fatal RTAs, £9,000 for serious injury accidents and £130 for slight accidents.

## 4.5 Reduction in medical care needed

Again, there is considerable lack of clarity about the likely savings to be expected from presenting a patient to hospital with some pre-admission treatment and in a quicker time. It appears self-evident that if there is an effect it must be beneficial. Some sources (mainly foreign) suggest that an average of two-three days in hospital may be saved. However medical personnel in Kent are more sceptical and have proved reluctant to give estimates for individual cases in this regard during the course of the study.

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Department of Transport, 1988. Valuation of road accident fatalities.
Dalvi, MQ, 1988. The value of life and safety: a search for a consensus estimate, Department of Transport.

## 4.6 Savings in the provision of land ambulances

Estimates of time savings have been provided by KAS Control for most, but not all, of the incidents reported and these can be quantified against the unit costs of emergency ambulance provision at £95 per call out, about £42 an hour.

It should be noted that, until the helicopter service is further rationalised into the front line ambulance service, many primary incidents are attended by both the helicopter and a land ambulance, thus savings in this regard are minimal. However the majority of time savings accrue during inter-hospital transfers and are real savings, especially if the land ambulance savings can be realised in terms of long-term reductions in the numbers of personnel and vehicles. In the short term, while the future of the helicopter service is uncertain, these savings will not be realised to their fullest extent.

## 4.7 Assessment of the benefits from helicopter operation

The Accident and Emergency Consultant who gave his time to work on the study, Jim Walker, appraised the use of the helicopter in each case (whether or not a patient was conveyed in it), and the various hospital Consultants treating the patients conveyed were asked to provide follow-up information in cases where significant benefits appeared to be likely. The combined assessments are shown in the records contained in Appendix B. They are necessarily subjective and their interpretation in this analysis may not be entirely consistent.

The assessments cover several different categories and some incidents fall into more than one. Subjective judgement has been used to categorise each incident into the group which appears to be the most significant. The base for the following figures has been taken as 220 Primary Incidents and 82 Secondary transfers.

(a) Cases where calling out the helicopter was justified at the time in view of the likely state of the (or any) patient to be treated or conveyed but in the absence of any further information.

This applies particularly to RTAs on motorways, where high speeds may have been involved, and falls from horses, bicycles and the like, where head injuries may have been caused. Where accidents or injuries are reported which specifically include references to heads and necks, where the patient is reported to be unconscious or bleeding externally (or suspected to be bleeding internally), it is considered quite justified to dispatch the helicopter. This category also includes the situation where, from the information available, it appears possible that the patient might need specialist treatment for burns, or micro-surgery, as quickly as possible. These are cases where on arrival or with the benefit of subsequent medical examination, the calls proved not to have been "medically justified" in terms of dealing with a life-threatening condition but there is no criticism of the Ambulance Control for their decision to send the helicopter on the basis of information available to them at the time.

These were 15 Primary cases that fitted this description and 1 Secondary transfer.

There is no evident benefit from this type of use, except to be sure that all eventualities are covered.

(b) Cases where use of the helicopter was not strictly justified on known medical grounds but was deemed to be "humane" or "kind" in terms of relief of pain and anxiety:

Examples of these would be accidents some way from a road, where the alternative would be to be jolted in a road vehicle or carried on a stretcher; extremely elderly or very young patients who may themselves, or whose relatives may be, very distressed by a condition which is not in itself life-threatening; also very painful conditions such as serious fractures or sub arachnoid haemorrhages where transfer to hospital as quickly as possible would provide relief.

There were 13 Primary cases in this group and 6 Secondary transfers.

The benefits from this type of use are humanitarian and not readily quantified in the absence of some standard for quantifying pain and suffering.

(c) Cases where the location of the incident made it very expedient to use the helicopter (motorways, aerodromes, playing fields, remote rural areas) even though it was known at the time that the patient was not in a particularly serious or painful condition:

20 such Primary cases were identified.

The benefits are mainly in terms of savings in land ambulance costs.

(d) Cases where the prevention of disability might be expected by a rapid and smooth transfer to specialised care (suspected broken necks and spines in particular):

There were two such Primary cases and in one the consultant, while not prepared to be dogmatic, was of the view that **permanent disability was likely to have been prevented** by using the helicopter rather than a land ambulance (flight 532): the patient had multiple injuries including a fractured spine from an RTA at Brooklands on Romney Marsh. It has not proved possible to set a quantified level of probability on this "probable or possible prevention of disability", nor to cost what disability would have meant to this man of 42 without more details of his personal circumstances, but there are clearly large and tangible potential benefits to be multiplied by a significant percentage probability.

(e) Cases where the patient appeared to be in a life-threatening situation requiring immediate emergency treatment only available in hospital or a specialist unit:

Patients reported to have had a heart attack, or found on arrival to have a low coma score or massive bleeding are examples of this category. In most cases, either on follow-up the consultant treating

the patient did not believe that the faster transfer to hospital afforded by the helicopter had saved the patient's life, or conversely the patient died despite being conveyed by helicopter. In some cases the patient was found to be already dead on the arrival of the helicopter.

There were 19 Primary cases and 7 Secondary cases in this category.

Two Primary cases were judged by the consultants treating them subsequently to have been **very appropriate indeed** for conveyance by helicopter. Flight 502 carried a 63 year old man, involved in an RTA on the M20 and complaining of chest pains. Flight 524 carried a roadside collapse with chest pains of a 38 year old man at Lenham. Neither consultant would go so far as to say that the man's life had been saved, but even a small probability that this was the case would yield tangible economic benefits.

In one further Primary case, however, the consultant involved is adamant that **the patient's life was saved**: flight 428 carried a 25 year old man who had been involved in an RTA on the A299 near St Nicholas at Wade (between Herne Bay and Margate). He had multiple fractures injuries including an (undiagnosed) ruptured spleen. He was treated with oxygen and splinted on the ground, and then taken to Kent and Canterbury Hospital, arriving within 34 minutes of the helicopter receiving the call, where he was operated on immediately. His consultant is convinced that had the patient travelled by road, he would have bled to death before he could have been operated on.

The Department of Transport's inflation adjusted figure of £664,043 for the cost of a fatal RTA includes some element for the cost of vehicle damage, etc., but most of it reflects the real value of the life and this order of benefit must be ascribed to this one use of the helicopter ambulance.

(f) Cases where no patient was conveyed by helicopter but where the paramedics appear from the available data to have supplied some treatment on the site (assumed to be all cases where the helicopter stayed at the scene for 5 minutes or more but one or more patients were conveyed by land ambulance):

There were 32 Primary Incidents that meet these criteria. There should be some tangible benefit from the treatment provided but the data as collected do not allow these to be explored in more detail.

The Land Ambulance savings are a separate issue. The estimates provided by KAS were not entirely complete and some extrapolation has been necessary to reach the following conclusions:

| | Month 1 | Month 2 | Month 3 | **Study period** |
|---|---|---|---|---|
| Time saved (mins) | 6324 | 6008 | 8125 | **20,457** |
| (hours) | 105.4 | 100.1 | 135.4 | **340.9** |
| Time saved/patient conveyed (mins) | 112.9 | 143.0 | 92.3 | **110.0** |
| Total cost saving at £42/hour | £ 4426.8 | 4204.2 | 5686.8 | **14,319.9** |
| Cost saving/patient conveyed | £ 79.0 | 100.1 | 64.6 | **77.0** |

If these three months are typical, the notional annual saving would be of the order of £57,000. However, as may be inferred from 4.6 above, to realise this saving would require changes to be made at the margin to the level of provision of the land ambulance service which may not be practical.

In summary therefore, the benefits observed from three months' operation of the helicopter ambulance comprise:

| | |
|---|---|
| Considerable savings in pain and suffering | 19 |
| Likely prevention of para/tetraplegia | 1 |
| Lives possibly saved | 2 |
| Life definitely saved | 1 |
| Notional financial savings to KAS | £ 14,320 |

# 5 Summary and conclusions

The Kent helicopter ambulance service has now been in operation for just over a year, providing paramedic attendance at accident and emergencies and the transport of accident and emergency patients and urgent inter-hospital transfers.

It has proved its operational viability, in terms of the performance of the aircraft, pilot and paramedic crews, without question and has by now made over 1,000 flights, two-thirds of them to the scene of "Primary Incidents" (emergencies and accidents). It typically (on average across the whole of the county) reaches the scene within 10 minutes of being called and on average flies the patient to hospital in a little over 5 minutes from the scene of the incident.

During the three months of the study, 104 patients were taken to hospital from Primary Incidents and 82 urgent transfers were made, mostly to specialist regional centres of investigation or treatment. In addition, somewhat over 30 incidents occurred where the paramedic crews appear to have treated patients for subsequent conveyance to hospital by land (road) ambulance.

Over 40 per cent of the patients carried from Primary Incidents were victims of RTAs, of whom 20 per cent had been involved in an accident on a motorway. In all, 14 per cent of all patients were lifted off from a motorway site to which access might otherwise prove difficult or lengthy (these include construction workers and cases of sudden illness as well as victims of RTAs). Many of the urgent transfers were also RTA victims requiring specialist treatment. Accidents and illnesses on the Isle of Sheppey accounted for 9 per cent of the patients carried, and other remote rural areas also generated disproportionately high numbers of patients in relation to the population. Accidents on farms, aerodromes and sports fields featured strongly, for reasons of access.

The cost of the service is running at about £400,000 a year, almost entirely funded by public contribution. An increase in expenditure to about £500,000 a year would enable more extensive coverage to be provided: seven days a week instead of five, and longer hours especially during the long light days of summer.

In the three month period studied, the benefits observed were wide ranging and many of them unquantifiable. Specifically, in the view of the medical consultants treating them (who tend if anything to be very conservative), one victim of an RTA definitely had his life saved, at an economic valuation of over £600,000 in benefits, two further lives (one an RTA) were quite possibly saved and one man (also an RTA) was probably saved from tetraplegia. All were men of working age, the man whose life was saved (and has now been discharged from hospital) being 25 with a lifetime of useful work ahead of him.

There were less tangible and unquantifiable benefits in the relief of pain and suffering and from presenting patients to hospital in rather better condition, in a much larger number of cases. These benefits accrue both

from the speed of the journey and from the rapid deployment to the scene of the paramedical team on board the helicopter. In over 30 cases, they were able to treat patients who were subsequently carried by road.

Notional savings to the Kent Ambulance Service of over £14,000 were also made in the cost of operating land ambulances during the quarter in question.

**It is therefore clear that in economic terms the Kent helicopter ambulance has more than proved its worth.**

The residual problems lie in the funding base and in the increased utilisation of the helicopter to lower the unit cost of its heavy standing charges.

Useful lessons can perhaps be learned from other services, especially that in Northumbria where creative use of standard ambulance service resources in 1990 generated revenue to cover the operating costs of an almost identical aircraft.

It has been speculated that comprehensive national coverage could be provided with something like 20 helicopters; it was not the task of this study to estimate this number more precisely. In view of the proven worth of the Kent service, however, it would be well worth considering in more detail the nature of such a scheme, how it could be operated and, most importantly, how it could be funded. Again, estimates are bandied about as to the modest additions to motor insurance premiums or AA subscriptions that would need to be made to fund such a scheme. Comparisons are drawn with continental European experience, especially in Germany where private health insurance pays the full costs. In contrast, the five British services (Kent, Northumbria, London, Scotland's Highlands and Islands, and Cornwall) are funded in a miscellany of ways, with no integration of approach either to operation or monitoring. Further investigation of the other four operations in a similar, or more detailed, manner than the present study could be helpful.

Developments currently in hand through Department of Transport-sponsored research into the economic valuation of non-fatal road traffic accidents should be monitored so that the results can be applied to the findings of this and similar studies as they become available.

More detailed appraisal and quantification of the benefits of this and other helicopter ambulance services (other than by the application of norms such as will be derived in the research mentioned above) would necessitate case studies of individual patients, using a tracking system and specialist accident and emergency medical personnel.

# 6 Appendices

## A Samples of data record forms

The following two sheets show the form used to record each flight carried out by the Kent helicopter ambulance (variations exist for Secondary and Tertiary flights) and the standard AMB46 which is completed by all ambulance crews (air or land) carrying a patient to hospital. These provided the data used in the analysis shown in Appendix B and used in the body of this report.

HELICOPTER PROJECT AUDIT

PRIMARY INCIDENT

DATE 23.4.90.

FLIGHT NUMBER ~~1646~~. 317

CASE NUMBER ~~1889~~. 251

LOCATION M2 Junction 5-6 Coastbound R.T.A.

PATIENT NAME [redacted].

PICK UP FROM M2.

TAKE TO M.G.H.

RESPONSE (Sole) Joint Attend Only

LOCATION OF HELICOPTER WHEN INITIATED Base.

| | | |
|---|---|---|
| TIME OF CALL | 1503. | |
| TIME TO AIRBORNE | 1505. | min 2 |
| TIME ON SCENE | 1512. | min 7 |
| TIME AT SCENE | | min 7 |
| TIME LEFT SCENE | 1519 | min — |
| TIME AT HOSPITAL | 1527. | min 8 |
| TIME CLEAR AT HOSPITAL | 1544. | min 17 |
| R.T.B.? | | (Yes) / ~~No~~ |
| TIME BACK AT BASE | 1548. | min 4 |
| OVERALL CASE TIME | | min 45 |
| STATIC TIME AT HOSPITAL | | min 17. |
| DISTANCE LANDED FROM INCIDENT | | metres 15. |

TERRAIN Motorway.

ATTEMPTED LANDINGS 1.

SERVICES ON SCENE Police.

SERVICES REQUESTED —

PATIENT Male, (Female), (Adult), Child, Neo-nate

AGE years 34.

MEDICAL CONDITION Whiplash + Injury(L) Hand.

AGGRESSIVE TREATMENT Analgesia, Intubate, Drug, Fluid, CPR, Vent, Defib

RESPONSE TIME/LAND AMB

OVERALL MISSION TIME/LAND AMB Longer, Equal, (Shorter)

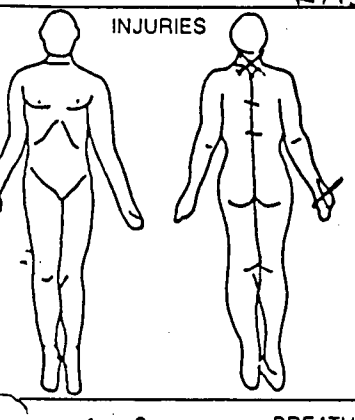
MEDICAL OUTCOME [Use of helicopter] Non-Valid, (Similar), Vital

CREW 1 [ET] ADAMS. CREW 2 STAMP Signature: [signature]

KENT AMBULANCE SERVICE — Patient Report Form — (Headquarters Copy) — AMB.46

| | | | |
|---|---|---|---|
| AL NO. | FINISH MILEAGE | NAME [redacted] | TIME OF CALL 1503 |
| 23.4.90 | START MILEAGE | ADDRESS [redacted] | MOBILE 1505 |
| ION ROCHESTER | TOTAL | | AT SCENE 1512 |
| SIGN KA VEH. No. G SETA | IN ATTENDANCE | | LEFT SCENE 1519 |
| V: 1) ADAMS | POLICE (No.) ☐ | | AT HOSPITAL 1527 |
| 2) STAMP | FIRE ☐ | MALE ☐ FEMALE ✓ AGE 34 | CHANGES IN TRANSIT ↑↓ |
| ENT RTA | DOCTOR ☐ | RECEIVING HOSPITAL MGH | GENERAL CONDITION ☐ |
| TION BETWEEN JUNCTION 5-6 M2 | | CLASSIFICATION (STR) DH WK | BLOOD FROM |
| JLANCE LOCATION BASE | | | EAR ☐ NOSE X MOUTH ☐ |

INJURIES



| GLASGOW COMA SCALE | | 1 | 2 |
|---|---|---|---|
| EYE OPENING | SPONTANEOUS | 4 | |
| | TO SPEECH | 3 | |
| | TO PAIN | 2 | |
| | NIL | 1 | |
| MOTOR RESPONSE | OBEYS | 5 | |
| | LOCALIZES | 4 | |
| | FLEXION WITHDRAWAL | 3 | |
| | EXTENSOR RESPONSE | 2 | |
| | NIL | 1 | |
| VERBAL RESPONSE | ORIENTATED | 5 | |
| | CONFUSED CONVERSATION | 4 | |
| | INAPPROPRIATE WORDS | 3 | |
| | INCOMPREHENSIBLE SOUNDS | 2 | |
| | NIL | 1 | |
| TIMED | | | TOTAL 14 |

| | YES | NO |
|---|---|---|
| ASPIRATION | | ✓ |
| VENTILATION | | ✓ |
| CPR | | ✓ |
| DEFIBRILLATION | | ✓ |
| ENDO INTU | | ✓ |

1 2 ✓

AR
Y

OMITING
ES (NO)

| BREATHING | 1 | 2 |
|---|---|---|
| ABSENT | | |
| SHALLOW | | |
| DEEP | | |
| NORMAL | ✓ | |
| REGULAR | ✓ | |
| IRREGULAR | | |
| RATE PER MIN | | |
| TIMED | 1 | 2 |

| CIRCULATION | 1 | 2 |
|---|---|---|
| B.P. | | |
| PULSE RATE | | |
| REGULAR | ✓ | |
| IRREGULAR | | |
| NORMAL VOL: | | |
| WEAK VOL: | | |
| BLOOD LOSS | | |
| TIMED | 1 | 2 |

| COLOUR | 1 | 2 |
|---|---|---|
| NORMAL | ✓ | |
| CYANOSED | | |
| PALE | | |
| SWEATING | | |
| TIMED | | |

PUPILS

| | | |
|---|---|---|
| R | ○ | ✓ ○ |
| L | ○ | ✓ ○ |

REACTION TO LIGHT

| | | |
|---|---|---|
| R | (YES) | NO |
| L | (YES) | NO |

| HYTHMIAS | | | | | | |
|---|---|---|---|---|---|---|
| RT RATE ✓ | SINO ATRIAL BLOCK | | SINUS RHYTHM | | VENTRICULAR EXTRASYSTOLE | |
| | 1° AV BLOCK | | SINUS BRADYCARDIA | | IDIOVENTRICULAR RHYTHM | |
| | 2° AV BLOCK (WENKEBACH) | | SINUS TACHYCARDIA | | VENTRICULAR TACHYCARDIA | |
| | 2° AV BLOCK (MOBITZ II) | | ATRIAL/JUNC EXTRASYSTOLE | | VENTRICULAR FIBRILLATION | |
| OUS-CANNULA | 3° AV BLOCK (NARROW QRS) | | JUNCTIONAL RHYTHM | | PROBABLE INFARCT PATTERN | |
| (NO) | 3° AV BLOCK (WIDE QRS) | | SUPRAVENTRICULAR/TACHYCARDIA | | ST/T CHANGES | |
| | ASYSTOLE WITH P WAVES | | ATRIAL FLUTTER | | LEFT BUNDLE BRANCH BLOCK | |
| | ASYSTOLE WITHOUT P WAVES | | ATRIAL FIBRILLATION | | RIGHT BUNDLE BRANCH BLOCK | |

NG YES/NO
NSE:

INFUSION FLUID ..... QUANTITY ..... TIME .....

| DRUG | AMOUNT | ROUTE | TIME | RESPONSE | BY |
|---|---|---|---|---|---|
| OXYGEN | | | | | |
| ENTONOX | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

I DO NOT WISH TO BE TAKEN TO HOSPITAL ALTHOUGH I HAVE BEEN ADVISED TO GO BY THE AMBULANCE CREW.

SIGNED

.....ASKED TO CALL: VIA CONTROL/VIA OUR TELEPHONE CALL. TIMED.....

OTHER COMMENTS

Whiplash + Injury (R) Hand



Supplies Dept

INITIALS

# B Data on three months' operations

The following pages contain records of each flight made by the helicopter, divided up by week. The key to abbreviations used is as follows:

| | |
|---|---|
| Flt | Flight number from KAS records } both have some |
| Case | Case number from KAS records } irregularities |
| Flt Type | Flight Type: |
| P, S, T | Primary, Secondary, Tertiary Incident/flight |
| In Flt | Time spent in flight to first landing or stand-down or diversion (all times in minutes) |
| On Grd | Time spent on the ground at incident or at first hospital in case of transfers |
| To Hosp | Time spent flying to hospital or to second hospital in case of transfers |
| At Hosp | Time spent at hospital or at second hospital in case of transfers |
| cf LA | Time saving compared to use of land ambulance |
| Incid. | Type of Incident: |
| | RTA Road traffic accident |
| | Trans Transfer |
| | Works Works accidents |
| | Sport Sports injury |
| | N/S Not stated |
| | O/D Overdose |
| | Ill Sudden Illness |
| | LOX Liquid oxygen refill |
| (M) | Incident on or beside Motorway |
| IS | Incident on Isle of Sheppey |
| IG | Incident on Isle of Grain |
| / | not applicable |
| # | Fracture |
| NPC | No patient conveyed |
| KAS "Urgent" | Transfer rated urgent by Kent Ambulance Service |
| Pat conv LA | Patient conveyed by land ambulance |
| NR | Helicopter found not to be required on arrival |
| Not ess | Use of helicopter not considered to have been essential from evidence at time and/or follow-up |
| Exp | Expedient |
| Exp loc'n | Expedient use for location of incident |

| Flt | Case | Date | Flt. Type | To T/O | In Flt. | On Grd | To Hosp. | At Hosp. | To Base | Total | cf LA Saving | Type Incid. | Medical Diagnosis | Medical Comment | Other Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WEEK 1** | | | | | | | | | | | | | | | |
| 190 | 143 | 16.3.90 | P | 2 | 3 | 1 | / | / | 2 | 8 | / | RTA | | | NPC |
| 191 | 144 | 16.3.90 | P | 1 | 9 | 22 | 7 | 6 | 11 | 56 | 32 | RTA | # Ribs? | Poss int bl. | Valid use |
| 192 | 145 | 16.3.90 | S | 2 | 5 | 24 | 11 | 2 | 13 | 57 | 180 | Trans | Decap fing | Poss micro surg | Not ess. |
| 193 | 146 | 17.3.90 | P | 1 | | | | | 10 | 11 | / | | | | Cancelled |
| 194 | | 17.3.90 | T | | | | | | 10 | 10 | / | | | | LOX |
| 195 | 147 | 17.3.90 | P | / | 9 | 12 | 9 | 15 | 10 | 55 | 60 | RTA(M) | Whiplash | No evid # neck | Not ess. |
| 196 | 148 | 17.3.90 | P | 2 | / | / | 2 | 39 | 5 | 48 | 45 | Works | Cut finger | | Not ess.: PR? |
| 197 | 149 | 17.3.90 | P | 1 | | | | | 10 | 11 | / | | | | Cancelled |
| 198 | 150 | 17.3.90 | S | 2 | 13 | 15 | 20 | 20 | 15 | 85 | 240 | Trans | Sub Ar Haem | Intense pain | Justified |
| 199 | 151 | 18.3.90 | P | 1 | | | | | 21 | 22 | / | RTA | | | Cancelled |
| 200 | 152 | 18.3.90 | P | 1 | 7 | 12 | 4 | 20 | 11 | 55 | 45 | RTA(M) | Whiplash | No evid # neck | Exp (location) |
| **Totals** | | | | **13** | **46** | **86** | **53** | **102** | **118** | **418** | | | | | |

| Flt | Case | Date | Flt. Type | To T/O | In Flt. | On Grd | To Hosp. | At Hosp. | To Base | Total | cf LA Saving | Type Incid. | Medical Diagnosis | Medical Comment | Other Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WEEK 2** | | | | | | | | | | | | | | | |
| 201 | | 22.3.90 | T | | | | | | 40 | 40 | / | PR | | | Film crew |
| 202 | | 23.3.90 | T | | | | | | 8 | 8 | / | LOX | | | |
| 203 | 153 | 23.3.90 | S | 3 | 3 | 24 | 12 | 22 | 10 | 74 | 240 | Trans | CVA | KAS "Urgent" | Prob not ess. |
| 204 | 154 | 23.3.90 | P | 1 | 4 | 7 | | | 7 | 19 | / | N/S | | | NR |
| 205 | 155 | 23.3.90 | S | 3 | 12 | 21 | 24 | 9 | 19 | 88 | 300 | Trans | Shunt | KAS "Urgent" | Prob not ess. |
| 206 | 156 | 24.3.90 | P | 2 | 5 | 5 | | | 6 | 18 | / | N/S | | | NR |
| 207 | 157 | 24.3.90 | P | 2 | 12 | 5 | | | 8 | 27 | / | RTA | Head injuries? | (not seen) | LA conveyed |
| 208 | | 25.3.90 | T | | | | | | 8 | 8 | / | LOX | | | |
| 209 | | 25.3.90 | T | | | | | | 10 | 10 | / | PR | | | Visit Olau Line |
| 210 | 158 | 25.3.90 | P | 2 | 8 | 11 | 6 | 19 | 12 | 58 | 15 | Sport | # Tib/Fib? | Painful | Not life-saving |
| 211 | 159 | 25.3.90 | P | 2 | 9 | 14 | 2 | 27 | 18 | 72 | 30 | Sport | # Tib/Fib? | Painful | Not life-saving |
| 212 | 160 | 25.3.90 | P | 2 | 3 | 19 | 3 | 30 | 3 | 60 | 35 | RTA(M) | Hd/leg/abdm | Low coma score | Prob good use |
| 213 | | 26.3.90 | T | | | | | | 10 | 10 | / | LOX | | | |
| 214 | 161 | 26.3.90 | P | 0 | 10 | 13 | 6 | 11 | 0 | 40 | 35 | RTA | Wplsh/chest | Not ess | Just. at time |
| 215 | 162 | 26.3.90 | S | 12 | 7 | 25 | 16 | 11 | 11 | 82 | 150 | Trans | Cirrhosis | Not ess | |
| **Totals** | | | | **29** | **73** | **144** | **69** | **129** | **170** | **616** | | | | | |

| Flt | Case | Date | Flt. Type | To T/O | In Flt. | On Grd | To Hosp. | At Hosp. | To Base | Total | cf LA Saving | Type Incid. | Medical Diagnosis | Medical Comment | Other Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WEEK 3** | | | | | | | | | | | | | | | |
| 216 | 163 | 29.3.90 | S | 2 | 4 | 46 | 16 | 47 | 10 | 125 | 120 | Trans | Back injury | No symptoms | Prob not ess. |
| 217 | 164 | 29.3.90 | S | 0 | 13 | 22 | 106* | 21 | 82 | 244 | 840 | Trans | # Femur | Exp cf LA | Expedient |
| | | | | | | * incl 20 mins refuelling stop | | | | | + o/nt stay | | | | |
| 218 | 165 | 30.3.90 | S | 3 | 25 | 23 | 27 | 7 | 13 | 98 | 270 | Trans | Brain Tumr. | | Transport use |
| 219 | 166 | 31.3.90 | S | 34 | 11 | 80* | 20 | 15 | 13 | 173 | 210 | Trans | Spin Cmprsn | KAS "Urgent" | Transport use |
| | | | | | * delays through weather | | | | | | | | | | |
| 220 | 167 | 31.3.90 | P | 1 | 9 | 9 | 5 | 13 | / | 37 | 75 | RTA | Scapula | Not vital | Not ess. |
| 221 | 168 | 31.3.90 | P | 1 | 9 | 13 | | | 7 | 30 | / | RTA | Arm/mouth | | Pat conv LA |
| 222 | 169 | 1.4.90 | P | 2 | | | | | 5 | 7 | / | RTA | | | N/R |
| 223 | 170 | 1.4.90 | P | 2 | 15 | 2 | | | 17 | 36 | / | RTA | | | N/R |
| 224 | 171 | 1.4.90 | S | 2 | 4 | 18 | 17 | 15 | 18 | 74 | 210 | Trans | 22% burns | KAS "Urgent" | Not ess. on F/up |
| 225 | 172 | 1.4.90 | P | 2 | 14 | 22 | 3 | 22 | 19 | 82 | 30 | RTA | Concussion | High coma score | Not ess. |
| 226 | 173 | 1.4.90 | P | 1 | 9 | 26 | 8 | 32 | 4 | 80 | 90 | RTA IG | Cut head | Not approp. | Not ess. |
| 227 | 174 | 2.4.90 | S | 28* | 5 | 23 | 14 | 21 | 12 | 103 | 150 | Trans | Skin graft | Expedient only | Not ess. |
| | | | | * from time called to arrange pick-up | | | | | | | | | | | |
| 228 | 175 | 2.4.90 | P | 1 | 4 | 11 | / | / | / | 16 | / | Works | N/S | | Pat conv LA |
| 229 | 176 | 2.4.90 | P | 0 | 6 | 9 | 8 | 27 | 3 | 53 | 60 | Works | # Tib/arm | Nice, not ess. | Painful |
| **Totals** | | | | **79** | **128** | **304** | **204** | **220** | **203** | **1158** | | | | | |
| | | | | | | | +20 refuelling | | | | | | | | |

| Flt | Case | Date | Flt. Type | To T/O | In Flt. | On Grd | To Hosp. | At Hosp. | To Base | Total | cf LA Saving | Type Incid. | Medical Diagnosis | Medical Comment | Other Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WEEK 4** | | | | | | | | | | | | | | | |
| 230 | | 5.4.90 | T | | | | | | | 8 | / | LOX | | | |
| 231 | 177 | 5.4.90 | S | 0 | 17 | 14 | 26 | 42 | 12 | 111 | 270 | Trans | MI (wrong) | Not ess on f/up | Just. at time |
| 232 | 178 | 5.4.90 | P | 1 | 4 | 22 | 7 | 27 | 4 | 65 | 45 | RTA | Head/back | Prob not ess | Prob not ess |
| 233 | 179 | 5.4.90 | P | 1 | 10 | 9 | | | 9 | 30 | / | N/S | N/S | | Pat conv LA |
| 234 | 180 | 6.4.90 | P | 2 | 10 | 14 | 8 | 13 | 16 | 63 | 23 | RTA | Chest pain | Prob not ess | Prob not ess |
| 235 | 181 | 6.4.90 | P | 1 | | | | | 13 | 14 | / | Works | Spike in foot | | Cancelled |
| 236 | 182 | 6.4.90 | P | 2 | 7 | | | | / | 9 | / | Sport | | | Canc.: P C car |
| 237 | 183 | 6.4.90 | P | / | 7 | 14 | 3 | 19 | 4 | 47 | 60 | O/D | Sl. drowsy | Prob not ess | Prob. not ess |
| 238 | 184 | 6.4.90 | S | 2 | 12 | 18 | 11 | 13 | 11 | 67 | 90 | Trans | # Hip | Expedient | Transport use |
| 239 | | 7.4.90 | T | | | | | | 8 | 8 | / | LOX | | | |
| 240 | 185 | 7.4.90 | P | 1 | 3 | 18 | 6 | 22 | / | 50 | 30 | III(M) | Ep. Fit | Not ess | Not ess |
| 241 | 186 | 7.4.90 | P | / | | | | | 5 | 5 | / | N/S | | | Cancelled |
| 242 | 187 | 7.4.90 | P | 2 | | | | | 6 | 8 | / | N/S | | | Cancelled |
| 243 | 188 | 7.4.90 | P | 0 | 7 | 14 | 5 | 18 | 5 | 49 | 40 | III(M) | Collapsed | Just. at time | Exp loc'n |
| 244 | 189 | 7.4.90 | P | 1 | 6 | 11 | 2 | 28 | 4 | 52 | 15 | Sport | # Ankle | Prob not ess | Prob not ess |
| 245 | 190 | 7.4.90 | P | 2 | 6 | 8 | 2 | 18 | / | 36 | 5 | Ag/Wks | Back | Exp loc'n | Bumpy access: |
| 246 | 191 | 7.4.90 | P | / | 17 | | | | 13 | 30 | / | N/S | | | Canc o/h site |
| 247 | 192 | 7.4.90 | P | 0 | 15 | 17 | 4 | 24 | 13 | 73 | 13 | Sport? | #Tib/ankle | Prob not ess | Prob not ess |
| 248 | 193 | 8.4.90 | P | 3 | 10 | 5 | | | 10 | 28 | 12 | RTA? | | | N/R |
| 249 | 194 | 8.4.90 | P | 2 | 7 | 33 | 8 | 36 | 8* | 94 | 16 | III | CVA?(angina) | Prob not ess | |
| | | | | | | * then called on to next | | | | | | | | | |
| 250 | 195 | 8.4.90 | P | / | 5 | 12 | 6 | 23 | 1* | 47 | 3 | Fall | # Ribs? | Pat in gd condn | Not vital |
| | | | | | | * then called on to next | | | | | | | | | |

Cont./. . .

| Flt | Case | Date | Flt. Type | To T/O | In Flt. | On Grd | To Hosp. | At Hosp. | To Base | Total | cf LA Saving | Type Incid. | Medical Diagnosis | Medical Comment | Other Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WEEK 4** (cont.) | | | | | | | | | | | | | | | |
| 251 | 196 | 8.4.90 | P | / | 5 | 15 | | | 6* | 26 | / | N/S | | | Pat conv LA |
| | | | | | | * then called on to next | | | | | | | | | |
| 252 | 197 | 8.4.90 | P | / | 10 | 9* | | | / | 19 | / | RTA IS | | | Pat conv LA |
| | | | | | | * then called on to next | | | | | | | | | |
| 253 | | 8.4.90 | T | | | | | | 7 | 7 | / | LOX | | | |
| 254 | 198 | 8.4.90 | P | / | 5 | 8 | | | 5 | 18 | / | RTA | Minor inj | | Pat conv LA |
| 255 | 199 | 8.4.90 | P | 2 | 5 | 8 | 7 | 25 | 5 | 52 | 90 | Sport | # Ankle | Not ess | Not ess |
| 256 | 200 | 8.4.90 | P | 1 | 4 | 8 | 4 | 16 | 4* | 37 | 90 | Sport | # Ribs? | Not ess | Not ess |
| | | | | | | * then called on to next | | | | | | | | | |
| 257 | 201 | 8.4.90 | P | / | 6 | 36 | 7 | 21 | 5 | 75 | 180 | Ill | Coma/Fit | Fitting stopped | Not ess |
| 258 | | 9.4.90 | T | | | | | | 10 | 10 | / | LOX | | | |
| 259 | 202 | 9.4.90 | S | 2 | 15 | 15 | 25 | 14 | 15 | 86 | 240 | Trans | N/S | Prob not ess | Prob not ess |
| 260 | 203 | 9.4.90 | S | 2 | 3 | 17 | 8 | 30 | 7* | 67 | 180 | Trans | N/S | Prob not ess | Prob not ess |
| | | | | | | * then called on to next | | | | | | | | | |
| 261 | 204 | 9.4.90 | S | / | 8 | 30 | 11 | 15 | 4 | 68 | 150 | Trans | Amputee | Not ess | |
| 262 | 205 | 9.4.90 | P | 0 | 10 | 11 | | | 16 | 37 | / | RTA | #Fem/hd inj | | Pat conv LA |
| **Totals** | | | | **27** | **214** | | **150** | | **226** | **1396** | **1552** | | | | |
| | | | | | | | | | Flying 617 | | | | | | |

| Flt | Case | Date | Flt. Type | To T/O | In Flt. | On Grd | To Hosp. | At Hosp. | To Base | Total | cf LA Saving | Type Incid. | Medical Diagnosis | Medical Comment | Other Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WEEK 5** | | | | | | | | | | | | | | | |
| 263 | | 12.4.90 | T | | | | | | 10 | 10 | / | LOX | | | |
| 264 | 206 | 12.4.90 | P | 1 | 7 | 9 | 4 | 7 | 7* | 35 | 25 | RTA | Whplsh/back | Prob. not ess | Exp/comfort |
| | | | | * then called to next | | | | | | | | | Cerv. collar fitted | | |
| 265 | 207 | 12.4.90 | P | / | 10 | 8 | | | 5 | 23 | / | RTA(M) | No injury | | NPC |
| 266 | 208 | 12.4.90 | P | 1 | 6* | | | | | 7 | / | RTA | | | Canc. in flt. |
| | | | | * call cancelled | | | | | | | | | | | |
| 267 | 208 | 12.4.90 | S | 0 | 10 | 10 | 18 | 12 | 20 | 70 | 180 | Trans | #Pelvis/arm | Not ess but comfort/humane | |
| 268 | 209 | 12.4.90 | S | 2 | 18 | 8 | 32 | 6* | / | 66 | 240 | Trans | Ca Oesoph | Not ess | Not ess |
| | | | | * then called to next | | | | | | | | | | | |
| 269 | 210 | 12.4.90 | P | 2 | 12 | 1 | | | 6 | 21 | / | RTA(M) | | | Pat conv LA |
| 270 | 211 | 12.4.90 | P | 1 | 5 | | | | 4 | 9 | / | RTA | | | Canc.o/h site |
| 271 | 212 | 13.4.90 | P | 2 | 5 | 4 | | | 4 | 15 | / | RTA(M) | | | NPC |
| 272 | 213 | 13.4.90 | P | 2 | 13 | 29 | | | 15 | 59 | / | Ill | Collapse | Justified | DOA; LA conv |
| 273 | 214 | 13.4.90 | P | 1 | 10 | 6 | 10 | 2 | 3 | 32 | 25 | Ill IS | Boil | Not approp | Exp loc'n |
| 274 | 215 | 13.4.90 | P | 1 | 9 | | | | 12 | 22 | / | RTA | | | Canc. in flt. |
| 275 | 216 | 13.4.90 | S | 7 | 10 | 6 | 14 | 17 | 15 | 69 | 180 | Trans | Scald foot | Not ess | Not ess |
| 276 | (no such flight – misnumbering) | | | | | | | | | | | | | | |
| 277 | 217 | 14.4.90 | P | 3 | 9 | 9 | 5 | 20 | 9 | 55 | 90 | Sport | # ankle | Just. (as horse) but not ess | |
| 278 | 218 | 14.4.90 | P | 1 | 9 | 23 | 8 | 12 | 15 | 68 | 90 | MiscIS | Back inj. | Justified | Justified |
| 279 | 219 | 14.4.90 | P | 3 | | | | | 5 | 8 | / | Hoax? | Collapse | | Nothing found |
| 280 | 220 | 14.4.90 | P | 2 | 12 | 12 | 7 | 15 | 2* | 50 | 90 | Sport | #Wrist | Just. (as horse) but not ess | |
| | | | | * then called to next | | | | | | | | | | | |
| 281 | 221 | 14.4.90 | P | / | 4 | 19 | 4 | 25 | 14 | 66 | 90 | Sport | Abdo pain | Just but not ess | |

Cont./. . .

| Flt | Case | Date | Flt. Type | To T/O | In Flt. | On Grd | To Hosp. | At Hosp. | To Base | Total | cf LA Saving | Type Incid. | Medical Diagnosis | Medical Comment | Other Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WEEK 5** (Cont.) | | | | | | | | | | | | | | | |
| 282 | | 15.4.90 | T | | | | | | | | | LOX | | | |
| 283 | 222 | 15.4.90 | P | /* | 1 | 11 | 8 | 29 | 6 | 55 | 75 | Sport | Cut head; had been unconscious | Not ess | Not ess |
| | | | | * en route to relocate at Tenterden | | | | | | | | | | | |
| 284 | 223 | 15.4.90 | P | 4 | 4 | 12 | 5 | 20 | 10* | 75 | 15 | RTA | Shock/cuts | Not ess | Not ess |
| | | | | | * time to landing to refuel | | | | | | | | | | |
| 285 | | 15.4.90 | T | | | | | | 20 | | | Refuel | | | |
| 286 | 224 | 15.4.90 | P | 4 | 10 | 8 | | | 2 | 24 | / | RTA | | | Pat conv LA |
| 287 | 225 | 15.4.90 | P | 0 | 14 | | | | 22 | 36 | / | RTA | | | Canc/LA conv |
| 288 | 226 | 15.4.90 | P | 0 | 7 | 3 | | | 7 | 17 | / | RTA | Bruise ankle | | Pat conv LA |
| 289 | 227 | 15.4.90 | P | 1 | 9 | 12 | | | 5* | 27 | / | RTA | Bruise ankle | | NPC |
| | | | | * then called to next | | | | | | | | | | | |
| 290 | 228 | 15.4.90 | P | / | 8 | 15 | 8 | 32 | 9 | 72 | 60 | RTA | Head inj. | No info on f/up | Seems good use |
| 291 | | 16.4.90 | T | | | | | | | 10 | | | | | Reloc. Tent'n |
| 292 | 229 | 16.4.90 | P | 4 | 9 | 7 | | | 12 | 32 | / | RTA | | | Canc o/h site |
| 293 | 230 | 16.4.90 | P | 3 | 11 | 16 | 7 | 26 | 25 | 88 | 90 | Ill IS | Collapse/ Chest pains (age 75) | Insuff. data | Exp loc'n |
| 294 | 231 | 16.4.90 | P | 0 | 9 | 2 | | | 17 | 28 | / | RTA | | | NR |
| 295 | 232 | 16.4.90 | P | 0 | 3 | 1 | | | 8 | 12 | / | RTA IS | | | NR |
| 296 | 233 | 16.4.90 | P | 1 | | | | | 6 | 7 | / | RTA | | | Canc in flt |
| 297 | 234 | 16.4.90 | P | 1 | 4 | 19 | 5 | 15 | 3 | 47 | 60 | RTA | Head inj | Insuff. data | Prob not ess |
| **Totals** | | | | | **238** | | **135** | | **288** | **1215** | **1310** | | | | |
| | | | | | | | | | Flying time 661 | | | | | | |

| Flt | Case | Date | Flt. Type | To T/O | In Flt. | On Grd | To Hosp. | At Hosp. | To Base | Total | cf LA Saving | Type Incid. | Medical Diagnosis | Medical Comment | Other Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WEEK 6** | | | | | | | | | | | | | | | |
| 299 | 236 | 19.4.90 | S | 0 | 7 | 17 | 9 | 8 | 12 | 53 | 90 | Trans | Bleeding PV | Exp | Exp |
| 300 | 237 | 19.4.90 | S | /* | 17 | 14 | 56 | 13 | 68** | 168 | 480 | Trans | Back (RTA) | Not ess | KAS "Urgent" |
| | | | | * pre-booked | | | ** stopped off at RTA en route for 30 mins | | | | | | | | |
| 301 | | 19.4.90 | T | | | | | | 20 | 20 | / | PR | | | Fund raising |
| 302 | | 20.4.90 | T | | | | | | 10 | 10 | / | LOX | | | |
| 303 | 238 | 20.4.90 | P | 2 | 7 | 3 | | | 10 | 22 | / | RTA(M) | | | NR |
| 304 | 239 | 20.4.90 | S | 2 | 15 | 20 | 22 | 18* | | | | | | No info on follow-up | |
| | | | | | | | 25 | 31 | 13 | 146 | 180 | Trans | Brain haem | Prob good use | KAS "Urgent" |
| | | | | * had to carry Dr and return for para-medic | | | | | | | | | | | |
| 305 | 240 | 20.4.90 | P | 3 | 1 | 21 | | | 3 | 28 | / | RTA | | Just. call | DOA |
| 306 | 241 | 20.4.90 | S | / | 14 | 9 | 23 | 6 | 11 | 63 | 180 | Trans | Cardiac | Not ess but exp | Exp |
| 307 | | 21.4.90 | T | | | | | | 5 | 5 | | | | | Weather check |
| 308 | 242 | 21.4.90 | S | 6 | 12 | 25 | 26 | 46 | 20 | 135 | 240 | Trans | CO, unconsc (suicide) | Justified as on hi press $O_2$ | Justified but pat died later |
| 309 | 243 | 21.4.90 | S | 5 | 12 | 16 | 18 | 34* | | 85 | 180 | Trans | Blocked cor by-pass | Not ess | KAS "Urgent" |
| | | | | * called to next | | | | | | | | | | | |
| 310 | 244 | 21.4.90 | S | 5 | 13 | 7 | 11 | 36* | | 72 | 120 | Trans | Pacemaker | Not ess | KAS "Urgent" |
| | | | | * called to next | | | | | | | | | | | |
| 311 | 245 | 21.4.90 | S | / | 22 | 10 | 25 | 6 | 12 | 75 | 240 | Trans | Pacemaker | Not ess | KAS "Urgent" |
| 312 | 246 | 22.4.90 | P | 2 | 9 | 3 | | | 16 | 30 | / | RTA | | | Heli misdirct. LA found, dealt |
| 313 | 247 | 22.4.90 | S | 5 | 3 | 23 | 11 | 43 | 10 | 95 | 120 | Trans | Angina | Not ess | KAS "Urgent" |
| 314 | 248 | 22.4.90 | P | 1 | 6 | 11 | | | 9 | 27 | / | RTA | | | Pat conv by car |
| 315 | 249 | 22.4.90 | P | 1 | 9 | 4 | | | 12 | 26 | / (a) | RTA | | | NR |
| | | | | | | | | | | | (b) | RTA | | | LA dealt |
| 316 | 250 | 23.4.90 | S | / | 12 | 30 | 47 | 45 | 28 | 162 | 240 | Trans | Amptn/paral | Not ess | KAS "Urgent" |
| 317 | 251 | 23.4.90 | P | 2 | 7 | 7 | 8 | 17 | 4 | 45 | 90 | RTA(M) | Whplsh/hand | Not ess | NE; just. locn. |
| **Totals** | | | | **34** | **166** | **220** | **281** | **303** | **233** + 30 on gd | **1267** | **2160** | | | | |
| | | | | | | | | | Flying: 680 | | | | | | |

| Flt | Case | Date | Flt. Type | To T/O | In Flt. | On Grd | To Hosp. | At Hosp. | To Base | Total | cf LA Saving | Type Incid. | Medical Diagnosis | Medical Comment | Other Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WEEK 7** | | | | | | | | | | | | | | | |
| 318 | | 28.4.90 | T | | | | | | 10 | 10 | / | LOX | | | |
| 319 | 252 | 28.4.90 | P | 2 | 8 | 11 | 6 | 18 | | | | RTA | Wplsh/Head | Not ess | Not ess |
| returned for paramedic | | | | | 6 | 3 | | | 10 | 64 | 60 | *2 pats conv.* | | Not ess | Not ess |
| 320 | 253 | 28.4.90 | P | 2 | 8 | 4 | 6 | 9 | 3* | 32 | 45 | Sport | Back pain | Not ess | Exp |
| | | | | * called to next case | | | | | | | | | | | |
| 321 | 254 | 28.4.90 | P | / | 7 | 23 | 7 | 4 | 12 | 53 | 30 | RTA | Sev Hd inj (also chest inj) | | Good use |
| 322 | 255 | 28.4.90 | S | 20* | 3 | 30 | 16 | 7 | 11 | 87 | 120 | Trans | Elec burns | Good use | KAS "Urgent" |
| * refuelling at time of call | | | | | | | | | | | | from Cas Dept | | | |
| 323 | 256 | 29.4.90 | P | 2 | 8 | 14 | 5 | 18* | | 47 | 90 | Sport | # ankle/ | Not ess but painful | |
| | | | | | | | | | | | | | # tib/fib | Not ess but painful | |
| * returned for second pat. | | | | | | | | | | | | | | | |
| 324 | 257 | 29.4.90 | P | / | 5 | 7 | 6 | 17 | 4 | 39 | 30 | Sport | Sprain leg | Not ess | Not ess |
| 325 | 258 | 29.4.90 | P | 2 | 10 | 23* | | | | 35 | / | ? | Head inj | Did not convey pat but helped medically | |
| | | | | * called to next case | | | | | | | | | | | |
| 326 | 259 | 29.4.90 | S | / | 10 | 6 | 15 | 13 | | | 300 | Trans | Head inj | Just at time | Good use |
| returned for paramedic as Doctor accompanied Attended RTA on way back but N/R | | | | | 20 | 1 | | | 2 | 67 | | from Cas Dept | | | |
| 327 | 260 | 29.4.90 | P | 2 | 8 | 0 | | | 9 | 19 | / | RTA(M) | | | No injury |
| 328 | 261 | 30.4.90 | S | 6 | 3 | 10 | 10 | 24* | | 53 | 120 | Trans | Inj req graft | Not ess | Not ess |
| | | | | * called to next case | | | | | | | | | | | |
| 329 | 262 | 30.4.90 | S | 1 | 10 | 38 | 8 | 15 | 15 | 87 | 150 | Trans | Facial graft | Not ess | Not ess |
| 330 | 263 | 30.4.90 | P | 1 | 10 | 6 | 8 | 27 | | | | | | | |
| returned equipment | | | | | 10* | | | | | 62 | 90 | Fall | Spinal | Good use | Justified |
| | | | | * called to next case | | | | | | | | | | | |
| 331 | 264 | 30.4.90 | P | / | 12 | 11 | 14 | 8 | 5 | 50 | 30 | Ill. | Heart attk | Good use | Justified |
| **Totals** | | | | **38** | **138** | **187** | **101** | **160** | **81** | **705** | **1065** | | | | |
| | | | | | | | | | Flying 320 | | | | | | |

**Note**
Helicopter was unavailable on 26 and 27 April.

| Flt | Case | Date | Flt. Type | To T/O | In Flt. | On Grd | To Hosp. | At Hosp. | To Base | Total | cf LA Saving | Type Incid. | Medical Diagnosis | Medical Comment | Other Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WEEK 8** | | | | | | | | | | | | | | | |
| 332 | | 3.5.90 | T | | | | | | 5 | 5 | / | LOX | | | |
| 333 | 265 | 3.5.90 | S | 0 | 14 | 27 | 23 | 11 | 17 | 92 | ? | Trans | HI | Good use | |
| 334 | | 3.5.90 | T | | | | | | 45 | 45 | / | | | | |
| | | | | en route checked on RTA in Sheppey: pat conv LA | | | | | | | | | | | |
| 335 | 266 | 3.5.90 | P | 1 | | | | | 6 | 7 | / | RTA | | | Canc en route |
| 336 | 267 | 3.5.90 | P | 2 | 10 | 5 | | | 8 | 25 | / | RTA | Minor inj | | NR |
| 337 | 268 | 3.5.90 | P | 2 | 12 | 10 | | | 5* | 29 | / | RTA | #wrist | | Pat conv LA |
| | | | | * called on to next | | | | | | | | | | | |
| 338 | 269 | 3.5.90 | S | / | 6 | 25 | 22 | 33 | 10 | 96 | 90 | Trans | Unst angina | Not ess | Not ess |
| 339 | | 4.5.90 | T | | | | | | 15 | 15 | / | PR | | | Press photos |
| 340 | 270 | 4.5.90 | S | 2 | 10 | 16 | 13 | 26 | –* | 67 | 120 | Trans | Post op | Not ess | Not ess |
| | | | | * called on to next | | | | | | | | | | | |
| 341 | 271 | 4.5.90 | S | 1 | 33 | 23 | 23 | 11 | 15 | 106 | ? | Trans | Card fail | Approp/convenient but not ess | |
| 342 | 269 | 4.5.90 | S | 2 | 11 | 27 | 13 | 15 | 12 | 80 | 75 | Trans | Cranl haem | Not ess | Not ess |
| 343 | | 5.5.90 | T | | | | | | 5? | 5? | / | LOX | | | |
| 344 | 270 | 5.5.90 | P | 0 | 3 | 60 | 8 | 10 | –* | 81 | 20 | RTA | Mult inj | Just at time but not ess on f/up | |
| | | | | * called on to next | | | | | | | | | | | |
| 345 | 271 | 5.5.90 | P | 2 | 9 | 4 | | | –* | 15 | / | RTA | Minor inj | | Pat conv LA |
| | | | | * went on to Northfleet Amb station open day | | | | | | | | PR | | | |
| 346 | | 5.5.90 | T | | | | | | 5 | 5 | / | | | | Relocation |
| 347 | 272 | 5.5.90 | P | 2 | 7 | 2 | | | ? | 11+ | / | RTA(M) | | | No injury |
| 348 | 273 | 5.5.90 | P | 2 | 17 | 14 | 9 | 18 | 5* | 65 | 20 | Fall (off bike) HI | | Insuff data | Insuff data |
| | | | | * called on to next | | | | | | | | | | | |
| 349 | 274 | 5.5.90 | P | 0 | 6 | 1 | | | 10 | 17 | / | RTA | | | NR |
| 350 | 275 | 5.5.90 | S | 1 | 14 | 35 | 24 | 9 | 12 | 95 | ? | Trans | Ht transplt | Convenient but not life-saving (No donor waiting) | |
| 351 | 275 | 6.5.90 | P | 4 | 12 | 2 | | | 13 | 31 | / | RTA | | | NR |
| 352 | | 6.5.90 | T | | | | | | 13 | 13 | / | PR | | | Pens Pl Open Day |
| 353 | 276 | 6.5.90 | P | 2 | 10 | 3 | | | 20 | 35 | / | RTA | No injury | | NPC |
| 354 | 277 | 6.5.90 | P | 2 | 10 | 15 | | | 12 | 39 | / | RTA(M) | Minor inj. | | Pat conv LA |

Cont./. . .

| Flt | Case | Date | Flt. Type | To T/O | In Flt. | On Grd | To Hosp. | At Hosp. | To Base | Total | cf LA Saving | Type Incid. | Medical Diagnosis | Medical Comment | Other Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WEEK 8** (Cont.) | | | | | | | | | | | | | | | |
| 355 | | 7.5.90 | T | | | | | | 4 | 4 | / | LOX | | | |
| 356 | 278 | 7.5.90 | S | 1 | 2 | 15 | 17 | 8 | 16 | 59 | ? | Trans | N/S | None | |
| 357 | 279 | 7.5.90 | P | 1 | 5 | 35 | | | ? | 41+ | / | RTA | # femur | | Pat conv LA |
| 358 | 280 | 7.5.90 | P | 2 | 9 | | | | 3* | 14 | / | RTA | | | Waved away |
| | | | | * called on to next | | | | | | | | | | | |
| 359 | 281 | 7.5.90 | P | 0 | | | | | 9 | 9 | / | RTA | | | Canc en route |
| 360 | 282 | 7.5.90 | P | 2 | 10 | 8 | | | 3 | 23 | / | Fall | Cut head | Justified send | Pat conv LA |
| 361 | 283 | 7.5.90 | P | 2 | 5 | 20 | | | 5 | 32 | / | RTA | Shock | | Pat conv LA |
| 362 | 284 | 7.5.90 | P | 2 | 10 | 23 | | | 10 | 45 | / | RTA | DOA | Justified send | Body conv LA |
| 363 | 285 | 7.5.90 | P | 2 | 14 | 24 | 9 | 7 | 18 | 74 | 20 | Inj | Rectal haem | Not ess but kind | (elderly pat) |
| 364 | 286 | 8.5.90 | P | 1 | 5 | 87 | | | 3* | 96 | / | RTA(M) | Multiple – cut out/treated | | Pat conv HEMS/LA |
| | | | | * called on to next | | | | | | | | | | | |
| 365 | 287 | 8.5.90 | S | – | 5 | 40 | 10 | 20 | 11* | 86 | 45 | Trans | CT Scan | Not ess | Not ess |
| | | | | * called on to next | | | | | | | | | | | |
| 366 | 288 | 8.5.90 | P | – | 7 | 6 | | | 9 | 22 | / | RTA | No injury | | NPC |
| 367 | 289 | 8.5.90 | P | 1 | 2 | 18 | | | 5 | 26 | / | RTA | Slight | | Pat conv LA |
| 368 | | 8.5.90 | T | | | | | | ? | ? | | PR | | | Telethon |
| 369 | 290 | 8.5.90 | P | 1 | 6 | 17 | | | 6 | 30 | / | RTA(M) | Slight | | Pat conv LA |
| **Totals** | | | | **40** | **264** | **562** | **171** | **168** | **335** | **1540** | | | | | |

Note: Helicopter worked an extra day (Tuesday)

| Flt | Case | Date | Flt. Type | To T/O | In Flt. | On Grd | To Hosp. | At Hosp. | To Base | Total | cf LA Saving | Type Incid. | Medical Diagnosis | Medical Comment | Other Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WEEK 9** | | | | | | | | | | | | | | | |
| 370 | | 10.5.90 | T | | | | | | 10 | 10 | / | LOX | | | |
| 371 | 291 | 10.5.90 | S | 5 | 15 | 45 | 25 | 5 | 10 | 105 | 180 | Trans | Card haem | Good use | |
| 372 | 292 | 12.5.90 | P | 2 | 6 | 7 | | | –* | 15 | / | RTA | No injury | | No pat conv |
| | | | | * carried on to next | | | | | | | | | | | |
| 373 | | 12.5.90 | T | | | | | | 10 | 10 | / | LOX | | | |
| 374 | 293 | 13.5.90 | P | 1 | 4 | | | | 6 | 11 | / | Fall | Hand inj | Waved away | Pat conv LA |
| 375 | 294 | 13.5.90 | P | 1 | 3 | 15 | 2 | 31 | 6 | 58 | 30 | Sport | #Rib, contsn | Not ess | Not ess |
| 376 | 295 | 13.5.90 | P | 1 | 9 | 13 | | | 7 | 30 | / | RTA | No injury | | NPC |
| 377 | 296 | 13.5.90 | P | 2 | 9 | 20 | 8 | 27 | 2 | 68 | 90 | Ill(S) | Back pain | Not ess but exp | Remote site |
| 378 | | 14.5.90 | T | | | | | | | | | LOX | | | |
| 379 | 297 | 14.5.90 | P | 2 | 5 | 15 | 5 | 20 | –* | 47 | 60 | Fall(M) | Back/Abdo | Just at time | Difficult site |
| | | | | * called on to next | | | | | | | | | | | |
| 380 | 298 | 14.5.90 | S | 7 | 5 | 33 | 16 | 9 | 18 | 88 | 180 | Trans | Spinal inj | Not ess but convenient | |
| 381 | 299 | 14.5.90 | S | 7 | 4 | 25 | 15 | 11 | 14 | 76 | 150 | Trans | N/S | Insuff data | Insuff data |
| 382 | 300 | 14.5.90 | P | 3 | 9 | 9 | | | 6* | 27 | / | Ill(M) | | Just send | Nothing found |
| 383 | 301 | 14.5.90 | P | – | 15 | 39 | 8 | 16 | 3 | 81 | 90 | Ill(S) | Chest pain | Not ess | Pax on Olau ship |
| **Totals** | | | | **31** | **84** | **221** | **79** | **119** | **92** | **626** | **780** | | | | |
| | | | | | | | | | Flying 255 | | | | | | |

Note: Helicopter did not work on Friday

| Flt | Case | Date | Flt. Type | To T/O | In Flt. | On Grd | To Hosp. | At Hosp. | To Base | Total | cf LA Saving | Type Incid. | Medical Diagnosis | Medical Comment | Other Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WEEK 10** | | | | | | | | | | | | | | | |
| | [gap in numbering] | | | | | | | | | | | | | | |
| 384 | 307 | 18.5.90 | S | / | 7 | 17 | 14 | 9 | 12 | 59 | 75 | Trans | Brn tumour | Not ess | Not essential |
| 385 | 308 | 18.5.90 | P | 2 | 3 | 6 | | | 4 | 15 | / | RTA | Fainted | | NR |
| 386 | 309 | 18.5.90 | P | 2 | 4 | 7 | 3 | 24 | 5 | 45 | ? | RTA | Neck/head | Not ess | Expedient loc'n |
| 387 | 310 | 18.5.90 | S | / | 15 | 17 | 24 | 6 | 15 | 77 | 210 | Trans | Heart condn | | KAS "Urgent" |
| 388 | 311 | 18.5.90 | S | 15 | 13 | 22 | 28 | 22 | 14 | 114 | 210 | Trans | Spinal T12 | | KAS "Urgent" |
| 389 | 312 | 18.5.90 | P | 1 | 7 | 10 | | | 7 | 25 | / | RTA(M) | Shocked | Just. by loc'n | Pat ref treatt. |
| 390 | 313 | 19.5.90 | S | 13 | 14 | 25 | 20 | 10 | 12 | 94 | 180 | Trans | R pneumo thorax | | |
| 391 | 314 | 19.5.90 | S | 2 | 20 | 17 | 28 | 9 | 16 | 92 | ? | Trans | Blocked shunt | | Not essential |
| 392 | | 19.5.90 | T | | | | | | 10 | 10 | / | Fund. | | | |
| 393 | 315 | 19.5.90 | P | 1 | 7 | 13 | 7 | 26 | 4 | 58 | 90 | Ind(M) | Back | Not ess | Exp location(M) |
| 394 | 316 | 19.5.90 | P | 1 | 2 | 19 | 2 | 35 | 4 | 63 | 30 | RTA (+ mult fractures) | Sus breath | Highly approp. for ease/comfort | Good use/ treatment |
| 383 | 317 | 19.5.90 | S | 4 | 14 | 19 | 6 | 18 | 2* | 63 | 90 | Trans | GI bleed | | KAS "Urgent" |
| | | | | * then called on to next | | | | | | | | | | | |
| 396 | 318 | 19.5.90 | P | / | 4 | 7 | 4 | 11 | 4 | 30 | 45 | RTA | Back | Not ess | |
| 397 | 319 | 20.5.90 | P | 2 | 8 | 24 | | | 8 | 42 | / | RTA | Bruising | Approp call | Pat conveyed LA |
| 398 | 320 | 20.5.90 | P | 1 | 1 | 4* | | | 2 | 8 | / | RTA(M) | | | Just. by loc'n |
| | | | | *overhead but did not land | | | | | | | | | | | |
| 399 | | 20.5.90 | T | | | | | | 4 | 4 | / | LOX | | | |
| 400 | 321 | 20.5.90 | P | 1 | 15 | 14 | 5 | 21 | 19 | 75 | 120 | Sports | # ankle | Very exp | Exp loc'n |
| 401 | 322 | 20.5.90 | P | 2 | 5 | 3* | | | | 10 | / | ? | Cut knee | Not ess | |
| | | | | * then called on to next | | | | | | | | | | | |
| 402 | 323 | 20.5.90 | P | 1 | 5 | 5 | 11 | 20 | 8 | 50 | 90 | RTA(m/c) | # arm/back pain | | Not ess |
| 403 | 324 | 20.5.90 | P | 1 | | | | | 18 | 19 | / | RTA | | | Nothing found |
| 404 | 325 | 20.5.90 | P | 1 | 12 | | | | 2* | 15 | / | RTA | | | NR |
| | | | | * then called to next | | | | | | | | | | | |
| 405 | 326 | 20.5.90 | P | / | 5 | 16 | 5 | 21 | 1* | 48 | 90 | Ill | Chest pain | Exp location | |
| | | | | * then called to next | | | | | | | | | | | |
| 406 | 327 | 20.5.90 | P | / | 7 | 15 | 8 | 5 | * | 35 | 180 (the two) | RTA(M) | Abdo/chest | Insuff data | Justified (M) |
| | | | | * returned for second patient | | | | | | | | | | | |
| 407 | 328 | 20.5.90 | P | / | 6 | 5 | 7 | 22 | 13 | 53 | | RTA(M) | Back inj | Insuff data | Justified (M) |
| 408 | 329 | 20.5.90 | S | 7 | 3 | 11 | 14 | 48 | | | | | | | |
| | | | | (wait and return) | | | 7 | 20 | 15 | 125 | 240 | Trans | Hd inj (RTA) | | KAS "Urgent" |
| 409 | 330 | 21.5.90 | S | 9 | 13 | 24 | 38 | 21 | 38 | 143 | 300 | Trans | # back C5 | | KAS "Urgent" |
| **Totals** | | | | **66** | **190** | **300** | **231** | **348** | **237** | **1372** | | | | | |

| Flt | Case | Date | Flt. Type | To T/O | In Flt. | On Grd | To Hosp. | At Hosp. | To Base | Total | cf LA Saving | Type Incid. | Medical Diagnosis | Medical Comment | Other Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WEEK 11** | | | | | | | | | | | | | | | |
| 411 | 332 | 26.5.90 | P | 1 | 5* | | | | | 6 | | RTA | | | Stood down |
| | | | | * then called to next (recorded out of sequence) | | | | | | | | | | | |
| 410 | 331 | 26.5.90 | P | / | 7 | 13 | 3 | 14 | 13 | 50 | 20 | RTA | # leg | Not ess | Not ess |
| 412 | 333 | 26.5.90 | P | 1 | 6 | 4 | | | 9* | 23 | / | RTA(M) | | | NR |
| | | | | | | 3* | | | | | | RTA(M) | | | |
| | | | | * stopped to investigate second RTA(M): no inj. | | | | | | | | | | | |
| 413 | 334 | 26.5.90 | P | 2 | 11 | 6 | 8 | 7 | 2 | 36 | 25 | RTA IS | # foot | Not ess | Exp location |
| 414 | | 27.5.90 | T | | | | | | 10 | 10 | / | LOX | | | |
| 415 | 335 | 27.5.90 | P | 2 | | | | | 21 | 23 | / | RTA | | | Stood down |
| 416 | 336 | 27.5.90 | P | 1 | 6 | 4 | | | 8 | 19 | / | RTA | | | Pat conv LA |
| 417 | 337 | 27.5.90 | P | 2 | 9 | 10 | | | 8 | 29 | / | ? | Hip inj. (farm) | | Pat conv LA |
| 418 | 338 | 27.5.90 | P | 2 | 9 | 7 | 6 | 3 | 3 | 30 | 20 | FallIS (from bike) | Head inj | Insuff data | Exp location |
| 419 | 339 | 27.5.90 | P | 2 | 10 | 1 | | | 11 | 24 | / | RTA | | | NPC |
| 420 | 340 | 27.5.90 | P | 2 | 5 | | | | 7 | 14 | / | Fire | | | Stood down |
| 421 | 341 | 27.5.90 | P | 3 | 14 | 11 | 5 | 35* | | 68 | 20 | RTA | #face/leg | Exp/emotional (child of 4) | Good use and exp loc'n |
| | | | | * then called to next | | | | | | | | | | | |
| 422 | 342 | 27.5.90 | P | / | 11 | 11* | | | | 22 | / | ? | | | NPC |
| | | | | * then called to next | | | | | | | | | | | |
| 423 | 343 | 27.5.90 | P | / | 14 | 10 | 17 | 17 | 3 | 61 | 20 | ? | #nose/neck inj. | Not ess | Not justified |
| 424 | 344 | 28.5.90 | P | 2 | 3 | 22 | | | 3 | 30 | / | RTA(M) | Head inj | Appropriate | Unable conv by heli due to behaviour |
| 425 | 345 | 28.5.90 | P | 2 | 10 | 20 | 2 | 23 | 20 | 77 | 30 | RTA(M) | Back inj | Not ess | Exp loc'n |
| 426 | 346 | 28.5.90 | P | 1 | 15 | 17 | 4 | 17 | 3* | 57 | 90 | Suic (attempted drowning) | Hypothermia | Not ess | Exp loc'n |
| | | | | * then called to next | | | | | | | | | | | |
| 427 | 347 | 28.5.90 | P | / | 2 | 15 | 3 | 19 | 2 | 41 | 60 | Fall | Collapse | Not ess | Not justified |
| 428 | 348 | 28.5.90 | P | 1 | 9 | 21 | 3 | 27 | 18* | 79 | 30 | RTA | Mult/int inj (ruptured spleen) | **LIFE SAVED** in view of consultt | |
| | | | | * then called to next | | | | | | | | | | | |
| 429 | 349 | 28.5.90 | P | / | 4 | 10 | 6 | 17 | 31* | 68 | 60 | Air crash | Head inj | Not ess | Exp loc'n |
| | | | | * then called to next | | | | | | | | | | | |
| 430 | 350 | 28.5.90 | P | / | 3 | 5 | | | 10 | 18 | / | RTA | | | NPC |
| 431 | 351 | 28.5.90 | P | 1 | | | | | 24 | 25 | / | RTA | | | NR |
| **Totals** | | | | **25** | **153** | **190** | **57** | **179** | **206** | **810** | | | | | |

| Flt | Case | Date | Flt. Type | To T/O | In Flt. | On Grd | To Hosp. | At Hosp. | To Base | Total | cf LA Saving | Type Incid. | Medical Diagnosis | Medical Comment | Other Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WEEK 12** | | | | | | | | | | | | | | | |
| 432 | | 30.5.90 | T | | | | | | 10 | 10 | / | LOX | | | |
| 433 | | 30.5.90 | T | | | | | | 6* | 6 | / | PR | | | |
| | | | | * then called to next | | | | | | | | | | | |
| 434 | 352 | 30.5.90 | S | / | 3 | 19 | 12 | 8 | 12 | 54 | 120 | Trans | Hand inj | | KAS "Urgent" |
| 435 | 353 | 30.5.90 | S | / | 11 | 14 | 21 | 3 | 10 | 59 | 180 | Trans | Pneumothorax | | KAS "Urgent" |
| 436 | 354 | 31.5.90 | P | 1 | 5 | 12 | 6 | 44 | 3 | 71 | 90 | RTA IS | Hd inj/lac | Not ess | Exp loc'n |
| 437 | 355 | 31.5.90 | P | 2 | 13 | 18 | | | 11 | 44 | / | III | Abdo pain | | Pat conv LA |
| 438 | 356 | 31.5.90 | S | 1 | 2 | 9 | 12 | 14 | 12 | 50 | 120 | Trans | Unstable angina | | KAS "Urgent" |
| | | | | * then called to next | | | | | | | | | | | |
| 439 | 357 | 31.5.90 | S | / | 1 | 19 | 12 | 12 | 7 | 51 | 120 | Trans | Amputated finger | | KAS "Urgent" |
| 440 | 358 | 1.6.90 | S | 1 | 23 | 16 | 24 | 15 | | | | | | | |
| | | | | | | | 55* | | | 134 | 240 | Trans | Spinal ex RTA | | KAS "Urgent" |
| | | | | * then called to next | | | | | | | | | | | |
| 441 | 359 | 1.6.90 | S | / | 14 | 5 | 17 | 10 | 10 | 56 | 180 | Trans | Sub dorsal haem | | KAS "Urgent" |
| 442 | 360 | 1.6.90 | S | 1 | 24 | 12 | 10 | 8 | 18 | 73 | 60 | Trans | Burns | | KAS "Urgent" |
| 443 | 361 | 1.6.90 | S | 1 | 2 | 15 | 13 | 15* | | 46 | 120 | Trans | Sub arach haem | | KAS "Urgent" |
| | | | | * then called to next | | | | | | | | | | | |
| 444 | 362 | 1.6.90 | S | / | 24 | 18 | 32 | 8 | 11 | 93 | 180 | Trans | Brn Tmr | | KAS "Urgent" |
| 445 | 363 | 2.6.90 | P | 1 | 1 | 38 | | | 7 | 47 | / | ? | Hd inj (treated heli crew) | | Pat conv LA |
| 446 | 364 | 2.6.90 | P | 1 | 7 | 18 | 6 | 21 | 6 | 59 | 90 | RTA | Lac/shock | Not ess | Not ess |
| 447 | | 2.6.90 | T | | | | | | 30 | 30 | / | PR | | | |
| 448 | 365 | 2.6.90 | P | 3 | 4 | 8 | | | 10 | 25 | / | RTA | Abrasions | | Pat conv LA |
| 449 | 366 | 2.6.90 | P | 1 | 4 | 20 | 3 | 18 | 12 | 58 | 45 | III | CVA? | Not ess | Exp loc'n |
| 450 | 367 | 3.6.90 | P | 2 | 3 | 15 | 4 | 18 | / | 42 | 60 | III | Respiratory | Not ess | Exp loc'n |
| 451 | | 3.6.90 | T | | | | | | 10 | 10 | / | LOX | | | |
| 452 | 368 | 3.6.90 | P | 1 | 4 | | | | 4* | 9 | / | N/S | | | Stood down |
| | | | | * then called to next | | | | | | | | | | | |
| 453 | 369 | 3.6.90 | P | / | 3 | 23 | | | 13 | 39 | / | RTA | Hd inj | | Pat conv LA (pregnant and scared of flying) |

Cont./. . .

| Flt | Case | Date | Flt. Type | To T/O | In Flt. | On Grd | To Hosp. | At Hosp. | To Base | Total | cf LA Saving | Type Incid. | Medical Diagnosis | Medical Comment | Other Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WEEK 12** (cont.) | | | | | | | | | | | | | | | |
| 454 | 370 | 3.6.90 | P | 1 | 4 | 5 | 9 | 4 | 10 | 33 | 90 | SprtIS | Discloc knee | Not ess | Exp loc'n |
| 455 | 371 | 3.6.90 | P | 1 | 9 | | | | | 10 | / | Fallen trees | | | Stood down |
| 456 | | 3.6.90 | T | | | | | | 25 | 25 | / | LOX | | | |
| 457 | 372 | 3.6.90 | P | 1 | 14 | 20 | 4 | 30 | 3 | 72 | 30 | RTA(M) | Back/neck | Not ess | Exp loc'n |
| 458 | 373 | 3.6.90 | P | 1 | 4 | 10 | | | 4 | 19 | / | RTA(M) | | | Pat conv LA |
| 459 | 374 | 3.6.90 | S | 1 | 12 | 33 | 25 | | | | | | | | |
| | | | | | | 16 | 16 | 17 | 12* | 132 | 180 | Trans | Dis Aortic Aneur | | KAS "Urgent" |
| | | | | * then called to next | | | | | | | | | | | |
| 460 | 375 | 3.6.90 | P | / | 6 | 5 | | | 3 | 14 | | RTA | | | Pat ref treatt |
| 461 | 376 | 4.6.90 | P | 3 | 8 | 8 | 7 | 17 | 3 | 46 | 90 | RTA | Whiplash | Not ess | Poss exp loc'n |
| 462 | 377 | 4.6.90 | P | 2 | 4 | 10* | | | | 16 | / | Ill | Cardiac | | Pat conv LA |
| | | | | * then called to next | | | | | | | | | | | |
| 463 | 378 | 4.6.90 | P | / | 10 | 15 | 5 | 38 | 3 | 71 | 60 | ConsM | # Ankle | Not ess but kind | Exp loc'n |
| 464 | 379 | 4.6.90 | P | 1 | 9 | 30 | 4 | 27 | 9 | 80 | 90 | Fall | # Legs | Follow up had no response | |
| 465 | 380 | 4.6.90 | S | 3 | 6 | 21 | 16 | 64 | 22 | 132 | 150 | Trans | Pacemaker | | KAS "Urgent" |
| **Totals** | | | | **30** | **234** | **452** | **313** | **391** | **296** | **1716** | | | | | |

| Flt | Case | Date | Flt. Type | To T/O | In Flt. | On Grd | To Hosp. | At Hosp. | To Base | Total | cf LA Saving | Type Incid. | Medical Diagnosis | Medical Comment | Other Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WEEK 13** | | | | | | | | | | | | | | | |
| 466 | 381 | 7.6.90 | P | 1 | | | | | 3 | 4 | / | RTA | | | Stood down |
| 467 | 382 | 7.6.90 | P | 1 | 4 | 16 | 6 | 35 | | 62 | / | RTA | Back inj | Not lifethreat | Not ess |
| 468 | | 7.6.90 | T | | | | | | 10 | 10 | / | LOX | | | |
| 469 | 383 | 7.6.90 | P | 1 | 9 | 7 | 6 | 4 | 10 | 37 | 45 | Horse | Bruises | Not ess | (kick) |
| 470 | 384 | 7.6.90 | P | 1 | 11 | 5 | 5 | 19 | 11* | 52 | 60 | RTA | #Ank/shock | Not ess | Exp loc'n |
| | | | | * then called to next | | | | | | | | | | | |
| 471 | 385 | 7.6.90 | P | / | 5 | | | | 6 | 11 | / | Ill | Diab coll | | Stood down |
| 472 | 386 | 7.6.90 | S | 1 | 8 | 15 | 8 | 13 | 4 | 49 | 75 | Trans | # Femur | | KAS "Urgent" |
| 473 | 387 | 8.6.90 | S | 1 | 12 | 21 | 23 | 22 | 7* | 86 | 180 | Trans | Brn tmr | | KAS "Urgent" |
| | | | | * then spotted next from air | | | | | | | | | | | |
| 474 | 388 | 8.6.90 | P | / | 2 | 14 | 5 | 31 | 3* | 55 | 45 | RTA | Back/neck | Not ess | Exp as passing |
| | | | | * then called to next | | | | | | | | | | | |
| 475 | 389 | 8.6.90 | P | / | 2 | 10 | 1 | 19 | 4 | 36 | 15 | Ill | Collapse | Not ess | Exp loc'n |
| 476 | 390 | 8.6.90 | P | 1 | 4* | | | | | 5 | / | RTA | | | Diverted |
| | | | | * then called to next | | | | | | | | | | | |
| 477 | 391 | 8.6.90 | P | / | 2 | 10 | 4 | 12* | | 28 | 25 | RTA | Head inj | Not ess | |
| | | | | * then called to next | | | | | | | | | | | |
| 478 | 392 | 8.6.90 | P | 5 | 5 | 5 | | | 4 | 19 | / | RTA | Non inj | | NPC |
| 479 | 393 | 9.6.90 | S | 5 | 20 | 17 | 30 | 8 | 15 | 95 | 420 | Trans | Angioplast | | KAS "Urgent" |
| 480 | 394 | 9.6.90 | S | 5 | 13 | 22 | 20 | 10* | | 70 | 300 | Trans | Depressed skull | | KAS "Urgent" |
| | | | | * then called to next | | | | | | | | | | | |
| 481 | 395 | 9.6.90 | S | / | 4 | 36 | 13 | 7 | 10 | 70 | 90 | Trans | Pacemaker | | KAS "Urgent" |
| 482 | 396 | 9.6.90 | P | 2 | 9 | 16 | 6 | 17* | | 50 | 60 | Sports | Hit by pellets, fitted | | Not ess |
| | | | | * then called to next | | | | | | | | | | | |
| 483 | 397 | 9.6.90 | S | / | 7 | 10 | 13 | 8 | 10 | 48 | 150 | Trans | Sub arach haem | | KAS "Urgent" |
| 484 | 398 | 10.6.90 | S | / | 10 | 13 | 16 | 6 | 15 | 60 | 135 | Trans | Fac inj | | KAS "Urgent" |
| 485 | | 10.6.90 | T | | | | | | 10 | 10 | / | LOX | | | |
| 486 | | 10.6.90 | T | | | | | | 30* | 30 | / | PR | | | |
| | | | | * then called to next | | | | | | | | | | | |
| 487 | 399 | 10.6.90 | P | / | 7 | | | | 5 | 12 | / | N/S IS | Wrist inj | | NR |
| 488 | 400 | 10.6.90 | P | 3 | 6 | 36 | 5 | 28 | 15 | 93 | 7 | RTA | Mult inj/# | Patient died 48 hours later | |
| 489 | 401 | 11.6.90 | S | / | 2 | 18 | 13 | 5 | 15 | 53 | 195 | Trans | Unstable mandible | | |
| 490 | 402 | 11.6.90 | S | 5 | 2 | 22 | 14 | 12 | 13 | 68 | 195 | Trans | Burns | | |
| 491 | 403 | 11.6.90 | P | 2 | 3 | 5 | | | 4 | 14 | / | Ill | Cardiac | | DOA |
| **Totals** | | | | **34** | **147** | **298** | **188** | **256** | **204** | **1127** | | | | | |

| Flt | Case | Date | Flt. Type | To T/O | In Flt. | On Grd | To Hosp. | At Hosp. | To Base | Total | cf LA Saving | Type Incid. | Medical Diagnosis | Medical Comment | Other Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WEEK 14** | | | | | | | | | | | | | | | |
| 491 | (sic) | 13.6.90 | T | | | | | | 3 | 3 | / | LOX | | | |
| 492 | 405 | 13.6.90 | S | / | 3 | 22 | | | 4 | 29 | / | Trans | Skin graft | Pat too heavy: not conveyed | |
| 493 | 406 | 13.6.90 | P | 2 | 6 | 16 | 3 | 20 | 2 | 49 | N/S | RTA | #Arm/ank | Not ess | Exp loc'n |
| 494 | 407 | 13.6.90 | P | 1 | 8 | 12 | | | 11 | 32 | / | N/S | Discloc hip | | Pat conv LA |
| 495 | 408 | 13.6.90 | P | 2 | 6 | 11* | | | / | 19 | | RTA | | | Pat conv LA |
| | | | | * then called to next | | | | | | | | | | | |
| 496 | 409 | 13.6.90 | P | / | 3 | 6 | (did not land) | | 8 | 17 | / | RTA | | | NR |
| 497 | 410 | 13.6.90 | P | 1 | 9 | 10 | | | 11 | 31 | / | III | Collapse | | DOA |
| 498 | 411 | 14.6.90 | P | 2 | 3 | 11 | 5 | 18 | 3 | 42 | N/S | III(M) | CVA | Not ess | Exp loc'n |
| 499 | 412 | 14.6.90 | P | 2 | 9 | 17 | | | 6 | 34 | / | III IS | Angina | | Pat conv LA |
| 500 | 413 | 14.6.90 | S | 4 | 7 | 33 | 13 | 15 | 11 | 83 | N/S | Trans | Fac inj | | |
| 501 | 414 | 15.6.90 | P | 2 | 6 | 3 | | | 5* | 16 | / | RTA | | | Pat conv LA |
| | | | | * then called to next | | | | | | | | | | | |
| 502 | 415 | 15.6.90 | P | / | 7 | 9 | 4 | N/S | / | 20 | N/S | RTA(M) | Chest pain | Cld be life-thrt | Very approp in view consultt |
| 503 | | 15.6.90 | T | | | | | | 6 | 6 | / | LOX | | | |
| 504 | 416 | 15.6.90 | P | / | 2 | 20 | | | / | 22 | / | III | Pregnant, dizzy. etc. | | Pat conv LA |
| 505 | | 15.6.90 | T | | | | | | N/S | N/S | / | PR | | | |
| 506 | 417 | 15.6.90 | S | / | 2 | 20 | 12 | 21 | 5 | 60 | N/S | Trans | Angina | | |
| 507 | 418 | 15.6.90 | S | 12 | 5 | 18 | 11 | 5 | | | | | | | |
| | | | | | | 26 | 12 | | 5 | 94 | 90 | Trans | Thoracic haem | | |
| 508 | 419 | 15.6.90 | S | 2 | 3 | 26 | 18 | 10 | 16 | 75 | N/S | Trans | H/L Transplant | | |
| 509 | 420 | 16.6.90 | P | 1 | 10 | 11 | | | 8 | 30 | / | III IS | Angina | | Pat conv LA |
| 510 | 421 | 16.6.90 | P | 2 | 7 | | | | 11 | 20 | / | RTA | | | Waved away |
| 511 | 422 | 16.6.90 | P | 1 | 16* | | | | | 17 | | RTA | | | Nothing found |
| | | | | * then called to next | | | | | | | | | | | |
| 512 | 423 | 16.6.90 | P | / | 5 | 8* | | | | 13 | / | RTA | | | Pat conv LA |
| | | | | * then called to next | | | | | | | | | | | |
| 513 | 424 | 16.6.90 | P | / | 6 | | | | 8 | 14 | / | N/S | | | Stood down |
| 514 | 425 | 16.6.90 | S | 2 | 9* | | | | | 11 | | Trans | | | Diverted on |
| | | | | * then called to next | | | | | | | | | | | |
| 515 | 426 | 16.6.90 | P | / | 6 | 12 | 4 | 18* | | 40 | 35 | III | Ep fit | Not ess | |
| | | | | * then returned to previous | | | | | | | | | | | |
| 516 | 427 | 16.6.90 | S | / | 13 | 8 | 21 | 14 | 11 | 67 | 300 | Trans | Angina | | |

Cont./. . .

| Flt | Case | Date | Flt. Type | To T/O | In Flt. | On Grd | To Hosp. | At Hosp. | To Base | Total | cf LA Saving | Type Incid. | Medical Diagnosis | Medical Comment | Other Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WEEK 14** (cont.) | | | | | | | | | | | | | | | |
| 517 | 428 | 17.6.90 | P | 3 | 7 | 10 | 7 | 18* | | 45 | 60 | Sport | Back pain (parachutist at aerodrome) | Not ess | Exp loc'n |
| | | | | * then called to next | | | | | | | | | | | |
| 518 | 429 | 17.6.90 | P | / | | | | | 7 | 7 | / | RTA | | | Stood down |
| 519 | 430 | 17.6.90 | P | 2 | 7 | 30 | 6 | 23 | 4 | 72 | 60 | Sport | #Ankle (parachutist at aerodrome) | Not ess | Exp location |
| 520 | 431 | 17.6.90 | P | 2 | 8 | 2 | | | 4 | 16 | / | III | Ep fit | | Pat conv LA |
| | | | T | | | | | | 12* | 12 | | Divert for new switch for oxygen | | | |
| | | | | * then called to next | | | | | | | | | | | |
| 521 | 432 | 17.6.90 | P | / | 5 | 14 | 4 | 6* | | 29 | 35 | Fall? | Disloc hip | Not ess but kind (pat 90 yrs) | |
| | | | | * then called to next | | | | | | | | | | | |
| 522 | 433 | 17.6.90 | P | / | 8 | 14 | 16 | 1 | 3 | 42 | / | III | Not breathing | but heli did errand to hosp. | Pat conv LA |
| 523 | 434 | 17.6.90 | P | 2 | 4 | 7* | | | | 13 | | N/S | #Tibia | | Diverted to next |
| | | | | * then called to next | | | | | | | | | | | |
| 524 | 435 | 17.6.90 | P | / | 6 | 22 | 6 | 20 | 3 | 57 | 30 | III | Chest pain | Very approp in view consultt<br>Pat recovered after period in I/C | |
| 525 | 436 | 17.6.90 | P | 2 | 10 | 7 | 9 | 21 | 2 | 51 | 90 | O/D IS | Overdose | Justified and exp loc'n | |
| 526 | 437 | 18.6.90 | S | 2 | 8 | | | | 8* | 18 | / | Trans | Prem baby IS | | DOA |
| | | | | * then called to next | | | | | | | | | | | |
| 527 | 438 | 18.6.90 | S | 2 | 9 | 20 | 24 | 14 | 12 | 81 | 390 | Trans | Fit pacemaker | | |
| 528 | 439 | 18.6.90 | P | 2 | 2 | | | | 1* | 5 | / | RTA | | | Stood down |
| | | | | * then called to next | | | | | | | | | | | |
| 529 | 440 | 18.6.90 | P | / | 4 | 20 | 4 | 25* | | 53 | 60 | III | CVA | Not ess | |
| | | | | * then called to next on same site | | | | | | | | | | | |
| 530 | 441 | 18.6.90 | S | / | 0 | 20 | 13 | 3 | 9* | 45 | 180 | Trans | #Maxilla | | |
| | | | | * then called to next | | | | | | | | | | | |
| 531 | 442 | 18.6.90 | P | / | 3* | | | | | 3 | | RTA | | | Diverted |
| 532 | 443 | 18.6.90 | P | / | 17 | 27 | 4 | 27 | 15 | 90 | 90 | RTA | Mult # | # spine: use of heli may have prevented perm disability; pat now discharged | |
| 533 | 444 | 18.6.90 | P | 2 | 3 | 3 | | | 3 | 11 | / | RTA | | | Not required |
| 534 | 445 | 18.6.90 | P | 1 | 4 | 13 | 6 | 16 | 3 | 43 | N/S | RTA | Nosebleed | Not ess but kind | |
| 535 | 446 | 18.6.90 | P | 1 | 6 | 13 | 3 | 20 | 4 | 47 | 75 | RTA | Chest inj | Not ess | |
| **Totals** | | | | **57** | **262** | **521** | **205** | **315** | **224** | **1584** | | | | | |