Rotary Club of Birmingham
West Midlands Ambulance Service NHS Trust
Royal Life Saving Society
Asian Health Forum

Feasibility Study Trauma Management
Pilot Project at Ruby Hall Clinic, Pune, India
West Midlands Ambulance Service NHS Trust Section
Recommendations and Report submitted
by

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Principal Officer
Consultant

FEASIBILITY STUDY TRAUMA PILOT PROJECT

AT RUBY HALL CLINIC, PUNE, INDIA

Report Content

ROTARY CLUB OF BIRMINGHAM

WEST MIDLANDS AMBULANCE SERVICE NHS TRUST

ROYAL LIFE SAVING SOCIETIES

ASIAN HEALTH FORUM

FEASIBILITY STUDY TRAUMA MANAGEMENT PILOT PROJECT AT RUBY HALL CLINIC, PUNE (INDIA)

Dr Peter Patel, Rotary Club of Birmingham led a team to Pune, India to carry out a study for developing a dedicated Trauma Unit and Pre Hospital Care Scheme for the communities of the city.

Team: **Mr Stephen Evans**, MIPR, Principal Officer, West Midlands Ambulance Service NHS Trust

Mr Benod Singh, Consultant Orthopaedic Surgeon, City Hospital, Birmingham

Mr John Long, Commonwealth Secretary General, Royal Life Saving Society

After extensive study, which involved stakeholders in workshops, conferences, interactive discussions, inspection of proposed site, available current expertise and equipment, standard of vehicle[s] (ambulance[s]) and suitability for paramedic pre-hospital care, communication systems and road conditions.

The following are the recommendations of the Team:

1. *That Ruby Hall Clinic is a most suitable site for developing a dedicated 'Trauma Unit' and pre-hospital care team. The existing facilities on site have the scope to be expanded and it would require present sources to be reorganised with a multi-disciplinary approach for treating patients.

2. It was recognised and accepted that a need for additional equipment is needed to meet the required standard and expectation of the team. (A list of these additional items of equipment has already been identified, together with funding).

3. It was recommended that selected medical staff should undertake ATLS or similar specialist training for trauma management.

4. *With the absence of qualified Paramedics, suitable ambulance vehicles and pre-hospital care equipment, it is recommended that a Paramedic Instructor Training Programme should commence as soon as funding is available. Selection of appropriately qualified medical staff at Ruby Hall will be trained as instructors.

5. The team accepts that there is a wide range of expertise in medical, surgical and other health support staff at Ruby Hall. It was also recognised that the majority of severely injured people, as a result of RTA's, are of the poor and middle socio-economic group and include pedestrians, cyclists and scooterists.

6. The team recommend that the Life Saving Society of India should have a major involvement by developing community first aid teams, which will be an extremely valuable asset to this project.

7. *It is recommended for the purpose of setting up a pilot pre-hospital care scheme that initially, one fully equipped ambulance is provided and consideration be given for two fully equipped paramedic motorcycle units with qualified paramedic motorcyclists, based at Ruby Hall, in support of reaching incidents, commencing treatment in advance of the Paramedic Ambulance Team.

8. *The team recognised that to ensure the success of the pre-hospital care paramedic scheme and function of the 'Trauma Unit', a public awareness programme is needed.

9. *The team are confident that the Paramedic Pre-Hospital Care and Trauma Centre pilot scheme will be a successful project. It is the team's opinion that Pune should, as a result, develop a Central Ambulance Training Centre of Excellence for India, at the Ruby Hall Clinic, to meet Paramedic and Trauma Medicine Training needs (Post Graduate). Also, and importantly to cater for Disaster Medicine and Crisis Management as allied subjects. The team would encourage this as an essential development to cater for the needs of the society.

The above recommendations are the foundation towards developing a Central Training Centre of Excellence for Ambulance Paramedic Pre Hospital Care Training and Disaster Medicine. Future developments will include allied subjects such as Crisis Management, Dr Post Graduate Emergency Medicine Training and Rapid Medical Aid Deployment.

The asterisks denote the areas of study undertaken by Stephen Evans MIPR, Principal Officer, West Midlands Ambulance Service NHS Trust (WMAS) and are submitted as recommendations alongside those of Project Team colleagues. These refer specifically to items: #1 : 4 : 7 : 9.

FEASIBILITY STUDY TRAUMA MANAGEMENT PILOT
RUBY HALL CLINIC, PUNE, INDIA

Potential for the development of a paramedic instructor training programme and supports the overall proposal of developing a Trauma Centre and Paramedic Pre-Hospital Care Scheme for the communities in Pune and surrounding areas.

This section provides information following three and a half days of extensive study with a focus for setting up a Paramedic Instructor Training Programme. This would benefit the development of the main aims of the project to develop and establish a Trauma Centre, Pre-hospital Paramedic Scheme and Basic Life Saving/First Aid Training Programme.

1. Ruby Hall Clinic, Pune, has been identified as being the ideal site for the project. Facilities for undertaking initial Paramedic Instructor Training and then Paramedics courses was found to be suitable. This is likely, however, to be linked in with a local college/university to help establish local recognition/identity alongside those that WMAS is able to provide.

   The Ruby Hall Clinic has the scope for developing as a Trauma Centre (Accident and Emergency) and has a whole range of consultancy expertise available. The partnership of basic life support training (First Aid Teams) provided by the Royal Life Saving Society, Paramedic Pre-hospital Care and suitably designed and equipped ambulance(s) as advised by WMAS and Trauma facilities at Ruby Hall Clinic, completes the multi-disciplinary approach to handle life-threatening illnesses and injuries to people in the communities in Pune.

4. ***Paramedic Instructor Training Programme**

   A dedicated approach to the overall objectives of the project was very much in evidence by the team during the study. This has demonstrated that the feasibility of developing a project to train suitably qualified Indian personnel from Ruby Hall Clinic as paramedic instructors, should be considered favourably. The following recommendations are made in support of a proposal for introducing an 18 month to two year programme for training paramedic instructors, training paramedics, setting up an ambulance paramedic pre-hospital care pilot scheme in Pune.

   - Contribution and co-operation from the major Partners and Stakeholders is paramount to the overall success for the pilot project towards the development of emergency and ambulance services and its future establishment.

   - A Protocol of Intentions needs to be drawn up between all Partners and Stakeholders as to the identified site i.e. Ruby Hall Clinic, as being the most suitable site for a proposed Paramedic Instructor Training programme, Paramedic training and Trauma Centre.

   - A room(s) have been identified at the Ruby Hall Clinic Medical Institute for training purposes.

- Following Paramedic Training, trainees/candidates will receive 'In Service or Follow-up Training' in an ambulance(s) operationally with an instructor. Specification for a suitable vehicle with desired pre-hospital care equipment is listed (see Appendix 1). Please note these specifications are for the supply of Accident and Emergency Vehicles for WMAS and based on UK/European Standards, and are included as a guide.

- The Ruby Hall Clinic site has nurses with the required level of medical knowledge and invasive techniques. The site is an established teaching hospital and develops qualified nurses to a very high standard.

- Tutors (nurses and doctors) at RHC are obviously trained in teaching techniques for the required skills needed by nurses. However, instructional methods training is available should there be a training need in this area (Appendix 3)

- The lack of the desired anatomical training manikins to practice pre-clinical paramedic skills is apparent (Appendix 2).

- The range of desirable training equipment used by WMAS Training Department is listed with costs in Appendix 2 (costs are subject to alteration and may also attract sponsorship from the manufacturers or funding from other sources).

- It is recommended that for the purpose of the programme, these items have to be considered as essential.

- It is the recommendation of the study that WMAS provides the necessary instructional training to selected Indian tutors for demonstrating the required paramedic skills techniques to their students. Appendix 3 highlights subjects covered on an Instructional Methods Syllabus.

- WMAS provides tutor(s) to undertake a one to three week Instructional Methods Course (dependent on numbers) for potential Indian Paramedic Instructors.

- Those Indians participating on the course would have to be assessed on their tutorial and skills of demonstration to a WMAS and Indian panel. Appendix 4 lists practical skills to be included in this phase of training.

- WMAS tutor(s) would provide instruction on the use of training equipment and maintenance protocols.

- In accordance with UK National Ambulance Training Programmes (manuals already provided), WMAS would help their Indian colleagues to design Ambulance Technician and Ambulance Paramedic courses to meet the desirable standards for achieving the objectives for the project.

7. *WMAS would advise on the ideal type of ambulance vehicle to meet the demands of local roads and environment, which would provide the appropriate and conducive patient care standards required, whether the journey is of a long or short duration (specifications listed in Appendix 1 plus photographic evidence of inner city undisciplined driving and congested road conditions). Available in photograph album and VHS video.

- WMAS would advise on the desirable Paramedic Pre Hospital Care equipment required to be carried on the Ambulance (list of equipment in Appendix 1)

- For the purpose of setting up a Pre Hospital Paramedic Care Scheme, the Ruby Hall Clinic will be the Trauma Receiving Centre. The recommendation is that the pilot would be set up to cover a 10k radius of the hospital. It was recognised that the majority of severely injured people in RTA's are the poor people of lower and/or middle socio-economic groups e.g. pedestrians, cyclists and scooterists.

- It was suggested that at least 25% of severely injured people, who would be of the lower and/or middle socio-economic group, should be treated free of charge by Ruby Hall Clinic.

- Ruby Hall Clinic has the scope to develop trauma care facilities for receiving severely injured casualties brought in by paramedics. The review of receiving room equipment and medical staff expertise was conducted by Mr Binod Singh, Senior Consultant Orthopaedic Surgeon, City Hospital, Birmingham. This is reported in a separate section.

- Partners would form a consortium of expertise to manage, monitor and evaluate progress of all Paramedic and Post Graduate activities of the project and all future developments. This includes:-

  - Instructor training
  - Maintenance of training equipment
  - Paramedic training programme
  - Paramedic in-service training programme
  - In-hospital training programme
  - Driver training skills and provision of first aid skills
  - Ambulance vehicle maintenance and safety check programme
  - Ambulance equipment checks, maintenance, drugs and fluids shelf life and replacement programmes
  - Monitoring the project by evaluation of response times, on scene treatment, transport and on board treatment to Ruby Hall Clinic Trauma Centre, condition of casualty on arrival, hand-over reporting procedure to medics (based on WMAS Patient Report Forms). (See examples Attachment 6).
  - The continuation of treatment in the Trauma Unit on to ITU and/or general ward to discharge, together with any GP or out-patient follow-up.

- It would be essential for continuity that WMAS and project team members with local Indian partners, where possible, remain on the programme for the duration of the proposed project.

- There is tremendous local enthusiasm in India to support the introduction of a total pre-hospital care and trauma centre scheme situated in Pune.

- With development of a major three lane express way between Mombai and Pune, there is grave local concern by influential people on a whole range of issues concerning the poor or non-existence of safety maintenance for vehicles and the undisciplined way people drive. The fears are that motorists will be driving fast with the likelihood of a potential major accident waiting to happen.

- Siting the project at the Ruby Hall Clinic in Pune is ideal and will be attractive to future sponsorship, in helping to sustain and establish the Paramedic Pre Hospital and Trauma Unit Scheme. This will very much involve the Rotary Clubs of Birmingham and Pune.

8. *To support the project, the WMAS Consultant, as a Public Relations expert, would design a strategic and tactical programme to ensure the public locally have awareness of the scheme.

The Future

9. *Whilst all the participants in the proposed programme acknowledge that there is a need to:

⇒ focus on developing Paramedic Instructors, Paramedics and setting up a Trauma Centre. It was suggested by the study team that a National Ambulance Training and Major Disaster Management Centre (College) should be considered as a next stage. The Southern Indian Army HQ and the Indian Defence Academy are already well established in Pune and it would seem ideal to develop and establish an Ambulance Training Centre of Excellence for India, with the capability to provide training for Major Disaster and Crisis Management, together with allied subjects.

Also discussed by the team with major stakeholders was to associate the proposal for a Central College of Excellence with a more focused set of activities to support their pre hospital care programmes. In particular, these might include one or more of the following:

- Assistance in setting up a post graduate emergency medicine programme - Pune Medical Academy of Post Graduate Studies - Emergency Medicine/Major Disaster Medicine to cater for the whole of India.

- Seek other hospitals willing to participate in pre hospital care programmes but with direct links to Ruby Hall Clinic and the Ambulance Training Centre and Medical Academy.

- The success of the project and future development has to be sustained locally and has to attract sponsorship. The initial project is generating interest from a number of sponsors which includes:

  - Commercial and industrial - UK and India
  - Trade Partners UK (Department of Trade & Industry)
  - The Association of Health Care Industries
  - Rotary Club - Birmingham and Pune
  - The Department for International Development

- The participants are professionals determined to improve the chances of survival for the seriously ill and injured. They are confident that the initial programme will be successful and will be the major foundation to expand the activities as described in the report. This in turn may encourage the Indian Government's interest to what is being developed in Pune. The ideal outcome would be the welcome release of Indian Government funding to sustain and continue the development of these essential programmes.

- Design a module for recruiting potential paramedic personnel and provide advice/assistance on recruitment tests used by WMAS.

- Provide advice for inter-personal skills training in support of improving attitude and behaviour conducive to professional patient care.

- Continuing advice on Public Relations strategies to support influence and keep the public and targeted audiences informed.

- Provide assistance and advice on operational ambulance service management techniques used by WMAS.

- Assistance in devising an ambulance service business plan.

- It was also identified that a Paramedic Motorcycle Scheme should be considered as an alongside development to the project. In view of the undisciplined driving and inner city traffic congestion, such a scheme should be considered as early as possible in the project but definitely as a future development. The WMAS were the first in the world to operate a dedicated Paramedic Motorcycle Scheme which was launched in 1990. This has contributed to saving countless lives by the speedy response to incidents where treatments can commence immediately. The following ambulance and Paramedic Team would then take over and continue the treatment and transport to hospitals (details see Appendix 5). Photographs of traffic congestion (see photograph album and VHS video).

There are a whole range of strategies and programmes which, as progress develops, need to be thought through. Some of these were highlighted by the project study team during the tour. The above list is by no means complete but, by virtue of the progress which needs to be made and the local demonstration of dedication to ensure it happens, the emphasis is very much focused on 'how soon the project will start' not 'when it will start'. This will then lead the way towards an infrastructure for the future.

SUMMARY

The West Midlands Ambulance Service NHS Trust (WMAS) part of the feasibility study focused on the aims as: (Lead for WMAS Stephen Evans, Principal Officer).

- The proposal to develop a Paramedic Instructor Training Programme for potential Indian tutors to demonstrate to students the desired paramedic skills and techniques using modern (state of the art) training mannequins i.e. electronic resuscitation mannequins, infusion practice arms, intubation technique heads, cardiac (computer) arrhythmic simulators, cardiac monitors and associated training equipment aids.

- To provide Instructional Methods Training Courses for Indian Tutors including the demonstration of techniques needed, together with maintenance protocols for the equipment.

- To provide advice to Indian partners in designing Paramedic Training Courses and In-Service Training Programmes.

- As a member of the project consortium, provide 'on-going' advice, hands-on support when needed, monitor and evaluate the pilot pre-hospital and Trauma Centre Project and report back mechanism.

- WMAS to advise its Indian partners on the most suitable vehicle(s) design for the paramedic role in India (Pune) - including a motorcycle paramedic scheme.

- WMAS to advise its Indian partners on essential and desirable equipment for training, on-board ambulance/motorcycle and Personal Paramedic Kit.

- To provide advice on interpersonal training skills towards improving the attitude of Indian paramedics, doctors, nurses and tutors in line with quality communication with those using their sources - which is conducive to quality patient care.

- To advise Indian partners on recruitment procedures used by WMAS for selection of paramedic personnel.

- To provide advice on developing a strategic and tactical public relations programme targeted at the local communities, commerce and industry and other influencers nationally and internationally. Aimed at education of the public regarding the scheme and to encourage awareness for sponsorship and possible Government support.

- To provide expert advice on Ambulance Service Major Disaster and Crisis Management Planning - including Media Management at Major Disasters.

- To provide expert advice towards the development of a future ambulance service communications system. (WMAS designs in-house Command and Control systems with an on-going development programme).

- Offer advice on developing an ambulance service management structure, both operational and business.

Should the above proposals and recommendations be supported favourably and with the full support of West Midlands Ambulance Service NHS Trust Board, fund-raising, which has already commenced in a small way by the Rotary of Birmingham and Pune, will actively continue. The suggestion is that the first stage of what is envisaged as an 18 month to 2 year programme, could start being prepared now with an official launch date in February 2002.

An indication of the likely costs for WMAS programme is presented for consideration in a format similar to that used by the DFID (see attachment 1).

SUGGESTED PROGRAMME

Phase 1

- Set up joint consortium to design and manage the programme.

- Design a 2 week training course - Instructional Methods and Equipment Demonstration.

- Selection of WMAS Instructor(s)

- Set up training facilities - Ruby Hall Clinic - equipment and educational aids and suitably equipped ambulance.

- Selection of Indian candidates (maximum number 8)

- Design recruitment procedures based on those used by WMAS.

- Prepare an interpersonal skills/attitude profile based on those used by WMAS, in readiness for future training/support for selection of Paramedics/Tutors.

Phase 2

Commence week 1	-	Basic Instructional Methods concentrating on demonstration techniques.
Week 2	-	Demonstration Practice and maintenance of training equipment.

Evaluation of Candidates

Timescales to be determined by the Consortium for deciding on continuing phase of the programme. Essentially, tutors should experience follow-on operational training after their classroom work. This may depend on whether a suitable ambulance is available with essential on-board equipment and, if at this stage, the Trauma Centre at Ruby Hall Clinic has been completed. The vehicle should be responding to the Trauma Unit as there will be corresponding equipment for continuity.

Phase 3

Driver training has to be considered as being conducive to good patient care and safety of the paramedic working in the back of the ambulance. This needs to be discussed by the consortium for inclusion in the programme.

Discussion to take place between consortium and tutor(s) to evaluate the initial programme and decide on how the project should move forward to meet the future agenda for developing the scheme, the Ambulance Training and Post Graduate Centre for the training of Paramedics, Emergency Medicine for doctors and Major Disaster Management Subjects.

Review for developing a local infrastructure for the Pune Pre Hospital Care Paramedic Programme.

a) Provide advice for a suitable Paramedic Ambulance Vehicle for the role.

b) Reflect the equipment carried by WMAS Paramedic Ambulances.

c) To give the scheme a credible performance rating, a suggestion has to be:

   I. Victims of serious trauma.
   II. Victims of heart attacks.

d) Ruby Hall Clinic has been identified as the most suitable for developing its already excellent facilities as a Trauma Centre, and is committed to the project.

e) Advice and support is with a partnership link with City Hospital, Birmingham, by its Senior Orthopaedic Surgeon, Mr Benod Singh.

f) Equipment for expanding Ruby Hall Clinic as a Trauma Centre has been identified by Mr Benod Singh and has been discussed and agreed with senior medical staff there.

g) Treatment will follow on from Trauma Unit to the ward.

h) On the patient's discharge there is to be GP monitoring of the patient (independent evaluation) and patient visits to hospital.

i) Clinical audit must be an integral aspect of the scheme for evaluation purposes and be introduced as the scheme progresses.

j) The project will be overseen by the consortium members, of which will include the Birmingham Project Team.

k) Expansion of scheme will consider the introduction of Paramedic Motorcyclists, the development of a Central Ambulance Training Centre for India. This will include subjects allied to paramedical i.e. Major Disaster and Crisis Management programmes.

l) Further support from WMAS to advise Indian partners on communications systems, ambulance management - business and operational and infrastructures.

m) Consideration for the future should be given towards exchange visits of WMAS and Pune paramedics with continuing dialogue of advice and information. This commitment establishes a very important pre hospital care partnership benefiting the communities served in the West Midlands and Pune.

n) The important and valued relationship and allied partnership with the Royal Life Saving Society and The Indian Life Saving Society provides that vital link which gives the seriously ill or injured the chance of survival, is providing the desperately needed training for developing First Aid Responder Teams. This is a most commendable operation and provides that vital link in the pre hospital care scheme - known as 'The Chain of Survival'.

o) It is also recommended that because of instances of entrapment of casualties resulting from RTAs, extraction skills and techniques have to be included. West Midlands Fire Service employ some of the top experts in this field and have therefore been approached. At the time of writing, WMFS have expressed interest to become involved, with further discussions arranged.

The partnership will collaborate closely during the preparation, planning, action and evaluation of the project.

I think it can be clearly seen from Peter Patel and myself that expertise can link and work together. We believe that this is a most important project for the people living and working in this large city (population circa 4.5-5.0 million). It will unquestionably contribute towards the saving of countless lives, of which currently one person is killed and two seriously injured every hour (9,500 every year).

WMAS is the only ambulance service in the world involved in India and, as the major partner with Birmingham Rotary, this project will undoubtedly attract worldwide attention.

This pre-hospital paramedic care scheme project and all the future associated developments, proposals and implications, will be successful. I therefore commend this report, together with my co-authors' sections, to you with the hope that it is looked at favourably and given the approval of the WMAS Trust Board to proceed.

Stephen Evans MIPR
Principal Officer
Press and Public Relations Manager
West Midlands Ambulance Service NHS Trust
March 2001

Appendices

1. Vehicle Inventory Check List:
   Specification for the Supply of Accident and Emergency Vehicles

2. Equipment for Paramedic Training

3. Instructional Methods Syllabus

4. List of practical skills to be included in the training programme

5. WMAS Paramedic Motorcycle (photographs)

Attachments

1. Suggested Programme with guidance of some approximate costs.

2. Indications and Protocols for Critically Injured or Ill Patient Transfer.

3. Competence Based Operational Training/Assessment Record for Paramedics.

4. Letters of invitation from Dr. Peter Patel, Birmingham Rotary; Briefing to Barry Johns, Chief Executive, and Paul Harris, Corporate Development Director

5. Various press cuttings - UK and Pune, India.

6. Examples of WMAS Paramedic Patient Report Forms.

7. Further material available - including:
   - Photographic evidence of traffic conditions in and around the city of Pune
   - Photograph Album
   - VHS video
   - PowerPoint presentation

APPENDIX 1

VEHICLE INVENTORY CHECK SHEET

FLEET NO .... STATION .... DATE ....

CREW 1, SIGN.................... CREW 2, SIGN .... CREW 3, SIGN ....

** AMBULANCES CARRY ALL EQUIPMENT, RESPONSE VEHICLES SHADED AREAS ONLY**		RESCUE KIT (SEALED)
FIRST CREW CHECK ONLY	**ALL CREWS TO CHECK**	HELMETS (2) **RESPONSE** (1)
ENGINE OIL	MONITOR/DEFIB	LONG BOARD
COOLANT	SPARE BATTERY	H.I.S + STRAPS IN BAG (SEALED)
WINDSCREEN WASHER BOTTLE	ECG ELECTRODES + SPARE PAPER ROLL	SCOOP STR + STRAPS
FUEL	DEFIB PADS	VACUUM SPLINTS (SET)
ENGINE START UP	EXACTECH + LANCETS + STRIPS	SCOOP STR + STRAPS
BEACONS	LEADS CHECK	CERVICAL COLLARS (SET)
AUDIBLE WARNINGS	OXYGEN POWERED RESUSCITATOR	MATERNITY WALLET (SEALED)
SIDELIGHTS	SPARE 'D' SIZE O_2 (1)	BURNS PACK (SEALED)
HEADLIGHTS	BAG & MASK	BLANKETS (6) **RESPONSE (2)**
FLASHING HEADLIGHTS	PAED BAG & MASK	PILLOWS (2)
HAZARD LIGHTS	SPHYGMOMANOMETER (1)	PILLOW CASES (6)
INDICATORS	'F' SIZE CYLINDER + REGULATOR & FLOW METERS	CARRYING SHEET
WIPERS	ENTONOX SET	POLE SHEETS (2)
ROAD HORN	SPARE 'D' SIZE ENTONOX (1)	POLES & POLE SPREADERS (2)
BRAKE LIGHTS	ADULT OXYGEN MASKS (6) **RESPONSE (4)**	FIRST AID KIT (2) **RESPONSE (1)**
TYRE CHECK (VISUAL)	PAEDIATRIC OXYGEN MASKS (4) **RESPONSE (2)**	LATEX GLOVES S/M/L (BOX)
BODYWORK (VISUAL)	NEBULISER ACORNS (4) **RESPONSE (4)**	TISSUES (BOX)
FIRE EXTINGUISHER (2) **RESPONSE (1)**	SEALED O_2 TUBING (6) **RESPONSE (4)**	PAPER TOWELS
	AIRWAYS SIZE 00, 0, 1, 2, 3, 4. (3 of Each)	VOMIT BOWLS (6)
CAB	ASPIRATOR	BED PANS (2)
A-Z	SUCTION CATHETERS - SOFT (6) **RESPONSE (4)**	URINE BOTTLES (2)
CBD CODE BOOK	YANKEUR SUCTION CATHETERS (4) **RESPONSE (2)**	SANICHLOR (1)
SPARE PRF'S	DRUGS PACK (SEALED)	FLASK OF FRESH WATER
FUEL CARD	CARRYING CHAIR + SAFETY STRAPS	SHARPS BOX
HAND LAMP	STRETCHERS + SAFETY STRAPS	YELLOW BAGS SMALL & LARGE (4)
SERVICE RADIO	FLUID WARMER + FLUIDS	RED BAGS (2)
AVL SYSTEM	PEAK FLOW METER	INDUSTRIAL RUBBER GLOVES (PR)
	PEAK FLOW MOUTHPIECES ADULT (5)	GOOGLES (2) **RESPONSE (1)**
SPACE BLANKET (1) **M/CYCLE ONLY**	PEAK FLOW MOUTHPIECES PAED (5)	KEYS (SET) **O.S.O ONLY**
	CHANGE CLINICAL WASTE BAG	CAMERA (1) **O.S.O ONLY**
	INCO PADS (8)	CASES 1-5 (SEALED) **O.S.O ONLY**

****ANY DISCREPANCIES SHOULD BE NOTED OVERLEAF**

WEST MIDLANDS AMBULANCE SERVICE NHS TRUST

SPECIFICATION FOR THE SUPPLY OF ACCIDENT AND EMERGENCY VEHICLES. (issue number six - 13.07.2000)

1. LIAISON

It is essential that all WMAS vehicles and equipment supplied as part of this specification comply with CEN/BSI regulations BS EN 1789:2000 and BS EN 1865:2000. Written certification of compliance must be forwarded for each vehicle.
Category c - Mobile intensive care unit.
It is important that the successful body builder, at the time the orders are placed and during construction, liaisons with the Director Of Operations or his delegated officers, Mr. C. Smith or Mr. K Kelly on any matters regarding Ambulance equipment or the location of equipment within the vehicle. For Engineering and build queries, please contact Mr. Peter Jacques, Fleet Engineer, regarding the specification on which the offer has been made, in order that any minor operational requirements can be accommodated.
Upon delivery of new vehicles, the Fleet Engineer must receive for each vehicle, certification that the vehicles have been fully inspected and conform to good quality control practices, i.e. PDI inspection sheets.

N.B. When fitting internal lockers, equipment etc. due consideration must be given to the maintenance and accessibility of serviceable items i.e. shock absorbers, electrical wiring, heaters etc.

An initial liaison meeting is to be held with the successful contractor **prior** to the start of the build process, to ensure that there is clear and unambiguous interpretation of this specification and the requirements of the **WEST MIDLANDS AMBULANCE SERVICE NHS TRUST. The successful contractor must ensure a risk assessment is completed in conjunction with WMAS, to ensure the vehicle complies with all Health & Safety legislation.**

1.1 PROTOTYPE

1.1.1 A completed first off Ambulance vehicle to the design specification should be made available for inspection by the relevant officers of WEST MIDLANDS AMBULANCE SERVICE NHS TRUST.

1.1.2 The bodybuilder must notify the WEST MIDLANDS AMBULANCE SERVICE, Director/Deputy, when it is known that the first off vehicle is ready for inspection.

N.B. The completed vehicle must not be dispatched from the constructor until an acceptance inspection has been completed on the first off by WMAS. This will then dictate the standard to be achieved and maintained in all of the subsequent vehicles.

1.2 WEIGHT

1.2.1 It is ESSENTIAL that the manufacturers weight limit of 3.9 tones is NOT exceeded when the vehicle is in full operational mode. For calculation purposes it is estimated that 4 persons weighing a total of 330kg, a full tank of fuel weighing 65kg and crew equipment weighing 150kg should be used. (documented weight of the vehicle - Full load - is required when the first off Ambulance is built).

1.3 QUALITY OF FIXTURES AND FITTINGS

1.3.1 All lockers, work surfaces and cupboards are to be manufactured from smooth Pastel Green Formica, Melamine faced plywood. (Formica to be Colour System, Pale Mint, Code No. 2581.).

N.B. Other materials such as honeycomb polycarbonate may be considered subject to prior approval by WMAS

1.3.2. The colour of the interior the saloon compartment is to be Pastel Green G.R.P., to complement the Formica.

1.3.3 All exterior doors, including side and rear, are to operate via a central locking mechanism.

2.0 CHASSIS

2.0.1 In order to comply with the interior and exterior height requirements, the saloon floor must be as low as possible and the under frame incorporating suitable mild steel out riggers, painted in one coat Melon Coachguard.

2.0.2 The rear of the body is supported on a heavy duty stainless steel assembly, incorporating an Electric Ramp c/w clutch override."

2.0.3 The complete body is to be mounted in full accordance with current Renault chassis mounting procedures.

2.1 CHASSIS PROTECTION

2.1.1 The complete underside of the chassis and cab is to be under sealed with a suitable material which has **high sound insulating properties** after final build. There is to be no exposed bare metal. All enclosed channels are to be treated with Waxoil.

2.2 TOWING EYES

2.2.1 Supply and fit to the chassis frame, one front towing eye (unless already incorporated in the cab design) and with the appropriate screw in tow hook, secured /clipped under the drivers seat.

2.3 SPARE WHEEL - CARRIER AND TOOLS

2.3.1 NOT REQUIRED. However if the chassis cab is supplied with a spare wheel it must be left in the vehicle on delivery. The wheel must be encapsulated in bubble wrap or suitable alternative to avoid damaging any of the interior fitments during transit.

2.4 CORROSION PREVENTION

2.4.1 All new chassis fittings should be de-rusted and treated with Zinc Chromate Primer and finished with 3M Waxoil. All joints are to be sealed with polyurethane sealer adhesive or equivalent.

3.0 BODY CONSTRUCTION

3.0.1 All protruding locking devices are to be adequately protected to ensure no injuries are sustained by staff.

3.0.2 The body is to be manufactured from Glass Reinforced Plastic (G.R.P.) panels, bonded to a stainless steel framework, incorporating adequate reinforcing for assembly, body mounting and for the installation of interior paneling, fittings and equipment.

3.0.3 The body is to be designed to compliment the styling of the cab, giving an aerodynamic appearance.

3.0.4 The over cab molding is to slope towards the rear at a suitable angle to that of the wind-screen and bonnet , it is to aesthetically pleasing and aerodynamic in its design and manufacture.

3.0.5 An in built illuminated "AMBULANCE" sign is to be fitted to the over cab molding. The front face of which should be in a more vertical plane to improve the visibility of the sign. The sign board is to be bonded onto the molding using a suitable adhesive to ensure a water tight, life long seal is achieved.The wiring is to be of sufficient length thus allowing for removal of tubes & fittings through the access panel.

3.0.6 The roof section is to be of a two piece construction, incorporating an inner and outer skin bonded to the roll over bars. The roof is to be manufactured to incorporate one milky white vertical lift up ventilator, in order to allow additional light/air into the patients saloon area

3.0.7 External replaceable skirting panels - (if possible) -are to be fitted to the lower section of the body compartment to facilitate body repairs. The skirts are in two sections per side, the first is to run from immediately behind the cab to the center line of the wheel arch and the second from the center line of the wheel arch to the side of the rear step well.

3.0.8 The patient compartment must incorporate three equidistant stainless steel roll-over bars, providing maximum protection to the occupants along the full length of the saloon. Each roll over bar is to be connected to each other by longitudinal stainless steel tubes mounted either side of the roof vents.

3.1 DIMENSIONS - Category type C - Mobile intensive care unit.

OVERALL LENGTH	max. 6.0m
OVERALL HEIGHT	max. 2.9m
OVERALL WIDTH (excluding mirrors)	max. 2.2m
FLOOR HEIGHT (at rear with suspension raised)	520mm
FLOOR HEIGHT (at rear with suspension lowered)	225mm
INTERIOR LENGTH	approx.3.7m
INTERIOR WIDTH	approx. 2.0m
INTERIOR HEIGHT	approx. 1.9m
SIDE SLIDING DOOR APERTURE	1830 x 750mm

3.1.1 The platform cab chassis are to have sufficient strength in the framework, outriggers and jointing to adequately accommodate and transmit working loads from the chassis/suspension.

3.1.2 The base chassis platform must not be imparted with excessive working loads or exceed the manufacturers recommendations.

3.1.3 Two off aerial ground planes are required per vehicle.

3.1.4 18swg. Aluminum ground planes are to be bonded into the roof moulding and fitted with a PERMANENT earth lead to the vehicle chassis.

3.1.5 Supply & fit blind spot, stick on, overtaking mirrors to both side door mirror glasses.

3.2 FUEL TANK SPLASH PANEL

3.2.1 The body panel which surrounds the fuel filler cap must incorporate a fuel filler slash guard. The guard is to have a slight flange to the outer edges running to the bottom edge of the panel. The words **Diesel Fuel Only** must be clearly marked in 1" red lettering above the fuel filler cap.

3.3 REAR DOORS - CONSTRUCTION

3.3.1 Both rear doors are to be fully draught and weather proof.

3.3.2 All rubber sections utilized for draught proofing purposes must be of a "skinned" and non-cellular type and secured by means other than an adhesive.

3.3.3 Supply and fit two "D" type grab handles, 965mm in length, one to either side of the rear door aperture. They are to be manufactured from 32mm textured tubing and powdercoated high visibility orange.

3.4 REAR DOOR HINGES

3.4.1 The rear doors should be hung by the means of two "plant on" type, robust, self aligning hinges. They are to be bolted through the doors and standing pillars.
Note: Any bolt which passes through a hollow section must be fitted with spacing tubes.

3.5 REAR DOORS - LOCKS AND HANDLES

3.5.1 The off-side rear door must be fastened in the closed position by the means of an anti-burst locking system . It is to incorporate an exterior locking handle and interior handle.The rear door opening mechanism must be substantial and easy to operate.

3.5.2 The interior handle must override both the external handle and the central locking mechanism. (see item 1.4.3)

3.5.3 The near-side rear door is to be secured in the closed position by means of an anti-burst locking system. It is to incorporate an interior release handle only.

3.5.4 Central locking is to be included to the side and rear doors (see item 1.4.3) then it is to operate by limiting the rod movement.

Note: Any central locking mechanism must have the facility to be manually overridden from the inside of the vehicle to facilitate emergency egress.
The rear doors are to be fitted with an audible warning device as in 3.7.1 below.

3.6 REAR DOORS - RETAINING CATCHES

3.6.1 Both rear doors should be positively restrained in the open position by means of "gravity catch" type retainers. They are to be fitted in such a way the buffered male section is mounted to the body side and the female gravity catch mechanism is mounted to the door.

3.6.2 Both the buffer and the latch are to be directly supported by stainless steel framing in the body and the door in order to prevent "starring" of the G.R.P. skins due to shock loading.

3.6.3 Cancellation of the latching mechanism should be from the inner faces of the rear doors.

3.7 SIDE DOOR

Operable from the outside of the vehicle only by the use of a locking mechanism in conjunction with a central locking mechanism (see item 1.4.3). The door is to be fitted with an audible warning device within the cab to operate when the side door is in the open position and the handbrake is released.

3.7.1 A work lamp is to be situated above the side door aperture, to illuminate the storage cabinet. It is to wired in such a way as it will only operate when the side door is in the open position and the vehicle side lights are on.

4.0 BODY CONSTRUCTION - INTERIOR

4.1 G.R.P. MOLDINGS

4.1.1 The sides and roof of the interior are to be lined with moldings of smooth, easy clean Glass Fibber Reinforced Polyester Mouldings, profiled to suit the body styling. Other materials may be considered subject to WMAS approval and testing.

4.1.2 The panels are to incorporate recesses to suit the glazing panels, with suitably strengthened aperture frames, to accommodate the installation of fittings and equipment. **ALL** exposed joints between panels are to be covered with suitable moldings. All surfaces must be of a smooth surface finish for easy cleaning.

4.2 INSULATION

4.2.1 **ALL** cavities between the interior and exterior body moldings (including the rear doors) are to be injected foamed insulated with Rockwool and have a minimum rating of R 0.9. The insulation is to be vermin proof, fire resistant, non-setting and must provide an excellent moisture barrier.

4.3 BULKHEAD PARTITION

4.3.1 The bulkhead partition is to be manufactured from a composite sandwich of Formica, G.R.P and polycarbonate honeycomb or approved alternative. The bulkhead is to incorporate a centrally located side sliding door, opening to the off side of the vehicle, behind the drivers seat and mounted on a good quality roller type mechanism. The door is to have a fixed 9" x 9" Laminated clear window complete with green manual roll up blind. A suitable pelmet is to be mounted above the door to cover the side sliding mechanism. All sliding gear, retaining clasps, locking devices etc. are to be fixed using M6 countersunk bolts with flat washers and self locking nuts, (minimum thread protrusion and all sharp edges are to be removed) all nuts are to be fitted with plastic caps.The door must be self closing.

4.3.2 The door is to be fitted with a substantial locking device which is only operable from within the drivers cab.

4.4 DRIVERS COMPARTMENT

4.4.1 The drivers compartment and saloon must be designed to achieve the minimum possible noise levels. The interior noise level across the vehicle speed range must not exceed the maximum graphical line resulting from coordinates 70 db(A) at 60km/h or 40% of the maximum speed,whichever is lower, to 78 db(A) at 120 km/h or 60% of the maximum speed , whichever is lower.

4.4.2 Certificated proof of recorded noise levels are required.

4.4.3 The Drivers and passenger seats must be fully adjustable for height & forward/backward movement to facilitate any driver/passenger size and complete with adjustable headrest.

4.5 AERIAL GROUND PLANE ACCESS

4.5.1 A 4" diameter hole complete with cover panel is required to gain entrance to the aerial ground plane for routine maintenance.

4.6 FLOOR CONSTRUCTION

4.6.1 The floor of the saloon compartment is to be constructed from one piece, 12mm thick, W.B.P. graded resin bonded plywood.

4.6.2 Relevant inspection covers should be provided to gain access to the fuel tank sender unit shock absorbers, etc.

4.7 FLOOR COVERING

4.7.1 The floor of the saloon compartment and the underside face of the fold out ramp is to be trimmed in Altro Walkway Midnight - VM 20421 to complement the interior saloon trim.

4.7.2 The floor covering is to be covered at each body side and finished with suitable moldings and/or capping. All coverings are to be continuous and fully sealed against the ingress of any liquid with no right angle corner or joints.

4.8 RAMP CONSTRUCTION

4.8.1 The rear entrance to the saloon compartment is to provided with a "**Electric Ramp**" c/w clutch override. The ramp should be operable from a fixed position from a fixed position inside and towards the rear of the vehicle and by the use of a control switch mounted on the rear off side of the saloon.
The ramp motor is to be enclosed with a protective covering to protect against water/dirt ingress.

4.8.2 The tread surfaces of the ramp are to be fitted with a durable, non-slip 3M tape.

4.8.3 A flush fitting handle is to be fitted to the right hand corner of the ramp, for manual override facility.

4.9 INTERNAL STORAGE LOCKERS

4.9.1 Construct and fit an equipment locker to the nearside front of the saloon, accessible from inside the vehicle and via the side sliding door. As per drawings supplied.
All shelves are to have 15mm upstands and webbing straps where required. The surface of the shelves are to have a non-slip rubberized matting.

(The layout of equipment within this locker is to be discussed with the successful contractors at the post tender meeting).

4.9.2 All cupboards and contrail lockers are to be constructed of Melamine faced plywood with radiused aluminum extruded edge cappings. The contrail lockers are to be fitted with drop down doors and fitted with flush fitting, press button locking mechanisms.

4.9.3 Dividers are to be fitted between all cupboards, except with the n/s/f and o/s/f top two cupboards, which should incorporate three dividers.

4.9.4 The defibrillator tray must be designed in such a way as to allow access to the defibrillator from both inside & outside the vehicle and be compatible with the codemaster 100.

4.9.5 The offside front contrail locker is to be designated as a drugs locker and as such must be lockable.

4.9.6 All fixtures and fittings must be warranted by the body builder for 2 years from the vehicle registration date.

4.9.7 Provision for long board storage is to be made (see drawings).

5.0 WINDOWS

5.0.1 All saloon windows are to be clear, opaque stripes at the upper section, plain opaque at the lower section.

5.0.2 An emergency pull cord is to be incorporated in each saloon window, with a ring pull located at the top of the glazing panel for the external windows and located at the bottom for the inside windows.

5.0.3 The rear doors are to have double shadowlite glass.

5.1 PARTITION

5.1.1 The sliding bulkhead door window is to be glazed using clear safety glass.

5.2 BLINDS

5.2.1 Spring loaded cassette blinds are to be fitted to all saloon windows and upper rear door windows. They are to be fitted with a positive means of securement whilst in the down position and are to be trimmed in green fabric, to complement the interior finish.

Supplier :- VBS Blinds 01384 293714 - Contact Mr Paul Morris (MD).

6.0 DRIVERS COMPARTMENT STORAGE

6.0.1 If not fitted to the chassis cab on delivery, the following items must be fitted :-
i.) Document Wallet - A3 size on both doors.
ii.) Interior Mirrors

6.1 BUMP PADS

6.1.1 Adequate bump pads are to be fitted above all door apertures, this includes the cab, saloon and bulkhead doors. The body builder may also fit further protection wherever it is deemed necessary.

6.2 FIRE EXTINGUISHER

6.2.1 One 2.0litre, Aqueous Film Forming Foam (A.F.F.F.), visible gauge, controllable flow fire extinguisher is to be fitted within easy reach of the driver from both inside and outside the vehicle.
Supplier: Chubb

6.3 USER RADIO

6.3.1 A communications radio with hands free facility will be fitted by a WMAS contractor at your premises, however, coaxial cables must be included during the build process and are to terminate at the cab center console.

6.3.2 Provision for the installation of the service radio in the front facia should be considered by the body builder when deciding where to fit auxiliary equipment (liaise with Mr Barry Thurston of WMAS I.T. Dept)

6.3.3 Terrafix Tracking System is to be installed by Terrafix in line with specifications (liaise with Mr Barry Thurston of WMAS I.T. Dept). Any likely conflict of the fitment should be discussed with the aforementioned and approval sought.

6.3.4 A supplementary bank of 6 circuit breakers will be installed within the circuit breaker box and clearly marked "For Radio And AVL Use Only".

6.4 COAT HOOKS

6.4.1 Supply and fit two twin coat hooks to the nearside back panel of the cab.

6.5 CLOCK

6.5.1 Fit one 8" battery operated analogue clock c/w second hand, position to be in the rear saloon mounted on the o/s wall.

7.0 AMBULANCE COMPARTMENT FITTINGS

7.1 INTERIOR DESIGN

7.1.1 Supply and fit, rearward facing attendants seat at the head end of the stretcher. Attendants seat to be high back (Richard & Shaw) with two arm rests, all age seat belt, forward/rearward slide mechanism and must be M2 tested.All seating to be trimmed in Amble Wild Heather Fife.
Provision is required to incorporate ability to convert into a child seat i.e. as per Volvo cars.

7.1.2 One 'Jany' seat with swivel & with removable head rest. Two armrests per seat with lap and diagonal seatbelts, mounted on N/S vehicle.

7.1.3 One fold down fixed Restcroft seat with all age seat belt and with removable head rest. Two arm rests per seat and diagonal seatbelts.

7.1.4 Provision for one Sharps tub container, position to be determined.

7.1.5 Provision for one disposable bag holder, position to be determined.

7.1.6 Provision for personnel equipment locker to be provided on the o/s of the vehicle.

7.1.7 Supply and fit two additional 2mm(1/8"gauge) support plates, secured to the o/s/f interior metal framework - to accommodate securing ambulance retro - fit equipment (copy of the interior frame work is to be supplied).

7.1.8 Supply and fit one aluminum infusion pump pole, central to the underside of the o/s top cupboard and to the top of the lower cupboard (adjacent to window).

7.2 VACUUM FLASKS

Supply and fit two vacuum flask (Aladdin Adventurer 0.47ltrs) - Cab and Saloon "Crew use only"

7.3 FIRE EXTINGUISHER

One 2.0ltr Aqueous Film Forming Foam (A.F.F.F.), visible gauge, controllable flow, fire extinguisher is to be fitted to the offside rear quadrant of the saloon. Supplier: Chubb.

7.4 BUMP PADS

Bump pads are to be fitted above the rear and bulkhead doors, trimmed to complement the saloon trim.

7.5 OXYGEN EQUIPMENT

The Oxygen pipeline shall be manufactured from electrically conductive rubber hose, having a working pressure of 200p.s.i. The system will be leak tested with a minimum of 150p.s.i. of nitrogen, for a period of 4 hours. The system will be sealed and tagged with the inspectors name and date of test. The complete installation should be carried out by Messers Oxylitre Ltd. Or an approved agent, at the body builders workshops during the build process. Note: Minimum standard to BS5682. Tubing used should be colour coded as follows : Oxygen - WHITE.

7.5.1 An Oxylitre suction unit complete with collecting jar is to be located on the o/s wall adjacent to the head of the stretcher trolley.

7.5.2 Supply & fit to the o/s saloon adjacent to stretcher trolley, Accoson 6" Aneroid Wall Mounted Sphygmomanometer. Supplier - Proact Medical Ltd, Northamptonshire.

7.5.3 Supply & fit Parapac wall mounted bracket to the o/s saloon panel, (adjacent to attendant seat).

7.6 The patient compartment will be equipped with an oxygen system, capable of the delivery and storage of oxygen.It must have the capability for dual manifold oxygen system.
Three oxygen outlets are required, i.e. one twin to the rightside and one single to the leftside. The outlets will be positioned in such a way that the flow meters are not obstructed by the contrail lockers.

7.7 SEAT BELTS

All seats are to be fitted with all age seat belts where possible or otherwise lap and diagonal, inertia reel seatbelts.

7.8 STRETCHER

7.8.1 Provision for the fitment of one Ferno Falcon stretcher with the slide lock mechanism and the duo locking mechanism to the offside of the saloon, with retractable patient restraints, infusion holder Mattress to be trimmed in Green vinyl.

7.8.2 Note: the full specification of the above will be mailed to the successful contractor. Supply and Fit 3 equidistant Millennium tracking rails to the offside of the saloon beneath the stretcher trolley, this tracking is to be fitted on a reinforced floor section. Supply and fit rubber protective inserts into the tracking.

7.9 CARRYING CHAIR

7.9.1 Provision for , as per attached drawings, a two wheeled carrying chair to be fitted to the nearside rear of the saloon. It is to be positively restrained by the use of a suitably dimensioned floor channel and spring clips at handle level. Note: The exact specification of the above will be mailed to the successful contractor.

7.10 SCOOP STRETCHER

Provision to made for storage of scoop and long board.
Supply and fit fully adjustable quick release restraining strap to accommodate the various designs.

7.11 DRIP HOLDERS

7.11.1 One section of tracking and suitable slider/hook arrangements should be mounted on the roof panel above the stretcher. A second length is to be mounted adjacent to the first but mounted directly above the nearside seating.

7.12 HEATING

7.12.1 Supply and fit 10 x cab controlled Webasto airtop 5kw Air Heater and 5x Eberspacher Airtronic 4kw heaters complete with 10 minute shut down timer kit and with the main supply routed via a circuit breaker or fused (blade type - 20 amp). To be controlled through the ignition switch. The inlet/outlet ports are to be fitted with suitable mesh protection coverings.

7.13 VENTILATION

7.13.1 A three speed forced air/scavenging system c/w 3 eyeball forced air vents on each side of the saloon roof and a twin powered extraction vent fitted to both sides of the vehicle, close to floor level towards the rear of the vehicle.It is essential the ventilation system will provide 20 air changes per hour when the vehicle is stationary.

7.14 SIGNS

7.14.1 ALL interior signs are to be manufactured from WHITE vinyl with RED lettering and securely mounted to the vehicle trim, as directed.

7.14.2 A "**NO SMOKING**" sign situated prominently on the dashboard

7.14.3 A "**PLEASE USE THE SEATBELTS PROVIDED**" sign situated to the nearside of the saloon.

7.14.4 A "**MIND YOUR HEAD**" sign situated above the cab, bulkhead and rear door apertures.

7.14.5 A "**12 VOLTS DC**" sign on each electrical outlet.

8.1.5 Supply and fit an incubator terminal to the offside wall of the patient compartment, adjacent to the stretcher trolley.
Note: The Incubator supply is **not** to be ignition controlled and is to incorporate a **30amp** circuit breaker.

8.1.6 Supply and fit Umbilical battery charging units with auto eject sockets to the drivers footwell.

8.2 AUXILIARY EQUIPMENT, SWITCHES AND SOCKETS

8.2.1 ALL switches should be of the "push button " type and be individually icon marked and illuminated.The switch panel is to be fitted with an appropriate cowling to shield against sunlight.

8.2.2 The switches should incorporated into the auxiliary switch pod mounted on the center of the dashboard facia.

8.2.3 The pod is to be illuminated by a lamp switched through the vehicles ignition.

8.2.4 The side and rear doors are to be fitted with an audible warning device to indicate to the driver when the doors are open and the ignition is on.

8.2.5 An audible warning device is to be fitted to indicate to the driver that the vehicle side lights are on and the cab door is open.

8.2.6 Supply and fit DC power in the monitor area.

8.2.7 Supply and fit four Britax bayonet outlet sockets complete for 12volt supply via separate circuit breakers. One to the offside rear of the saloon, two on either side of the patient compartment at the front, and one to be positioned in the front n/s equipment locker. Plug - 201513 and Socket 201512

8.2.8 Provision for a warm cupboard at a constant temperature is required to facilitate a variety of fluids.Thermostatically controlled to maintain temperature between 35 to a maximum 37 degrees c .Fit 10mm red 'Fluid warmer only' sign adjacent to appropriate 12 volt supply.

8.3 REAR NUMBER PLATE

8.3.1 Illuminated by a double lamp and suitably positioned.

8.4 REAR MARKER LAMPS

8.4.1 A pair of indicator lamps are to be fitted to the upper body panel to the rear of the vehicle.

8.5 ROOF MOUNTED BEACONS

8.5.1 Blue strobe units are to be fitted both sides of the illuminated ambulance sign. Flush beacon lenses are to be fitted. These lenses are to be within the line of the body.

8.5.2 The rear corner lenses are fitted to enable a single rotator to be fitted - Strobes.
Model Rotators - ZB5787. Micro grill master complete LD1051C

8.6 FRONT GRILLE MOUNTED STROBE LIGHTS

8.6.1 Two high output blue strobe lights are to be flush fitted to the front grille of the vehicle (in accordance with L.H.A.L. 32/72) The distance between the center line of the headlamp to the center line of the lamp is to be approximately 300mm.
Micro Intersector LD1031B

8.6.2 FRONT WING STROBE LIGHTS

8.6.3 Fit two, blue, front wing strobes.
Model 52 Linner strobe LD2008B

8.7 CAB INTERIOR LAMP

Fit one, 2 x 8 festoon unit, integrally switched.
Supply and fit one fluorescent tube in the cab area, incorporating independent switch.

8.8 MAP LIGHT

8.8.1 Supply and fit a flexible map light with integral switch, to the n/s 'A' pillar.

8.9 REAR LIGHT UNITS

8.9.1 A pair of high level repeater lights, incorporating stop / tail, indicator, and reflector are to be fitted above the rear door aperture.

8.10 REVERSING ALARM

8.10.1 Supply and fit a reverse bleeper with cab controlled rocker switch, for night silent facility.
Supply and fit Autosonics Backminder reversing aid. Part number back212A.
(exact spec to be determined following evaluation of various designs).

8.11 RAMP AND SIDE DOOR COURTESY LAMPS

8.11.1 Supply and fit courtesy lamps to both the side load door and the ramp areas, switched to operate when the doors are opened and the saloon lights are on.

8.12 SIDE INDICATOR REPEATERS

8.12.1 Mount two units, one each side of the body above the rear of the cab door area.

8.13 ILLUMINATED AMBULANCE SIGN

Illuminated by a single 900mm fluorescent tubed unit, complete with inverter. WHITE lettering on a blue back ground.

8.14 REAR MOUNTED SCENE LIGHTS

Supply and fit rear mounted (Twin Compact Flush Fitted) scene lights (angled @ 26°)operated when the handbrake is applied and the vehicle is in the lowered position. Position centrally above the rear door aperture.
Model 73 LSC1105

8.15 HAND LAMP

8.15.1 Supply and fit a Ferno Vulcan charger handlamp unit, this is to be mounted to the bulkhead directly behind the attendants seat.

8.16 PATIENT COMPARTMENT ILLUMINATION

8.16.1 The illumination level, measured from the stretcher, should achieve 300LUX (27.9 Lumens) by the use of SIX colour balanced fluorescent tubed units, complete with opal diffusers and inverters.It is essential that the lighting conforms to CEN regulations section 4.5.6

8.16.2 The lighting is to be TWO-WAY switched with 50% dim facility, from controls mounted on the cab facia and waist height on the offside rear door pillar.
Model No. - Fitting - Labcraft x 4
Model No. - Invertor -Labcraft x 4

8.16.3 Supply and fit a blue trauma light above the stretcher trolley, the switch is to be separate and dedicated.

8.17 SIDE MOUNTED SCENE LIGHTS

8.17.1 Fit two, twin compact flush mounted scene lights(angled at 26)one to either side of the body, at central height. They are to be switched independently and the switches clearly marked left and right. They are only to operate when the handbrake is on and illuminate the immediate area adjacent to the side of the vehicle.

8.18 AUDIBLE WARNING SYSTEM

8.18.1 An electronic, 100w, three sound warning system is to be supplied and fitted.

8.18.2 The power speaker driver is to be mounted in the engine bay and directed out of the front bumper of the vehicle. A button mounted on the right hand side of the steering column is to switch the system on and off. Fitted with pro - jector flex 51001, Control head A51041/RH1002.

8.18.3 The change of tones should be via a horn ring transfer controller and floor operated hands free switch.

8.19 COMMUNICATION AERIAL (PHILIPS LONG SHANK VL)

8.19.1 M8 (METAL BASE) or M8A (FIBRE GLASS ROOF) with ground plane.

8.19.2 A communication aerial should be mounted to each aerial ground plane. The aerial is to be installed by the body builder in line with Philips specifications. The fitted aerial cables are to terminate at the center of the dashboard console, leaving a minimum of 1 meter spare lead exposed.

8.20 HEADLAMP FLASHERS

8.20.1 An electronic headlamp flasher unit is to be fitted with a cab facia mounted control switch. This is to enable alternate flashing. HF1000.
It must also incorporate dipped to mainbeam facility for night time driving.

8.21 Supply and fit a flashing LED warning light on the dashboard to indicate the Panhard switch status. A label is to be fitted on the dashboard reading :-
"If engine won't start after ramp operation (light flashing) locate override switch under cab master switch pod.

8.22 The Battery housing compartment (n/s) should be fabricated to allow for headlamp bulb change.(If necessary).

8.23 Supply and fit an ignition override facility comprising of a single contact change over relay connected from the beacon switch and handbrake switch.
Supply a 40mm x 40mm red sign fitted to the dashboard -
'ATTENTION' 'This engine will run with ignition key removed whilst blue lights are on ! Handbrake or blue lights off will inhibit this function'.

9.0 EXTERIOR FINISHING

9.1 DRIP MOULDINGS

9.1.1 A G.R.P. drip molding is to be fitted to both sides of the vehicle, at cant rail level, and above the rear door aperture

9.2 RUBBING STRIP

9.2.1 A 2" rubberized rubbing strip is to be fitted along the full length of each body side, including all doors (if applicable).

9.2.1 A rubberized bumper is to be fitted on both rear corner pillars of the vehicle and secured directly onto the metal under chassis, in order to afford a certain amount of impact protection to the G.R.P. corner moldings.

9.3 MUD FLAPS

9.3.1 Heavy duty mud flaps are to be fitted to the bottom faces of both front and rear wheels.

9.4 EXTERNAL LIVERY

All WMAS vehicles must conform to the new consipicuity markings on emergency vehicles as under section 44 road traffic act 1988, which comes into force on 8th June 2000.

Note - All external livery, including Battenburg tape, must be lazer edged sealed. Interior kick plates must also be sealed with Silicon sealer to prevent blood/water ingress and to avoid sharp edges. All tape, logo's etc. are to supplied by the successful bodybuilder.

9.4.1 ALL external livery is to be in 25 mm RED pre-spaced vinyl lettering (unless otherwise stated) and securely adhered to the body panels.

9.4.2 A "TO OPEN" sign with accompanying instructions and/or directional arrow should be fitted adjacent to the rear door handle.

9.4.3 A "PULL TO REMOVE WINDOW IN EMERGENCY" sign is to be affixed adjacent to the rip-cord on one side of the vehicle.

9.4.4 A tyre pressure indicator sign in lbs/sq", e.g. "40", should be affixed centrally above each wheel.

9.4.5 A "KEEP CLEAR" sign (50mm - red reflective) is to be affixed to the lower panels of the rear doors - KEEP - on the nearside door & CLEAR - on the offside door.

9.4.6 A "CARING FOR THE COMMUNITY IN THE WEST MIDLANDS " sign should be fitted to both cab doors in *italic* lettering (25mm).

9.4.7 An "AMBULANCE" sign (75mm - red reflective) is to be affixed centrally across the rear doors below the upper glazing panels(above windows).

9.4.8 An "EMERGENCY AMBULANCE" sign (4.5" - red fluorescent) are to be affixed to both sides of the vehicle above the side windows and forward of the scene lights.

9.4.9 A "PARAMEDIC " sign (4.5" - black) is to be affixed centrally across the bonnet above the front edge with a Star of Life.

9.4.10 'PARAMEDIC' signs (4.5" - black) are to be fitted to both sides, below the window.

9.4.11 A 12" BSI GOLD AWARD sign is to be affixed to both sides of the vehicle and to the nearside rear outer panel.

9.4.12 The bodyside to incorporate the Battenburg design of alternate blocks of yellow/green material (600mm). Two rows of alternate blocks producing a horizontal band of 600mm, running full width of body.

9.4.13 A red dot (100mm reflective) sign is to be fixed to the top of the o/s rear of the vehicle.

9.4.14 A reflective fleet number (75mm) is to be fixed to the rear of the o/s of the vehicle above the red dot. (Fleet numbers will be provided near to completion of the first of Ambulance).

9.5 GAS HAZARD NOTICES

9.5.1 A green diamond "COMPRESSED GAS" hazard notice is to be fitted to the offside rear of the vehicle and with a 3" sign on the appropriate gas cupboard (interior).

9.6 LETTERING

9.6.1 The new West Midlands Ambulance Service NHS Trust logo to be fitted to both sides of the vehicle, adjacent to the window.West Midlands Ambulance Service to be in black lettering, NHS in white lettering with blue background and NHS Trust in blue lettering.

9.7 PAINT

9.7.1 Paint the edges of the roof and all of the bonnet in Standox 2K fluorescent paint and lacquer (Yellow). To include the top of the rear panel. Material :- Standox 2k Fluorescent paint.

9.7.2 Emergency vehicles conspicuous markings as per appendix one.

9.7.3 The reflective markings on the rear of the vehicle are to be extended right up to the Emergency Ambulance sign (yellow & orange).

9.7.4 ROOF MARKINGS - Fit a 400 x 400mm green diamond (British Racing Green - 60 Oracle vinyl tape and the number 20 in 55 x 400mm (Black - 60 Oracle vinyl tape) to the roof area of the vehicle. Fit appropriate fleet number of the vehicle to the roof.
Note: It is important when looking from the rear of the vehicle towards the front that the diamond is placed on the nearside with the number positioned to the right of the diamond.

9.8 PARTS

9.8.1 A Full parts listing must be supplied with the first Ambulance.

P Jacques - Fleet Engineer 13.07.2000

PLATFORM CAB ONLY - LONG WHEEL BASE

April 2000

It is essential that all vehicles supplied to WMAS NHS TRUST comply with all CEN/BSI regulations!!!.

1) Headlamp relay, ignition activated , ensuring that headlamps are not illuminated with ignition in the off position.

2) Lower dash mounted pod incorporating circuit breaker interface and switchbank.

3) Battery isolator Solenoid. Wired to disconnect electrical supply to engine and other circuits. With remote control switch accessible to driver.

4) Twin battery layout (2x 105 amp/hour batteries - in line).

5) Grab handle to offside windscreen pillar.

6) Coat hooks behind driver and front passenger.

7) Front fog lights. Integral with bumper and wired to operate only on dipped beam and with ignition on.

8) Audible reverse warning system with manual over-ride.

9) Driver and attendant seat to be fully adjustable for height, forward and backward movement to facilitate any driver and with adjustable headrests.

OTHER OPTIONS (non standard)

10) Cab air conditioning

11) Driver and passenger air bags.

12) Fail - safe starting system.

13) Strengthen front towing eyes.

14) Gliderite lowering suspension

15) 3.9 tonne with ABS

APPENDIX 2

EQUIPMENT FOR PARAMEDIC TRAINING

	List of recommended training aids	Approximate costs
I. Laerdal	IV Arm x 8	£260 x8 = £ 2 080
II.	Airway management trainer x 2	£960 x 2 = £1 920
III.	Advance life support skill trainer x 1 (200 including manikin and Heartsim 2000)	£3250 x 1 (x2 = £6500)
IV.	Silicone resuscitator adult complete x 8	125 x 8 = £1000
V.	V-Vac (suction) trainers kit with video x 2	70 x 8 = 560
VI.	V-Vac (suction) trainers kit with video x 2 V-Vac starter kit x 8 Laerdal Educational support literature, medical charts and video – as desirable training aids; Laerdal Replacement parts and accessories for maintenance programme ; Laerdal Emergency resuscitation kit complete x 8	400 x 8 =£3 200
VII. Sims Pneupac	New $2500 each ex WMAS £500 (lifepac5) x 6	Ex WMAS (lifepac5) x 6 = £3000
VIII.	Laryngoscopes boxed set – Steel * handle + 4 fibre optic blades Amc sizes 1-4 x 8	$400 x 8 = £ 3 200
IX.	ParaPAC ventilator or VentiPAC ventilator x 4 + Sims PneuPAC maintenance and support programme parts and accessories	£2 600 x 4 = 10 400
X.	Cardiac monitors / defibrillators ex WMAS x6	Approx. £500 each

Appendices / SPb / recommendations/

APPENDIX 3

INSTRUCTIONAL METHODS SYLLABUS

PRINCIPLES AND CONDITIONS OF LEARNING

- Miller's six conditions
- Eurich's five principles
- Senses of learning and remembering

MOTIVATION

- Hierarchy of human needs
- X an Y theory
- Motivation - hygiene theory
- Expectancy theory
- Motivational checklist

LEARNING STYLES

- Personal learning style
- Appropriate styles of delivery

IDENTIFICATION OF TRAINING NEEDS

- I.T.N. and task analysis

DESIGN AND PLANNING

- Writing objectives
- Pre-course organisation
- Lesson plan preparation

DELIVERY OF TRAINING

- Application of motivation theories
- Teaching methods
- Presentation skills
- Group behaviour
- Training support equipment

ASSESSMENT AND EVALUATION

- Written assessments
- Oral assessments
- Practical assessments

APPENDIX 4

List of Practical Skills to be included in the Training Programme

1. Canulation
2. Incubation
3. Ventilation
4. External massage of heart
5. ECG, pulse
6. Control of severe bleeding
7. Patient assessment
8. Reanimation
9. Multiple trauma management

APPENDIX 5

WEST MIDLANDS

Ambulance Service

NHS TRUST

EMERGENCY & URGENT SERVICES

West Midlands Ambulance Service

PARAMEDIC MOTORCYCLE

EMERGENCY & URGENT SERVICES

Caring FOR THE COMMUNITY

FS 21330

West Midlands Ambulance Service

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Attachment 1

FEASIBILITY STUDY - PRE HOSPITAL PARAMEDIC CARE SCHEME, PUNE, INDIA

SUBJECT TO CONFIRMATION TO PROCEED

SUGGESTED PROGRAMME

- Procurement of Equipment (Training) - Manufacturers
- WMAS Instructor(s)
  - Instructional Methods
  - Demonstration Techniques
  - Training Programme
- If required - Indian Translator/Interpreter - to work with WMAS Instructor.
- Procurement of Equipment (suitably constructed ambulance vehicle and pre-hospital care paramedic equipment and requirements).
- Room(s) set up with required teaching facilities e.g. overhead projector, Powerpoint, video, flipchart, whiteboard etc.
- Accommodation and catering for WMAS personnel and project team consortium.
- Transport availability as and when required.
- WMAS, in association with project team consortium, to structure and evaluate the programme.

The programme would include:-

- Selection of suitable Indian tutors - based on inter-personal skills, attitude and dedication to the Paramedic Training Programme.
- Initial Basic Instructor Training based on methods used by WMAS instructors.
- Demonstration of skill techniques.
- Maintenance care programme of demonstration/training equipment, together with paramedic equipment carried on ambulances.
- Setting up Pune's own Instructor Training Programme.
- Monitor and evaluate the development of the Pune Paramedic Training Programme.
- Assist in the setting up of a recruitment programme for selecting potential paramedics.

- With the aid of paramedic course material already provided by WMAS, with partners compile a suitable training programme for the Pune project.

- Design suitable follow on (in service) modules for paramedics.

- Examination procedures to be based on those used by WMAS (UK).

- It is recommended that driver training be included in the programme. This will enhance existing skills, giving greater awareness to the needs of the paramedic(s) providing treatment en route and conducive to good patient care in transit.

Suggested Equipment for Paramedic Training

- Electronic Resuscitation Manikins Adult, Child, Infant
- Practice Infusion Arms
- Practice Intubation Heads
- Cardiac Arrhythmic Simulator
- Defibrillators, batteries, leads, charger
- Resuscitation equipment:-
    - Bags and masks
    - Sims Pneupac or Laerdal automatic resuscitators
    - Range of intubation tubes
    - Laryngoscopes
    - Cannulas and infusion sets
    - Cleaning and maintenance items

The above list is not exhaustive and is likely to be added to.

Assumed Budget as a Draft Projection for the Proposed Project

Whilst at the time of writing, budgets have not been fully discussed, the following costs are presented as a guide without taking into account any sponsorship or any other form of financial support. Generally, the lead for fund-raising is to be undertaken by Birmingham and Pune Rotary.

Flights to and from India, together with all travel, accommodation and catering whilst in the country, will be the responsibility of the Rotary. Subsistence, visa costs and other expenditure is the responsibility of the individual project team members. Organisations represented will contribute to the project their representative's/consultant's time.

Equipment for training and an ambulance will be circa £50,000. Many of the items already mentioned are likely to be donated, sponsored or given on permanent loan.

An ambulance suitable for the paramedic role, and dependent on type and construction, could cost circa > £30,000. This is again likely to be bought resulting from donations, sponsorship or given on permanent loan (with suitable PR opportunities - which would be employed for any support offered). Communication systems for ambulance operational purposes have to be decided upon and are difficult to cost out at this stage. Again, this is equipment which could attract sponsorship etc.

Assumptions

- Stephen Evans, Consultant for WMAS, to remain the main lead for continuity and as representative and major partner with Birmingham Rotary for the Pune Paramedic Pre Hospital Care Scheme.

- That the consultant will undertake the role as the project manager to ensure the interests of WMAS throughout the project and follow-up programmes in India.

- It is assumed that miscellaneous budget figures to cover communications, exchange rates, administration etc. are based on approximately 6% to 7.5% - this could include preparation of web based learning material.

NB: It can be assumed that the expenditure to undertake a 2 year pre-hospital care Paramedic programme, as described in my report, would attract an estimated cost in excess of £350,000. This is just for the work undertaken by WMAS.

Attachment 2

Indications and Protocols for Critically Injured or Ill Patient Transfer

Attachment 2

Indications for Transfer

The indications for transfer of critically ill patients are:

1. Need for specialist care or therapeutic procedures, not available in Muscat Private Hospital
2. Need for specialist investigation not available in the Muscat Private Hospital
3. Lack of ICU/NICU beds in Muscat Private Hospital
4. Acute MI, unstable angina and life threatening arrhythmias

Decision to Transfer

Senior Medical staff, usually at Consultant level must make transfer decisions. This should follow assessment of the patient and discussion with Senior Medical Staff, usually a Consultant, at the hospital (and ICU/NICU) to which the patient is to be referred. Senior staff should always be involved whenever there is a referral of semi-elective patients (e.g. those needing renal replacement therapy) or when transfer is necessary because of a lack of beds in Muscat Private Hospital.

Ambulance service

As a temporary solution West Midland Ambulance Service through The Fire Safety Engineering College will provide an ambulance with one paramedic to act as a driver. There will be 24 hour cowering and a dedicated GSM number for requesting the vehicle.
Ambulances call out GSM number: 9474984

Pre-transfer Considerations

Patients must be adequately resuscitated; the aim is to produce a stable patient prior to transportation. Pre-transport resuscitation and preparation should result in minimal need for significant action and the goal is to make the accompanying team "hands free" and limited to observation "only" during transport.

The following must be addressed in pre-transfer assessment and resuscitation:

- The airway must be safe. Concerns about airway or breathing, require intubation and ventilation before transfer
- An oxygen saturation (SpO_2) of >95% breathing an FiO_2 of <95%
- Any artificial airway (e.g. endotracheal tube) must be adequately secured and protected from kinking, biting or tonguing (i.e. pushing out)
- A patient who has sustained head injuries must have a hard collar.
- A comatose patient (e.g. head injured, drug overdosed) who has a GCS of less than 9 must be intubated and mechanically ventilated to a $PaCO_2$ of between 4 and 5kPa or an end expired PCO_2 of less than 5kPa
- A patient who requires ventilatory support or airway control must be sedated, paralysed and mechanically ventilated for the duration of the transfer.
- A patient who requires mechanical ventilation should receive 100% oxygen throughout transfer
- Any patient who requires significant fluid infusion during assessment must be reviewed to exclude life threatening problems e.g. major haemorrhage, which requires treatment before transfer.
- Each patient should have at least two large bore, accessible, well secured venous cannulae in situ

- Haematocrit > 0.3 or Hb > 9.0 g/dl
- If available, a central venous pressure of 8 - 12 mmHg in spontaneously breathing patients or 10-18 mmHg for patients receiving IPPV. Unless there are good reasons no patient should be transferred when venous pressure is <8 mmHg (CVP measured from mid-axillary line)
- A blood pressure > 100 mmHg systolic or sufficient to maintain urine flow (in absence of acute renal failure) and cerebral perfusion
- Arterial access must be visible at all times (below)
- Unused vascular access lines should be "hep-locked"
- The patient should have a stable cardiac rhythm unless the underlaying cause for transfer is a infarctery arrhythmia
- A pulse rate of 60 – 130 /min
- A pre-transfer chest X-ray must confirm correct positioning of endotracheal tube, nasogastric tube, central venous catheter and exclude pneumothoraces
- A pneumothorax must be drained before transfer: chest drains must be of the Heimlich (flutter valve) type and remain unclamped during transfer
- Naso- or oro-gastric tubes should be unclamped
- All abdominal drains should be unclamped
- Urinary catheters should be spigotted unless journey times are very long or the patient has received mannitol or a diuretic
- Traction apparatus should be reviewed and possibly replaced by inflatable splints, and/or re-positioning of the patient or limb in a vacuum mattress ("vac-mat")
- Volume infusions ("drips") should if possible be replaced by small volume infusions delivered by syringe drivers.
- Any infusions administered by syringe driver should be reviewed: bolus doses of medication given just prior to transfer
- A patient who requires multiple inotropes should be reviewed with a view to limiting and/or rationalising the number and variety of inotropes being given.
- All patients require rigid strapping to the transfer trolley
- All transport equipment should be rigidly strapped to the transfer trolley

Monitoring during transfer

If not otherwise decided the minimum monitoring acceptable during transfer is:

- Oxygen saturation by pulse oximetry, preferably with pulse wave display
- Electrocardiography
- NIPB
- Temperature monitoring in small children and neonates
- If IBP are used there must be continuous numerical and graphical display of arterial blood pressure. Intra-arterial lines must be visible throughout their length
- Transport monitors should include automatic data logging
- A detailed manual transport record is kept including Sp02, pulse rate and BP.

Accompanying personnel

- 1. An adequately experienced medical practitioner must accompany any intubated patient or any patient who requires or is likely to require intensive care.
  2. A trained nurse with experience in intensive care, emergency room or neonatal medicine.
- A trained paramedic may replace a nurse, but never replaces the medical practitioner when the patient is likely to require intensive care. Nevertheless, the practical experience of a paramedic is invaluable in transfer.
- Rarely patients may be accompanied by the next of kin (trained paramedic, nurse, medical practitioner)

Equipment & consumables

- The ambulance used at Muscat Private Hospital will be equipped with oxygen source, suction, power supply and mounting facility for transport ventilator and syringe pumps.
- Spare and safety equipment should include a defibrillator, Ambubag or other self inflating bag.
- Whenever transport is considered, the rate of use of consumables, particularly oxygen, must be considered. Available supplies of compressed gas should equal twice that required for the expected journey time (including standing time) plus 1 hour. Gas requirements must include gas flow to the patient, together with that needed to drive any ventilator.
- The team must estimate the likely rate of use of those drugs being continuously infused. Teams must carry a series of prefilled equivalent syringes sufficient to cover twice that needed to during the predicted journey time
- Drugs for resuscitation, sedation, analgesia and specialist drugs in response to previous interrogation of the transferring hospital. They may also carry specialist fluids eg compatibel blood units, mannitol along with colloids and crystalloid solutions.
- Teams may carry specialist or additional airway control equipment (endotracheal tubes, bougie, stylet, laryngoscopes and batteries), intravenous access equipment (cannulae, syringes, needles, tape, gloves) related to the specifics of the individual transfer
- The team must carry important telephone numbers, and directions for reaching the retrieval or referring hospital, together with means of communication with the referral and base hospital.

Other requirements

- Referral letter
- Medical and nursing notes, X-rays, recent investigations
- Unusual medications, particularly if they may not be omitted, or the hospital pharmacy is likely to be closed eg night, weekend or holiday
- Parenteral nutrition, if unopened and which cannot be returned to pharmacy in the referral hospital
- Blood (if an unusual group), fresh frozen plasma, cryoprecipitate or platelets, if thawed and cannot be returned to referring transfusion service
- Teams must communicate with the receiving hospital, to give time of departure and some indication of time of arrival. They should also state the need for additional standby staff, specialist equipment, medication etc.

Attachment 3

Competence Based Operational Training/Assessment Record for Paramedics

WEST MIDLANDS AMBULANCE SERVICE NHS TRUST

TRAINING UNIT

COMPETENCE BASED OPERATIONAL TRAINING/ASSESSMENT RECORD FOR PARAMEDICS

EVALUATION

The method of evaluation that will be used during your In-Service Training is based on one developed by KN Bundy RN, PhD. and does not just state whether a student is competent or not yet competent but uses a set of criteria that defines their ability to work without guidance. Because the system uses plain English descriptions rather than normative labels such as numbers or letters or qualitative labels such as excellent, very good etc. it should produce a more consistently accurate representation of your performance.

System Description

The system works by measuring the students performance against competencies as laid down by the I.H.C.D. in the new competence based training framework. This will be to the requirements of the criterion-referenced definition levels.

Three major areas will be considered during the evaluation they are, Safety/Accuracy, Quality of Performance and Assistance Required. The student is then graded against five scale labels or levels (Figure 1) which give an indication of how these three areas were performed. To be judged as competent the student must be Independent or Supervised. At least 70% of the units must be performed Independently for an overall competence to be granted.

Figure 1: Criteria for Clinical Evaluation

Scale Label	*Safety/Accuracy*	*Quality of Performance*	*Assistance Required*
Independent	Safe and Accurate each time	Proficient, co-ordinated and confident within a minimal time period	Without supporting cues
Supervised	Safe and Accurate each time	Efficient, co-ordinated and confident within a reasonable time period	Occasional supportive cues
Assisted	Safe and Accurate each time	Skilful in parts of behaviour but inefficient and uncoordinated within a delayed time period	Frequent verbal and occasional physical directive cues
Marginal	Safe but not alone Not always accurate	Unskilled and inefficient over a prolonged time period.	Continuous verbal frequent physical cues
Dependent	Unsafe Unable to demonstrate accurate behaviour	Unable to demonstrate the procedure/behaviour. Lacks confidence, co-ordination and efficiency	Continuous verbal and physical cues

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Some Elements of competence, by their nature, will be hard to achieve such as those involving major incidents for example. To allow for this there is an Unobserved scale label which sits outside the main five.

Unobserved	Not observed (Marked in the comments sections of the Assessment Report as Supervised)	Must be able to state or demonstrate the procedure in an efficient, co-ordinated and confident manner within a reasonable time period.	Occasional supportive cues.

If the student can accurately state or demonstrate the procedure in an efficient, co-ordinated and confident manner within a reasonable time period then they will be considered competent. This will however form part of the 30% of Supervised levels allowed.

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WEST MIDLANDS AMBULANCE SERVICE NHS TRUST

IN-SERVICE TRAINING DEPARTMENT

OPERATIONAL TRAINING, COMPETENCE DEVELOPMENT RECORD FOR PARAMEDICS

Unit Titles		*Element Titles*		*Assessment Progress (Assessor signature and date)*
A3	Prepare paramedic equipment for use	A3a	Check and replace paramedic equipment and consumables	
		A3b	Ensure vehicle and paramedic equipment are in a clean and hygienic condition	
B6	Direct actions of others in paramedic (invasive) situations	B6a	Establish clinical requirements of the situation	
		B6b	Advise and inform helpers of emergency and paramedic (invasive) assistance required	
		B6c	Monitor, review and direct the actions of helpers in paramedic (invasive) situations	
B7	Review clinical management of emergency situations	B7a	Prepare and present information for clinical review	
		B7b	Review and evaluate clinical information	
		B7c	Establish and implement required actions from clinical review	
B9	Provide support and paramedic skills coaching to probationary staff (in the workplace)	B9a	Demonstrate paramedic (invasive) skills to probationers in the workplace	
		B9b	Support and coach probationers during workplace attachments	

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C12	Perform endotracheal - in emergency situations			
		C12a	Determine the need for intubation	
		C12b	Prepare and perform endotracheal intubation on a patient	
		C12c	Monitor, record and respond to clinical signs while intubating	
C13	Perform intravenous cannulation and IV infusion in emergency situations			
		C13a	Identify the need and prepare a suitable site for cannulation	
		C13b	Select, insert and secure an intravenous cannula to a patient	
		C13c	Carry out IV infusion of a patient	
		C13d	Monitor, record and respond to the rate of infusion and patient condition	
C14	Prescribe and adminster selected drugs in paramedic situations			
		C14a	Establish the need for drug therapy	
		C14b	Prepare drugs and site for administration	
		C14c	Administer drugs within agreed protocols	
		C14d	Monitor and respond to the effects of drugs administered	
		C14e	Record physiological reactions and drugs used	
C15	Perform cardiac monitoring and manual defibrillation			
		C15a	Monitor cardiac rhythm/arrhythmia to determine the need for treatment regimes/therapy	
		C15b	Perform manual defibrillation within agreed protocols	
		C15c	Evaluate and respond to changes in the patient's cardiac rhythm/arrhythmia and respiratory function	
		C15d	Monitor and record manual defibrillation provided	

UNIT TITLE: A3 PREPARE PARAMEDIC EQUIPMENT FOR USE

ELEMENT TITLE: A3a CHECK AND REPLACE PARAMEDIC EQUIPMENT AND CONSUMABLES

PERFORMANCE CRITERIA:-

1. Vehicle equipment and consumables are present as per inventory/checklist.
2. All equipment is tested for serviceability and faults reported.
3. All consumables are within date if appropriate.
4. All equipment is stowed securely.
5. Equipment is routinely maintained as per manufacturer's recommendations.
6. Deficiencies are rectified and/or reported.
7. Drugs are stored securely and correctly.
8. Required procedures are carried out for checking and replenishing drugs.
9. Documentation regarding checking and replenishing drugs is accurately and legibly completed.
10. Correct procedure is carried out for disposal of out-of-date and part-used drugs.

RANGE STATEMENT:-

Patient Transfer Equipment
: orthopaedic stretcher
: cot-stretchers
: portable rescue stretchers
: carry chairs
: spinal boards
: carry sheets

Replenishment Procedures
: equipment exchanges at hospital
: stores

Drugs
: Legal requirements
: Health and Safety
: COSHH

Equipment
: as per inventory/checklist

Consumables
: infusion giving sets
: endotracheal tubes
: linen/blankets
: body fluid receptacles
: first aid equipment
: suction catheters
: oropharyngeal airways
: cannula

Drugs Types
: dilators
- venous
- arterial
: muscle relaxants
: cardiac stimulators
: nerve blocking
: analgesic
: pH restorer
: fluid replacement
: others as per protocol

PERFORMANCE EVIDENCE:
Performance required for the checking and replacing of paramedic equipment and consumables.
: for all items listed in the range
- Consumables
- Drugs (as required to carry)
- Patient Transfer Equipment
- Equipment (as per inventory/checklist)

ABILITY TO PERFORM COMPETENTLY THROUGHOUT THE RANGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

UNDERPINNING KNOWLEDGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

TRAINING PERIOD	INCIDENT DETAILS (FROM RANGE)	NOT YET COMPETENT			COMPETENT		
		DEP	MAR	AST	SUP	IND	DATE & INITIALS
FIRST							
SECOND							
THIRD							
FOURTH							

COMPETENCE AWARDED BY (PRINT) _____ **SIGNATURE** _____

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UNIT TITLE: A3 PREPARE PARAMEDIC EQUIPMENT FOR USE

ELEMENT TITLE: A3b [redacted]

INCORRECT

PERFORMANCE CRITERIA:-

1. Surfaces are visibly free from dirt, dust and debris.
2. Vehicle and equipment are cleaned regularly and when appropriate.
3. Vehicle and equipment are disinfected/decontaminated as necessary.
4. Used consumables/equipment are disposed of in accordance with required procedures.
5. Disposal procedure for soiled linen followed.
6. Protective clothing is worn appropriate to cleaning/decontaminating of a vehicle/equipment.

SHOULD READ

ENSURE VEHICLE & PARAMEDIC EQUIPMENT ARE IN A CLEAN AND HYGIENIC CONDITION

RANGE STATEMENT:-

Patient Transfer Equipment
: orthopaedic stretcher
: cot stretchers
: portable rescue stretchers
: carry chairs
: spinal boards
: carry sheets

Vehicle Cleaning
: exterior
: interior

Equipment
: as per inventory/checklist

Types of Infection
: body fluids
: blood
: infection
: infectious disease

Consumables
: infusion giving sets
: linen/blankets
: body fluid receptacles
: first aid equipment
: cannula

Disposal Procedure
: sharps procedure
: contaminated consumables
: contaminated equipment
: laundry
: clothing

Cleaning Agents
: detergents
: disinfectants
: decontaminants

: gloves
: disposable suits
: masks/visors
: footwear

PERFORMANCE EVIDENCE:
Performance required for the cleaning/decontamination of a vehicle
: for all Patient Transfer Equipment and Equipment listed in the range
: for all Types of Infection - body fluids
- blood
- infectious disease

with supporting evidence required for those not listed

ABILITY TO PERFORM COMPETENTLY THROUGHOUT THE RANGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

UNDERPINNING KNOWLEDGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

TRAINING PERIOD	INCIDENT DETAILS (FROM RANGE)	NOT YET COMPETENT			COMPETENT		
		DEP	MAR	AST	SUP	IND	DATE & INITIALS
FIRST							
SECOND							
THIRD							
FOURTH							

COMPETENCE AWARDED BY (PRINT) _____ **SIGNATURE** _____

UNIT TITLE: B6 DIRECT THE ACTIONS OF OTHERS IN PARAMEDIC (INVASIVE) SITUATIONS

ELEMENT TITLE: B6a ESTABLISH CLINICAL REQUIREMENTS OF THE SITUATION

PERFORMANCE CRITERIA:-

1. Existing clinical expertise is identified within the emergency team and additional skills required sought without undue delay, where this is possible.
2. Specialist equipment/personnel required are identified and arrangements made for their provision at the scene.
3. Additional specialist equipment required is summoned without undue delay.
4. Immediate patient clinical requirements are established and prioritised via a primary survey.
5. Agreed procedures for the protection of staff/others are adhered to.

RANGE STATEMENT:-

Situations

: fire, explosives, gas, smoke
: road traffic accidents (RTAs)
- motorway/non motorway
- single, multiple entrapment
: chemical spill, electric
: airport/railway incidents
: radioactive
: caves/potholes, cliff rescue
: debris ie building site
: machinery/industrial

Warning Devices

: visual/audible warning lights
: headlights
: hazard warning flashers

Care Requirement

: emergency surgical teams
: obstetrics teams

Specialist Equipment

: immobilisation
- spinal splints, neck collars
: oxygen therapy, extraction
: airway management
- suction, intubation
- oropharangeal airway
: cannulation
: cardiac monitor & defibrillator
: drug cabinet & infusion sets

Protection for Staff/Others

: gloves, apron, face masks
: protective headwear & suits
: breathing apparatus
: reflective clothing
: disposable suits
: fending off position of vehicle

Rescue Equipment

: lifting & cutting equipment
: jacks, air mats
: gas detection equipment
: breathing apparatus
: rescue stretchers
: lighting, ropes, ladders
: Thermal image intensifiers

Specialist Personnel

: Paramedics, Crash teams
: Emergency Obstetric Flying Squads, BASICS (Doctors)
: Fire Brigade, Police
: Coastguard, RNLI, Military
: Host service in chemical incidents
: Electric/Gas Service
: Cliff/Cave/Pothole Rescue
: NEAR,CHEMSAFE

PERFORMANCE EVIDENCE:

Performance required for establishing the clinical requirements of the Situations listed in the range for:

: road traffic accidents: to include - motorway/non -motorway
- entrapment

and at least 2 other listed, with supporting evidence for those not demonstrated.

ABILITY TO PERFORM COMPETENTLY THROUGHOUT THE RANGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

UNDERPINNING KNOWLEDGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

TRAINING PERIOD	INCIDENT DETAILS (FROM RANGE)	NOT YET COMPETENT			COMPETENT		
		DEP	MAR	AST	SUP	IND	DATE & INITIALS
FIRST							
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UNIT TITLE: B6 DIRECT THE ACTIONS OF OTHERS IN PARAMEDIC (INVASIVE) SITUATIONS

ELEMENT TITLE: B6b ADVISE AND INFORM HELPERS OF EMERGENCY AND PARAMEDIC (INVASIVE) ASSISTANCE REQUIRED

PERFORMANCE CRITERIA:-

1. Requests for equipment required are given in a clear, informative manner, and clarified with the helper when required.
2. Where assistance is required in the positioning/repositioning of the patient, instructions to the helper are given in a clear, calm and informative manner.
3. Clarification/confirmation on the required or actual movement of the patient is given throughout the process.
4. Instructions on the nature of the assistance are given in a clear, calm and informative manner.
5. Reassurance and clarification to the helper is provided throughout the provision of care in the situation.
6. Defibrillation protocol is adhered to regarding safety of others where shock is given.
7. Unnecessary bystanders/personnel are withdrawn from the incident where possible.

RANGE STATEMENT:-

Assistance Requirements

: patient positioning/repositioning
: lifting
: immobilising patients
: airway management
: intubation
: arrest of haemorrhaging
: defibrillation
: cannulation
: fluid administration

Nature of Assistance

: skills
: equipment

Helpers

: bystanders
: qualified first aiders
: ambulance personnel
: paramedics
: emergency services

PERFORMANCE EVIDENCE:
Performance required for advising and informing helpers of emergency and paramedic assistance required
: for any three Assistance Requirements listed in the range with supporing evidence for those not demonstrated
: for both Nature of Assistance listed in the range
: for any two Helpers listed in the range with supporting evidence for those not demonstrated

ABILITY TO PERFORM COMPETENTLY THROUGHOUT THE RANGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

UNDERPINNING KNOWLEDGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

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UNIT TITLE: B6 DIRECT THE ACTIONS OF OTHERS IN PARAMEDIC (INVASIVE) SITUATIONS

ELEMENT TITLE: B6c MONITOR, REVIEW AND DIRECT THE ACTIONS OF HELPERS IN PARAMEDIC (INVASIVE) SITUATIONS

PERFORMANCE CRITERIA:-

1. The condition of the patient is continually monitored and additional/alternative actions of the helper are communicated without delay.
2. The nature of the assistance being provided is continually monitored and adjustments required communicated in a clear, calm and informative manner.
3. Additional assistance or equipment required is identified and requested without undue delay.
4. Queries and clarifications on the nature of the help and patient condition from the helper are dealt with in a calm, reassuring and informative manner.

RANGE STATEMENT:-

Assistance Requirements

: patient positioning/repositioning
: lifting
: immobilising patients
: airway management
: reassurance
: arrest of haemorrhaging
: holding patient care equipment

Nature of Assistance

: skills
: equipment

Helpers

: bystanders
: qualified first aiders
: ambulance personnel
: paramedics
: emergency services

PERFORMANCE EVIDENCE:
Performance required for monitoring, reviewing and directing the actions of helpers in paramedic (invasive) situations
: for any three Assistance Requirements listed in the range with supporing evidence for those not demonstrated
: for both Nature of Assistance listed in the range
: for any two Helpers listed in the range with supporting evidence for those not demonstrated

ABILITY TO PERFORM COMPETENTLY THROUGHOUT THE RANGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

UNDERPINNING KNOWLEDGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

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UNIT TITLE: B7 REVIEW CLINICAL MANAGEMENT OF EMERGENCY SITUATIONS

ELEMENT TITLE: B7a PREPARE AND PRESENT INFORMATION FOR CLINICAL REVIEW

PERFORMANCE CRITERIA:-

1. Relevant and sufficient information from a range of sources relating to the review is collected.
2. Opportunities are taken to establish and prepare information.
3. Where information is unclear or difficult to understand, clarification is obtained.
4. Information is organised and presented for review, in a suitable form, to those involved.
5. Sufficient quantity and quality of information is presented for clinical review.

RANGE STATEMENT:-

Patient Information

: history of incident
: patient details
: patient condition
- on arrival
- during treatment
- at handover
: primary and secondary surveys
: diagnosing
: treatment given and effects
: medical history

Information

: written
: verbal

Sources of Infomation and Clarification

: patient record forms
: receiving centre
: colleagues/supervisors
: other emergency services
: General Practitioners
: bystanders/witnesses

PERFORMANCE EVIDENCE:
Performance required for preparing and presenting information for clincial review
: for information both verbal and written
: for all Patient Information listed in the range

ABILITY TO PERFORM COMPETENTLY THROUGHOUT THE RANGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

UNDERPINNING KNOWLEDGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

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UNIT TITLE: B7 REVIEW CLINICAL MANAGEMENT OF EMERGENCY SITUATIONS

ELEMENT TITLE: B7b REVIEW AND EVALUATE CLINICAL INFORMATION

PERFORMANCE CRITERIA:-

1. Information and summaries are presented clearly, concisely, and at a pace which promotes understanding.
2. Contributions from and viewpoints of others are sought and discussed constructively.
3. Evaluation of the clinical management is made against known factors and common agreement amongst the team.
4. Shortfalls in provision of resources or training are identified and discussed.
5. Lessons learned from practical experience are made known to the group.

RANGE STATEMENT:-

Known factors

: clinical information presented
: medical case studies
: agreed medical protocols

Situations for Review

: formal
: informal

PERFORMANCE EVIDENCE:
Performance required for reviewing and evaluating clinical information
: for both situations listed in the range.

ABILITY TO PERFORM COMPETENTLY THROUGHOUT THE RANGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

UNDERPINNING KNOWLEDGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

TRAINING PERIOD	INCIDENT DETAILS (FROM RANGE)	NOT YET COMPETENT			COMPETENT		
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UNIT TITLE: B7 REVIEW CLINICAL MANAGEMENT OF EMERGENCY SITUATIONS

ELEMENT TITLE: B7c ESTABLISH AND IMPLEMENT REQUIRED ACTIONS FROM CLINICAL REVIEW

PERFORMANCE CRITERIA:-

1. The need for further or additional training is established with the appropriate personnel.
2. Recommendations are made to review/update medical or local protocols as appropriate.
3. Recommendations are implemented where they relate to personal actions.

RANGE STATEMENT:-

Appropriate Personnel

: managers
: trainers
- work-based
- centre-based
- specialist

PERFORMANCE EVIDENCE:
Performance required for establishing and implementing required actions from clinical reviews
: for any of the appropriate personnel listed in the range

ABILITY TO PERFORM COMPETENTLY THROUGHOUT THE RANGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

UNDERPINNING KNOWLEDGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

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UNIT TITLE: B9 PROVIDE SUPPORT AND PARAMEDIC SKILLS COACHING TO PROBATIONARY STAFF (IN THE WORK PLACE)

ELEMENT TITLE: B9a DEMONSTRATE PARAMEDIC (INVASIVE) SKILLS TO PROBATIONERS IN THE WORKPLACE

PERFORMANCE CRITERIA:-

1. Equipment required for demonstration operates correctly and is maintained in good condition.
2. The existing levels of knowledge, skills and ability of probationers/trainees are taken into account and applied in the method and content demonstrations.
3. Protocols associated with the skills being demonstrated are explained and highlighted at the appropriate occasions.
4. The correct functioning and performance of equipment is explained clearly.
5. Demonstrations are adapted where necessary to meet the needs of probationers.
6. Communication with the probationer/trainee is concise, clear and at a level and pace which promotes understanding.
7. Clarification with the probationer/trainee is sought at regular intervals and during crucial aspects of performance.
8. Opportunities for the probationer/trainee to demonstrate skills are promoted and optimised during training periods.

RANGE STATEMENT:-

Paramedic Skills

: intubation
: advanced airway management
: cannulation and infusion
: drug therapy

PERFORMANCE EVIDENCE:
Performance required for demonstrating all Paramedic (invasive) skills listed in the range

ABILITY TO PERFORM COMPETENTLY THROUGHOUT THE RANGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

UNDERPINNING KNOWLEDGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

TRAINING PERIOD	INCIDENT DETAILS (FROM RANGE)	NOT YET COMPETENT			COMPETENT		
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UNIT TITLE: B9 PROVIDE SUPPORT AND PARAMEDIC SKILLS COACHING TO PROBATIONARY STAFF (IN THE WORK PLACE)

ELEMENT TITLE: B9b SUPPORT AND COACH PROBATIONERS DURING WORKPLACE ATTACHMENTS

PERFORMANCE CRITERIA:-

1. Regular time is made available with probationers/trainees to discuss progress and needs, and feedback is noted and acted upon.
2. Probationers/trainees are encouraged to be pro-active in their learning during workplace attachments.
3. Advice given to probationers/trainees is consistent with medical and legal protocols.
4. On the job experiences and opportunities for consolidating skills are utilised as appropriate and supported without compromising patient conditions.
5. Relevant sources of information are used to provide a basis for review.
6. Information is provided about current standards of performance that apply to the probationers' trainee's attachment.
7. Probationers/trainees are encouraged to express personal views on their achievements and maintenance of standards.
8. Feedback given to the probationers/trainees is factual, accurate and free from personal bias and discrimination.
9. Confidentiality with probationers/trainees is maintained at all times.

RANGE STATEMENT:-

Feedback

: verbal
- formal
- informal

Sources of Information

: colleagues
: patient report forms
: treatment receiving centres
: observation

Discrimination

: racial
: sexual orientation
: age

PERFORMANCE EVIDENCE:
Peformance required for supporting and coaching probationers during workplace attachment for both types of Feedback listed in the range.

ABILITY TO PERFORM COMPETENTLY THROUGHOUT THE RANGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

UNDERPINNING KNOWLEDGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

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UNIT TITLE: C12 PERFORM ENDOTRACHEAL INTUBATION IN EMERGENCY SITUATIONS

ELEMENT TITLE: C12a DETERMINE THE NEED FOR INTUBATION

PERFORMANCE CRITERIA:-

1. The patient's respiratory function and overall condition are assessed.
2. Alternatives to intubation have been considered and discounted.
3. Contra-indications to intubation have been considered and discounted.

RANGE STATEMENT:-

Patient Conditions

: unconscious with overriding risk to airway
: respiratory arrest
- drug overdose
- near drowning
- cardiac arrest
- head injury
- maxillo-facial injury

Patient Groups

: adult
: child
: elderly

PERFORMANCE EVIDENCE:

Performance required for determining the need for intubation
: for any patient groups
: for patient conditions - unconscious with overiding risk to airway
Plus a minimum of 2 listed in the range for respiratory arrest performed on any patient group with supporting evidence required for those not demonstrated

ABILITY TO PERFORM COMPETENTLY THROUGHOUT THE RANGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

UNDERPINNING KNOWLEDGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

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UNIT TITLE: C12 PERFORM ENDOTRACHEAL INTUBATION IN EMERGENCY SITUATIONS

ELEMENT TITLE: C12b PREPARE AND PERFORM ENDOTRACHEAL INTUBATION ON A PATIENT

PERFORMANCE CRITERIA:-

1. The patient is oxygenated before intubation is attempted.
2. The patient's head is positioned to facilitate intubation.
3. The appropriate size and type of intubation equipment is selected, assembled and positoned ready for use.
4. The patient's airway is located via landmarks and cleared of obstructions prior to intubation.
5. The endotracheal tube is correctly inserted, sited and appropriately secured, with minimum trauma to the patient.
6. Effective ventilation to lungs is ensured by auscultation
7. Where tube insertion takes more than 15 seconds, the patient is re-oxygenated and the procedure for intubation started again.

RANGE STATEMENT:-

Equipment

: cuffed tubes
: uncuffed tubes
: laryngoscope blades
- straight
- curved

Obstructions

: solids
: liquids

Patient Groups

: adult
: child

PERFORMANCE EVIDENCE:
Performance required for preparing and performing endotracheal intubation on a patient
: for either patient group listed in the range
: for equipment as relevant to the patient group with supporting evidence required for those not demonstrated
: for both obstructions

ABILITY TO PERFORM COMPETENTLY THROUGHOUT THE RANGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

UNDERPINNING KNOWLEDGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

TRAINING PERIOD	INCIDENT DETAILS (FROM RANGE)	NOT YET COMPETENT			COMPETENT		
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UNIT TITLE: C12 PERFORM ENDOTRACHEAL INTUBATION IN EMERGENCY SITUATIONS

ELEMENT TITLE: C12c MONITOR, RECORD AND RESPOND TO CLINICAL SIGNS WHILE INTUBATING

PERFORMANCE CRITERIA:-

1. The patient's condition is checked and recorded at specified intervals using ambulance care equipment.
2. The patient's condition is monitored throughout the procedure and appropriate action taken in the event of contra-indications.
3. The functioning of the equipment is monitored and adjusted/replaced as required.
4. Protocol for extubation is adhered to, if required.

RANGE STATEMENT:-

Monitoring Equipment

: stethoscope
: sphygmomanometer
: pulse oximeter
: cardiac monitor
: non-invasive blood pressure monitor
: pen torch
: peak flow meter
: glucometer

PERFORMANCE EVIDENCE:

Performance required for monitoring, recording and responding to clinical signs while intubating
: for monitoring equipment appropriate to the patient group
- cardiac monitor - pen torch
- stethescope - sphygmomanometer
- pulse oximeter

with supporting evidence for those not demonstrated

ABILITY TO PERFORM COMPETENTLY THROUGHOUT THE RANGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

UNDERPINNING KNOWLEDGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

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UNIT TITLE: C13 PERFORM INTRAVENOUS CANNULATION AND IV INFUSION IN EMERGENCY SITUATIONS

ELEMENT TITLE: C13a INDENTIFY THE NEED AND PREPARE A SUITABLE SITE FOR CANNULATION

PERFORMANCE CRITERIA:-

1. Patient's conditon is assessed to determine the need for cannulation.
2. Appropriate site for cannulation is selected, taking account of patient age, size and condition
3. Patient is placed in the optimum position for cannulation, taking account of patient's condition.
4. Site is cleared and cleaned ready for aseptic insertion of the intravenous cannula.

RANGE STATEMENT:-

Patient group

: adult
: child

Needs for Cannulation

: need for drugs identified
: need for fluid administration
: need for IV access

PERFORMANCE EVIDENCE:
Performance required for identifying the need and preparing a suitable site for cannulation
: for either patients groups listed in the renge

with supporting evidence for the one not demonstrated

ABILITY TO PERFORM COMPETENTLY THROUGHOUT THE RANGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

UNDERPINNING KNOWLEDGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

TRAINING PERIOD	INCIDENT DETAILS (FROM RANGE)	NOT YET COMPETENT			COMPETENT		
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UNIT TITLE: C13 PERFORM INTRAVENOUS CANNULATION AND IV INFUSION IN EMERGENCY SITUATIONS

ELEMENT TITLE: C13b SELECT, INSERT AND SECURE AN INTRAVENOUS CANNULA TO A PATIENT

PERFORMANCE CRITERIA:-

1. Appropriate sized cannula is selected.
2. Chosen vein is engorged with blood by the restriction of venous return.
3. Cannula is inserted into the selected vein with minimum of trauma to patient
4. Venous blood is seen in the cannula prior to 'advancement' & withdrawal of needle.
5. The cannula is advanced to its securing position with the needle in a slightly withdrawal position (approx 5 mm)
6. The cannula is held firmly in position whilst the restriction of the venous return is released.
7. Specimens of venous blood are drawn off and labelled for analysis.
8. Where infusion is required, the giving set is attached and secured.
9. Where cannulation is precautionary, or for drug administration, the cannula is capped, secured and flushed.
10. Where cannulation is carried out over a joint, relevant immobilisation is carried out.
11. The procedures for the safety of sharps are adhered to at all times during cannulation.

RANGE STATEMENT:-

Patient group

: adult
: child

Patient Condition

: conscious
: unconscious

PERFORMANCE EVIDENCE:
Performance required for selecting, inserting and securing an intravenous cannula to a patient
: for either patients groups listed in the range
with supporting evidence for the one not demonstrated
: for both patient conditions listed in the range.

ABILITY TO PERFORM COMPETENTLY THROUGHOUT THE RANGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

UNDERPINNING KNOWLEDGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

TRAINING PERIOD	INCIDENT DETAILS (FROM RANGE)	NOT YET COMPETENT			COMPETENT		
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UNIT TITLE: C13 PERFORM INTRAVENOUS CANNULATION AND IV INFUSION IN EMERGENCY SITUATIONS

ELEMENT TITLE: C13c CARRY OUT IV INFUSION OF A PATIENT

PERFORMANCE CRITERIA:-

1. Appropriate fluid selected is serviceable, within expiry date and the integrity of the packaging is intact.
2. Giving-set is attached to fluid and primed prior to infusion.
3. Giving-set is connected to the cannula at the appropriate time.
4. Fluid drip-rate is appropriate to the patient and their condition.
5. Introduction of infection via the cannula is minimised throughout the procedure
6. Amount and type of fluid administered is recorded.

RANGE STATEMENT:-

Patient group

: adult
: child

Patient Condition

: loss/anticipated fluid loss
: shock
- neurogenic
- anaphylactic
- hypovolaemic

PERFORMANCE EVIDENCE:

Performance required for carrying out intravenous infusion of a patient
: for either patient groups listed in the range
with supporting evidence for the one not demonstrated
: for any of the patient conditions listed in the range.

ABILITY TO PERFORM COMPETENTLY THROUGHOUT THE RANGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

UNDERPINNING KNOWLEDGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

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UNIT TITLE: C13 PERFORM INTRAVENOUS CANNULATION AND IV INFUSION IN EMERGENCY SITUATIONS

ELEMENT TITLE: C13d MONITOR, RECORD AND RESPOND TO THE RATE OF INFUSIN AND PATIENT CONDITION

PERFORMANCE CRITERIA:-

1. Drip rate is monitored and adjusted appropriately to the patient's needs.
2. Cannulation site is monitored to identify signs of complications.
3. Fluid pathway is secure and functioning.
4. Position of patient and fluid reservoir allows for optimum fluid flow.
5. Fluid reservoir is replaced as appropriate.
6. Patient condition is monitored and complications responded to.
7. Amount of fluid infused is recorded and any corresponding changes to the condition of the patient.

RANGE STATEMENT:-

Patient Condition

: loss/anticipated fluid loss
: shock
- neurogenic
- anaphylactic
- hypovolaemic

Fluid Rate

: fast
: slow
: stopped

Complications

: infusion failing to run
: fluid overload
: swelling at cannulation site
: air embolism

PERFORMANCE EVIDENCE:
Performance required for monitoring, recording and responding to the rate of infusion and patient condition
: for any of the patient conditions listed in the range
with supporting evidence required for those not demonstrated

ABILITY TO PERFORM COMPETENTLY THROUGHOUT THE RANGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

UNDERPINNING KNOWLEDGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

TRAINING PERIOD	INCIDENT DETAILS (FROM RANGE)	NOT YET COMPETENT			COMPETENT		
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UNIT TITLE: C14 PRESCRIBE AND ADMINISTER SELECTED DRUGS IN PARAMEDIC SITUATIONS

ELEMENT TITLE: C14a ESTABLISH THE NEED FOR DRUG THERAPY

PERFORMANCE CRITERIA:-

1. Previous drug therapy administered is identified and taken into account when establishing needs.
2. Patient contra-indications are taken into account when establishing needs.
3. Patient condition is assessed in accordance with agreed protocols and includes primary and secondary surveys.
4. The required drug therapy is identified and is consistent with patient condition, age and size.
5. The most appropriate administration route is identified taking account of patient condition, age size and drug therapy required.

RANGE STATEMENT:-

Patient Condition

: conscious
: unconscious
: traumatised

Patient Groups

: adult
: child
: infant
: pregnant women

Drug Therapy/needs

: dilators
- bronchial
- venous
- arterial

: muscle relaxants
: cardiac stimulators
: nerve blocking
: analgesia
: pH restorer
: fluid replacement

Administration routes

: buccal (oral)
: rectal
: subcutaneous (SC)
: intramuscular (IM)
: intravenous (IV)
: pulmonary
- endotracheal (ET)
- nebulisation

PERFORMANCE EVIDENCE: Performance required for established the need for drug therapy
: for patient groups - adult - child - infant
with supporting evidence for those not demonstrated
: for drug therapy/needs - cardiac drugs - drugs respiratory distress (bronchial)
- fluid replacement - muscle relaxant
with supporting evidence required for those not demonstrated
: for all patient conditions listed in the range

ABILITY TO PERFORM COMPETENTLY THROUGHOUT THE RANGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

UNDERPINNING KNOWLEDGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

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UNIT TITLE: C14 PRESCRIBE AND ADMINISTER SELECTED DRUGS IN PARAMEDIC SITUATIONS

ELEMENT TITLE: C14b PREPARE DRUGS AND SITE FOR ADMINISTRATION

PERFORMANCE CRITERIA:-

1. The security and integrity of drugs and diluents is maintained at all times.
2. The correct drug of required concentration and dose (volume) is selected and prepared for administration.
3. Drugs and diluents selected are within their expiry date, free from clouding or precipitation and, where appropriate, the integrity of their packaging is intact.
4. The equipment required for administration is selected and prepared aseptically for use.
5. The patient is reassured, as far as possible, and intended actions explained.
6. The patient is positioned and the intended site selected, exposed and prepared aseptically for drug therapy.
7. Drug is checked when drawn up.
8. The procedures for the safety of sharps are adhered to all times during drug administration.

RANGE STATEMENT:-

Patient Groups

: adult
: child
: infant
: pregnant women

Drug Types

: dilators
- bronchial
- venous
- arterial
: muscle relaxants
: cardiac stimulators
: nerve blocking
: analgesia
: pH restorer
: fluid replacement

Administration routes

: buccal (oral)
- sublingual
: rectal
: subcutaneous (SC)
: intramuscular (IM)
: intravenous (IV)
: pulmonary
- endotracheal (ET)
- nebulisation

Drug Preparation and Presentation

: pre-loaded syringes
: ampoules
: vials (for reconstituting)
- single dose
- multi dose
: others
- rectal adminstration tubes
- nebulisers

PERFORMANCE EVIDENCE: Performance required for preparing drugs for adminstration
: for patient groups - adult - child with supporting evidence for those not demonstrated
: for administratin routes - intravenous (IV) - Pulmonary (nebulisation
for any patient group with supporting evidence for those not demonstrated
: for drug preparation and presentation - pre-loaded syringes - ampules - nebulisers
for any patients groups with supporting evidence for those not demonstrated
: for drug tupes - cardiac drugs - drugs for respiratory distress - fluid replacement
for any patient groups with supporting evidence required for those not demonstrated

ABILITY TO PERFORM COMPETENTLY THROUGHOUT THE RANGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

UNDERPINNING KNOWLEDGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

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UNIT TITLE: C14 PRESCRIBE AND ADMINISTER SELECTED DRUGS IN PARAMEDIC SITUATIONS

ELEMENT TITLE: C14c ADMINISTER DRUGS WITHIN AGREED PROTOCOLS

PERFORMANCE CRITERIA:-

1. The patient is reassured, as far as possible, and intended actions explained.
2. Where appropriate the co-operation of the patient is sought to facilitate administration.
3. Where the syringes are used, all air is expelled prior to administration.
4. The skin is 'folded' during needle insertion where the subcutaneous route is selected.
5. Where blood is seen in the syringe, an alternative site and, where appropriate, an alternative method is selected (IM injections)
6. The correct drug of the required dilation and dose (volume) is administered without discomfort and additional trauma to the patient.
7. Where the drugs are administered orally/sublingually, the patient is instructed not to inhale the spray.
8. Infusion of patients is suspended whilst drugs are administered.
9. Oxygenation of the patient is maintained as required.

RANGE STATEMENT:-

Patient Condition

: conscious
: unconscious
: traumatised

Patient Groups

: adult
: child
: infant
: pregnant women

Drug Types

: dilators
- bronchial
- venous
- arterial

: cardiac stimulators
: nerve blocking
: analgesia
: pH restorer
: fluid replacement

Administration routes

: buccal (oral)
- sublingual
: rectal
: subcutaneous (SC)
: intramuscular (IM)
: intravenous (IV)
: pulmonary
- endotracheal (ET)
- nebulisation

PERFORMANCE EVIDENCE: Performance required for the administration of drugs within agreed protocols : for patient groups - adult - child
with supporting evidence for those not demonstrated
: for drug types for any patient groups - cardiac drugs - drugs respiratory distress (bronchial) - fluid replacement
with supporting evidence required for those not demonstrated
: for administration routes for any patient group - intravenous (iV) - rectal - Pulmonary (nebulisation)
with supporting evidence required for those not demonstrated

ABILITY TO PERFORM COMPETENTLY THROUGHOUT THE RANGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

UNDERPINNING KNOWLEDGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

TRAINING PERIOD	INCIDENT DETAILS (FROM RANGE)	NOT YET COMPETENT			COMPETENT		
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UNIT TITLE: C14 PRESCRIBE AND ADMINISTER SELECTED DRUGS IN PARAMEDIC SITUATIONS

ELEMENT TITLE: C14d MONITOR AND RESPOND TO EFFECTS OF DRUGS ADMINISTERED

PERFORMANCE CRITERIA:-

1. The patient's clincial signs are checked and recorded at specified intervals.
2. Complications are monitored and responded to immediately.
3. The patient is repositioned as required.
4. Alternative drug therapy is considered when required.

RANGE STATEMENT:-

Clinical Signs

: cardiac output
: respiration
: circulation (tissue perfusion)
: level of consciousness
: pain relief
: measurable variables
- blood pressure
- oxygen saturation
- cardiac rhythm
- peak flow
- blood glucose

Monitoring Equipment

: stethoscope
: sphygmomanometer
: pulse oximeter
: cardiac monitor
: non-invasive blood pressure monitor
: pen torch
: peak flow meter
: glucometer

PERFORMANCE EVIDENCE:
Performance required for monitoring and responding to the effects of drugs administered
: for clinical signs listed in the range
: for Monitoring equipment - cardiac monitor - pen torch - sphygmomanometer
- pulse oximeter - stethescope
appropriate to the Patient Group
with supporting evidence for those not demonstrated

ABILITY TO PERFORM COMPETENTLY THROUGHOUT THE RANGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

UNDERPINNING KNOWLEDGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

TRAINING PERIOD	INCIDENT DETAILS (FROM RANGE)	NOT YET COMPETENT			COMPETENT		
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UNIT TITLE: C14 PRESCRIBE AND ADMINISTER SELECTED DRUGS IN PARAMEDIC SITUATIONS

ELEMENT TITLE: C14e RECORD PHYSIOLOGICAL REACTIONS AND DRUGS USED

PERFORMANCE CRITERIA:-

1. Following each administration of drug therapy, relevant details are recorded accurately and legibly on the required documentation.
2. Drugs refused, wasted or disposed of are recorded accurately and legibly on the required documentation.
3. Changes in physiological reactions to drug therapy are recorded.

RANGE STATEMENT:-

Details of Drug Therapy

: patient details
: time given
: drug administered
: dose/dosages given
: injection site (if applicable)
: administration route

Physiological Reactions

: pain relief
: cardiac output
: respiration
: circulation (tissue perfusion)
: level of consciousness
: cardiac rhythm
: measurable variables
- blood pressure
- oxygen saturation
- cardiac rhythm
- peak flow
- blood glucose

PERFORMANCE EVIDENCE:

Performance required for recording physiological reactions and drugs used
: for all relevant details of drug therapy listed in the range
: for relevant physiologial reactions listed in the range with supporting evidence for those not demonstrated

ABILITY TO PERFORM COMPETENTLY THROUGHOUT THE RANGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

UNDERPINNING KNOWLEDGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

TRAINING PERIOD	INCIDENT DETAILS (FROM RANGE)	NOT YET COMPETENT			COMPETENT		
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UNIT TITLE: C15 PERFORM CARDIAC MONITORING AND MANUAL DEFIBRILLATION

ELEMENT TITLE: C15a MONITOR CARDIAC RHYTHM/ARRHYTHMIA TO DETERMINE THE NEED FOR TREATMENT REGIMES/THERAPY

PERFORMANCE CRITERIA:-

1. The need for cardiac monitoring is identified.
2. Patient sensitivity is demonstrated in all techniques and procedures
3. The patient is placed and maintained in a position which promotes recovery
4. Additional therapy is initiated and discontinued as appropriate
5. Electrodes and leads are correctly positioned and an interpretable rhythm strip obtained.
6. The rhythm/arrhythmia is analysed to determine the treatment regime required with recognised protocols.
7. Medical conditions affecting defibrillation are identified.

RANGE STATEMENT:-

Patient Groups

. adult
: child
. pregnant women

Electrocardiograph

. lead II monitor
. 3 lead
: 12 lead diagnostic

Positioning for

: injury
: congestive heart failure
: left ventricular failure
: shortness of breath

Need

: pacemakers
. trauma
· chest pain
medical conditions

Regimes/Therapy

oxygen
. drug
- thrombolytic therapy
: fluid replacement

Protocols for Treatment Regime

: British Resuscitation Council (BRC)
- ventricular fibrillation
- ventricular tachycardia
- asystole/fine ventricular fibrillation (See Annexe 1)
- electromechanical dissociation
- premature ventricular contractions
- bradycardia

PERFORMANCE EVIDENCE: Performance required for monitoring cardiac rhythm/arrhythmia to to determine the need for treatment regimes/therapy
: for patient groups - adult - child with supporting evidence required for those not demonstrated
: for Needs - trauma - chest pain
for any patient group with supporting evidence required for those not demonstrated
: for electrocardiograph - lead II monitor - 3 lead
with supporting evidence required for 12 lead diagnostic

ABILITY TO PERFORM COMPETENTLY THROUGHOUT THE RANGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

UNDERPINNING KNOWLEDGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

TRAINING PERIOD	INCIDENT DETAILS (FROM RANGE)	NOT YET COMPETENT			COMPETENT		
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UNIT TITLE: C15 PERFORM CARDIAC MONITORING AND MANUAL DEFIBRILLATION

ELEMENT TITLE: C15b PERFORM MANUAL DEFIBRILLATION WITHIN AGREED PROTOCOL

PERFORMANCE CRITERIA:-

1. The need for defibrillation is established.
2. The patient is placed on a firm surface to facilitate the administration of shock and the chest exposed and dried.
3. Pad/paddles are positioned correctly to administer shock.
4. The rhythm/arrhythmia is analysed by the paramedic to determine the appropriate protocol algorithm to be followed.
5. The correct amount and duration of shock is administered in accordance with agreed protocols.
6. Safety requirements are met during the operation of equipment.
7. Defibrillation protocols are adhered to in accordance with British Resuscitation Councils Protocols (see Annexe 1)
8. Defibrillation is continued until circumstances negate effort.

Note: In the event of changes being effected to the British Resuscitation Council (UK) Protocols, it will be the responsibility of candidates and assessors to ensure the currency of the competence and supporting knowledge.

RANGE STATEMENT:-

Patient Groups

: adult
- male
- female
: child

Need for Defibrillation
: ventricular fibrillation
: ventricular tachycardia
(pulseless and unconscious)

Protocols

: British Resuscitation Council (See Annexe 1)
- ventricular fibrillation
- ventricular tachycardia
- asystole/fine VF

Safety Requirements

: audible warnings
: environmental conditions
: patient preparation
- dry chest
- jewellery
- pacemaker site
: glyceryl trinitrate (GTN) pads
: pad/paddle placement

Circumstance Negate Effort

: spontaneous cardiac/ respiratory output is adequate
: death is certified by a medical practioner
: patient is handed over to the care of others
: exhaustion of rescuer

PERFORMANCE EVIDENCE:
Performance required for manual defibrillation within agreed protocols
: for patient groups - adult (male or female
with supporting evidence required for child
: for protocols - ventricular fibrillation (VF)
- asystole
with supporting evidence required for those not demonstrated

ABILITY TO PERFORM COMPETENTLY THROUGHOUT THE RANGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

UNDERPINNING KNOWLEDGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

TRAINING PERIOD	INCIDENT DETAILS (FROM RANGE)	NOT YET COMPETENT			COMPETENT		
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UNIT TITLE: C15 PERFORM CARDIAC MONITORING AND MANUAL DEFIBRILLATION

ELEMENT TITLE: C15c EVALUATE AND RESPOND TO CHANGES IN THE PATIENT'S CARDIAC RHYTHM/ARRHYTHMIA AND RESPIRATORY FUNCTION PROTOCOLS

PERFORMANCE CRITERIA:-

1. The patient's cardi-pulmonary status is monitored and additional action initiated.
2. Helpers are informed of intended actions.
3. Adjustments to patient positioning and/or equipment are made when necessary.
4. Evaluation continues until circumstances negate effort.

RANGE STATEMENT:-

Additional Action

: drug therapy
: infusion
: oxygen therapy
: further shocks
: patient positioning
: suction
: intubation
: ventilation

Circumstances Negate Effort

: spontaneous cardiac/ respiratory output is adequate
: death is certified by a medical practioner
: patient is handed over to the care of others
: exhaustion of rescuer

PERFORMANCE EVIDENCE:
Peformance required for evaluating and responding to changes in the patient's cardiac rhythm/arrhythmia and respiratory function
: for all additional actions listed in the range as determined by the patient's needs.

ABILITY TO PERFORM COMPETENTLY THROUGHOUT THE RANGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

UNDERPINNING KNOWLEDGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

TRAINING PERIOD	INCIDENT DETAILS (FROM RANGE)	NOT YET COMPETENT			COMPETENT		
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UNIT TITLE: C15 PERFORM CARDIAC MONITORING AND MANUAL DEFIBRILLATION

ELEMENT TITLE: C15d MONITOR AND RECORD MANUAL DEFIBRILLATION PROVIDED

PERFORMANCE CRITERIA:-

1. The number and amount (charge) of shocks provided are recorded accurately and legibly in the required format.
2. Effects of defibrillation on patient condition are recorded accurately and legibly in the required format.
3. Samples of rhythm strips, where generated, are retained and attached to the patient's records.
4. Associated care provided during defibrillation and its effects on the patient's condition are recorded accurately and legibly.
5. Medical conditions of the patient affecting defibrillation are recorded accurately and legibly in the required format where these are known or established.

RANGE STATEMENT:-

Format

: written reports
: patient records
- magnetic
: voice recorders

PERFORMANCE EVIDENCE:
Performance required for monitoring and recording defibrillation
: for Format - witten reports
with supporting evidence required for those not demonstrated

ABILITY TO PERFORM COMPETENTLY THROUGHOUT THE RANGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

UNDERPINNING KNOWLEDGE CHECKED BY ORAL QUESTIONING TICK ✓ ☐

TRAINING PERIOD	INCIDENT DETAILS (FROM RANGE)	NOT YET COMPETENT			COMPETENT		
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WEST MIDLANDS AMBULANCE SERVICE NHS TRUST

PELSALL WOOD TRAINING & CONFERENCE CENTRE

EVIDENCE OF OPERATIONAL PERFORMANCE

DATE: ..... CASE NO. .....

Important Note:- Remember patient confidentiality when writing up your evidence, refer to your performance and not to personal details that might identify the patient.

Name of Probationary Paramedic: ..... Signature: .....

The above is a true and accurate record of performance witnessed by the Preceptor.

Name of Preceptor: ..... Signature: .....

WEST MIDLANDS AMBULANCE SERVICE NHS TRUST

PELSALL WOOD TRAINING & CONFERENCE CENTRE

EVIDENCE OF OPERATIONAL PERFORMANCE

DATE: ..... CASE NO. .....

Important Note:- Remember patient confidentiality when writing up your evidence, refer to your performance and not to personal details that might identify the patient.

Name of Probationary Paramedic: ..... Signature: .....

The above is a true and accurate record of performance witnessed by the Preceptor.

Name of Preceptor: ..... Signature: .....

CANDIDATE: VERIFIER:	INTERNAL VERIFICATION FEEDBACK		ASSESSOR: DATE:
	COMMENTS	ACTION REQUIRED	VERIFIED
UNIT/ ELEMENT/ P.C.			
RANGE			
KNOWLEDGE AND SUPPORTING EVIDENCE			

GENERAL COMMENTS

SIGNED
DATE

Attachment 4

Initial letter(s) of Invitation from Dr Peter Patel, Birmingham Rotary

Briefing to Barry Johns, Chief Executive and Paul Harris - Corporate Development Director

Our Ref: BMJ/ELW/ltr0407

FILE

4 July 2001

Dr Peter Patel
14 Stapylton Avenue
Harbourne
Birmingham
B17 0BA

Dear Peter

Subject: **Trauma Pilot Project Pune India**

You will be pleased to know that a briefing paper was presented at the June Board, to which members agreed in principle for West Midlands Ambulance Service's continued involvement with developing the above project.

Steve will continue in his lead role on behalf of West Midlands Ambulance Service and will report to me on the outcomes of the various stages of development.

I'm convinced, that as members of your team, West Midlands Ambulance Service will be making a most useful contribution to the aims and objectives of the project, which in turn will reduce the fatalities resulting from serious injury or illness in Pune. The important future development for a College (Training Centre) of Excellence, to train paramedics and run specialist courses on Major Disaster subjects etc, will indeed be of major importance to Pune and, ultimately for India.

Again, I am delighted that West Midlands Ambulance Service will be continuing to work as partners with you and await further reports on the progress of the project(s).

Best wishes.

Yours sincerely

B M Johns
Chief Executive

Attach: Feasibility Study Item CEO June 2001 Board
Submission For Trust Board Approval

CEO Report - June Operating Trust Board

Feasibility Study Trauma Pilot Project
Pune India

Submission for Trust Board Approval

WMAS was invited to be the major partner to be involved in an extensive feasibility study to determine the setting up of a pre-hospital paramedic scheme and trauma centre in the City of Pune, India, estimated as a two year project.

The invitation was presented by Dr Peter Patel, Birmingham Rotary, to WMAS. It was decided that because of similar circumstances of a study conducted by Steve Evans in St Petersburg, Russia, that he should take the lead for this proposed project.

The Team:

Leader - Dr Peter Patel
Stephen Evans - WMAS
Benod Singh - Consultant Orthopaedic Surgeon
City Hospital, Birmingham
John Ling - Commonwealth Secretary General
Royal Life Saving Society

The feasibility study was funded by the Birmingham Rotary and supported by Pune Rotary in India. Sustainability for a pilot project is attracting funding from Birmingham and Pune Rotary and actively from local industry in Pune and Birmingham cities.

The proposal is to develop paramedic instructor training programmes for potential Indian tutors. Develop a Trauma Unit at the identified hospital in Pune, the Ruby Hall Clinic. To offer advice and help with suitable vehicles (ambulances) and equipment. And, provide advice and support with the setting up of a paramedic training centre together with specialist subjects of Major Disaster and Crisis Management programmes for, eventually, India.

The project(s) will be managed by the consortium of expert consultants of the original study team. Evaluation will be undertaken by independent doctors in Pune.

Future developments will likely include:

- paramedic motorcycle scheme
- communication technology and systems
- training centre of excellence for India
- public relations awareness programmes and campaigns
- extracation of RTA victims - WMFS
- traffic control and policing - Warwickshire police
- personnel selection advice

Plus a whole range of related recommendations and developments explained in Steve's report.

This is a most important project. Based on initially for dealing with RTA victims which currently is one killed and two seriously injured every hour in Pune. With the near completion of a new motorway from Bombay to Pune, this figure is already increasing. And, offering greater chances of survival for the heart attack victim, this project will, with support, be successful and lead the way for pre hospital care in India. WMAS is, we believe, the only ambulance service in the world involved with such a project in India. At the recent Royal Life Saving Society Commonwealth Conference the project was highly acclaimed by the Society's President HRH Prince Michael of Kent.

Should the proposals and recommendations be supported favourably and, with the full support of WMAS NHS Trust Board, the suggestion would be for Steve Evans to continue taking the lead, with responsibilities to report back on progress through the CEO to the Board.

The next stage would be to start setting up the structure for, what is envisaged, to be about a two year project with an official launch date in February 2002.

Steve has completed his section of the feasibility study. It is a large document and at this stage only a few have been produced, but it is available on request. Sections from other partners were not available at the time of writing.

ROTARY CLUB OF BIRMINGHAM

Founded April 1914 Number 8 in R.I.B.I

A Sister Club of Chicago (No. 1) USA and Johannesburg SA

Please reply to:- **Reply to: 14 Stapylton Avenue, Harborne, Birmingham B17 0BA**
Tel.: 0121 428 2205; E mail: PeterPatel@mail.com

5th January 2001

RECEIVED
09 JAN 2001
WMAS HQ

Mr. Steve Evans
Principal Officer
West Midlands Ambulance Service NHS Trust
4th Floor
Falcon House
The Minories
Dudley DY2 8PN

Dear Steve,

Re: Rotary Club of Birmingham Millennium President's International Health Projects – 'Trauma Unit and Paramedic Training Centre at Pune, India'

I enclose a hard copy of the letter I wrote before Christmas which is probably lost in the post.

Since then we have had several conversations and I am delighted that you are able to join us on this trip. I understand that Emirates now fly everyday from Birmingham and link us via Dubai to Bombay. Unless, I get sponsorship from another airline, I hope to book us both to depart on 11th February. I need to stay on until 25th February for more Rotary work. Provisionally, I will book your return on Sunday, 18th February unless there is a major project meeting. Would it be inconvenient for you if the return date were Monday, 19th February?

As discussed over the phone, I have set the following brief for the paramedic part of the project and I would be grateful for your suggestions. During our visit we need to:

1. Identify current training the paramedics receive in India
2. Brief them about minimum level of training requirements for paramedic staff to handle all aspects of trauma and other emergencies (such as hear attacks) that an ambulance staff will encounter.
3. Identify equipment needed and training for use of the equipment.
4. logistic of developing training course for the first generation of trainers and validation/certification issues.

5. Develop operations logistics for ambulance centre
6. Develop a Training manual
7. Investigate value of Fast response Motorbike Paramedic Team(when you see the traffic in the city and suburban region leading to the highway there may be role for this)
8. Need for establishing a regional training centre and continuing education

I and my medical colleagues are aware that we cannot translate everything we do here and expect it to be funded in a developing countries like India and our brief will be find appropriate local solutions to technology, equipment with the help of local partners.

I am quite sure that you have more ideas from your work experience and the project you have handled in Russia recently and I would be grateful if we could meet soon to send a brief to Pune.

With Best Wishes,

Yours sincerely,

Peter

Dr. Peter Patel
Immediate Past President

ROTARY CLUB OF BIRMINGHAM

Founded April 1914 Number 8 in R.I.B.I

A Sister Club of Chicago (No. 1) USA and Johannesburg SA

Please reply to:- **Reply to: 14 Stapylton Avenue, Harborne, Birmingham B17 0BA**
Tel.: 0121 428 2205; E mail: PeterPatel@mail.com

19th December 2000

Mr. Steve Evans
Principal Officer
West Midlands Ambulance Service NHS Trust
4th Floor
Falcon House
The Minories
Dudley DY2 8PN

Dear Steve,

Re: Rotary Club of Birmingham Millennium President's International Health Projects – 'Trauma Unit and Paramedic Training Centre at Pune, India'

I was delighted to meet you at the launch of 'Multi-lingual Emergency Phrasebook' with Bill Cody and brief you about our partnership work in the health sector.

With reference to the above project, I am writing to confirm that I will be leading a small specialist team of people to assess the first phase and carry out needs analysis for the project.

The background to the project arose from proposals received through Rotary Club of Poona to establish a specialist Trauma Unit in the City of Pune (previously called Poona) as the millennium project. Early this year in February during my Presidential year I took a team with the Lord Mayor of Birmingham Counc. Ian McArdle to Pune where we were able to visit the proposed site of the project Ruby Hall Clinic and undertake preliminary evaluation.

I am writing to invite you or a member from your Trust to join me in February, 2001 as part of the team to identify training needs for paramedics, setting up a Training Centre and Logistics and Operations Centre at Pune. We will be joined by Mr. Binod Singh a consultant orthopaedic surgeon and medical director from City Hospital who will help in establishing the Trauma Unit and identify needs analysis in terms of equipment, nursing, theatre and medical training.

This will be a major partnership between Rotary Club of Birmingham, Rotary Club of Poona, West Midlands Ambulance Service NHS Trust, Asian Health Forum and expert medical and nursing staff from the region. This will be a pioneering pilot project at international level and I will be also investigation setting up of a 'Telemedicine Centre' which will allow exchange of expertise and training via digital satellite links and/or internet.

As a part of the initial funding I have, we will be able to provide you an economic class return ticket between London and Bombay. Rotary Club of Poona will provide transport from Bombay to Pune and return, accommodation in India and normal subsistence during our stay. Due to limitation of funding at this stage, I would be grateful if each member of the team will provide their own travel insurance and be responsible for any other out of pocket expenses.

Our proposed date of travel is 11th February and we anticipate five full days of working starting from 13th February. Upon completion of our study of needs analysis at Pune, members of the team may return whenever they wish. I anticipate that we will be able to complete our work by Saturday, 17th February unless there is an additional programme on Sunday, 18th February.

I will forward you further details of as soon as I receive confirmation of our proposed programme. As I mentioned during our conversation, each member of the team will make a presentation of about 40 minutes and be involved in individual consultations and group discussions. I have proposed two days of workshops/conferences for the group discussions.

I hope this information is of help to you at this stage and I would be grateful if we can meet in the second week of January to finalise details.

With best wishes of the Season and wishing you a Happy New Year,

Yours sincerely,

Peter

Dr. Peter Patel
Immediate Past President

Second Copy as printed

WEST MIDLANDS AMBULANCE SERVICE NHS TRUST

INTERNAL MEMORANDUM

To: **Barry Johns - Chief Executive** **Date: 25.01.01**
Paul Harris - Corporate Development Director

From: **Steve Evans - Press & P.R. Manager** **Ref: SE/JW**

Rotary Club of Birmingham Millennium President's International Health Projects - 'Trauma Unit and Paramedic, Training Centre at Pune, India' 11th - 19th February, 2001

I am delighted to be representing the West Midlands Ambulance Service as a consultant to conduct a feasibility study at the initiation of Peter Patel, Immediate Past President, Rotary Club of Birmingham.

The study will identify a number of areas for consideration and viability towards a future partnership for developing the initial areas listed as follows:

1. Identify current training that ambulance staff receive in India - knowledge and skills levels.
2. Brief them about minimum level of training requirements for paramedics to handle all aspects of trauma and other emergencies - e.g. heart attacks; that they would encounter.
3. Identify equipment needed for conducting training programmes plus training and maintenance of this equipment.
4. Identify the logistics for developing Paramedic Instructor training courses for first generation trainers and validation / certification issues.
5. Development of operational logistics for an ambulance centre (training / operations).
6. Develop a Training Manual(s) - Technician Paramedic - based on U.K. models.
7. Investigate value of various response vehicles, particularly Paramedic Motorcycle Team (WMAS Model) - for inner cities.
8. Research need for establishing a regional training centre to continue education.
9. Identify means for sustaining paramedic programmes in India - Pune is a very commercial city - encouragement for business and commerce to support scheme.
10. Look at management and infrastructure towards operating an ambulance service for the City of Pune - based on the WMAS structure.

The above are the main headings and are similar to the St. Petersburg feasibility study.

Whilst at the time of writing this briefing I had not received a programme of events for the visit, the proposal is as follows:

I will be required to make several presentations and be involved in individual consultations and group discussions. Those participating will include doctors, nurses, business people, representatives of the Indian Government, Trade Partners U.K., British Government from the British Ambassador, Bombay, as the First Secretary, Commercial, this together with many other influential people, indicates the high level of importance of the visit.

The outcome of my study will be awaited with great interest by Peter Patel and his colleagues. To this end, my final report will be presented in a fair and honest way, with recommendations, which I am hopeful will benefit the community of Pune and in return WMAS.

If it should prove to be a viable project for WMAS' involvement, it will attract the attention of the Indian Government and likely expand to other Indian cities - but has to be sustainable!

It is interesting to know that WMAS is the only ambulance service in the world to be (involved) undertaking an interest for supporting pre-hospital care programmes in India. Whilst the result of the study would mean looking at a most ambitious project with decisions to be made on how to service it, I am convinced that we are right to be involved at this exciting and initial part of the proposals.

I hope this briefing is sufficient at this early stage and illustrates my undertaking as a consultant for WMAS. I will of course, forward on to you further information and details as and when I receive them.

All major costs have been covered by the Rotary Club of Birmingham.

Attachment 5

Various press cuttings - UK and India

Express & Star, Saturday, March 3, 2001

Ambulance boss helps with India safety plan

A Dudley ambulance boss, medical experts and a fundraiser have returned from a fact-finding mission in India where they plan to develop a desperately-needed paramedic service.

The team, made up of representatives from West Midlands Ambulance Service, Birmingham Rotary Club, the Royal Life Saving Society and City Hospital, Birmingham, went to the city of Pune, where there are 74,000 road accidents a year.

One member, ambulance service principal officer Steve Evans, said of those accidents 9,500 were fatal and a newspaper last week described the expressway in Pune as a "highway to hell".

The article said on average one person was killed and two people were seriously injured every hour in road accidents in the area.

Mr Evans said the group had spent a week in the city carrying out a feasibility study for developing a pre-hospital care scheme in the industrial area, 105 miles south of Bombay.

The partnership hopes to set up a system where ambulances respond to road accidents and it is also looking at providing paramedic training.

'Confident'

"It is a different world out there," said Mr Evans.

"But I feel confident that West Midlands Ambulance Service will remain a partner of this project and play a major role in helping to save lives. It is an exciting challenge. We also intend to design an education programme for the area."

It is thought the Dudley-based ambulance service is the only ambulance service in the world to be involved in such a project in India.

Team leader Dr Peter Patel, a past president of Birmingham Rotary Club, said the idea for the project came from proposals he received through the Rotary Club in Pune.

The two other members of the team who went out to Pune were John Long, Commonwealth secretary general of the Royal Life Saving Society, and Binod Singh, consultant orthopaedic surgeon and medical director of City Hospital, Birmingham.

Team to set up city service

The West Midlands Ambulance Service has teamed up with Rotarians to help develop a paramedic service for an Indian city.

Dr Peter Patel, a past president of Birmingham Rotary Club has been working with the service to set up a partnership to undertake a feasibility study for developing the service for the city of Pune.

Dr Patel said:"The background of this exciting project arose from proposals I received through the Rotary Club in Pune. What they are wanting to see develop is a pre-hospital ambulance paramedic scheme for the city. I was delighted when WMAS accepted my invitation to become a partner towards this aim."

Delighted

Service chief executive Barry Johns said: "I am delighted that WMAS will be working in partnership with Birmingham Rotary on such an important International project for the city of Pune. WMAS has an enviable reputation at national and international levels for its training, pre-hospital care programmes and information technology development. We feel privileged to have been invited by Peter to undertake this study in support of providing pre-hospital care for the communities in Pune."

It is believed that WMAS is the only ambulance service in the world to be involved in such a project in India.

Dr Patel is working closely with service principal officer Steve Evans on the feasibility study.

They will be going out to Pune with Commonwealth secretary general of the Royal Life Saving Society, John Long and Mr Binod Singh, consultant orthopaedic surgeon and medical director from the City Hospital, Birmingham, to work on the study.

The team leave for India on Sunday and return a week later.

to create Reader Development programme across the region and a centre of excellence for Black History at Handsworth Library.

If successful, the money from the DCMS / Wolfson for facilities in the city.

John Dolan, acting assistant director for library and information services, said: "The Wolfson programme supports the development of collections in libraries to promote a sense of the history of Black contribution to British History and to showcase printed materials in one location as a 'Centre of Excellence.'

"Handsworth Library has been chosen for this bid because of the central role pioneering project to promote the reading experience to Black and minority communities across five library authorities."

The council expects to hear whether its bid has been successful within the next three months.

Anti-smoking drug slammed

Woman blames Zyban for depression

A BIRMINGHAM law firm executive has described how she suffered depression and sleeplessness after taking the anti-smoking drug Zyban.

Beverley Weston has called for more warnings about the side-effects of the drug, which has been given to 280,000 people in Britain.

She voiced her concerns as the latest figures from the Department of Health show 9 deaths have been linked to the drug since it was launched last June.

Cravings

By February 22, doctors had reported 3,685 cases of suspected adverse reactions to Zyban to the Medicines Control Agency.

The drug, which is available on the NHS, is taken for two months to avert cravings when smokers give up cigarettes.

Miss Weston, who has been smoking ten to 20 cigarettes a day for the last six years, started taking Zyban on February 13.

The 31-year-old mar-

■ CONCERNED: Beverley Weston has called for more warnings about the anti-smoking drug Zyban (left)

Trauma care project for India

By Zoe Chamberlain

WEST Midlands Ambulance Service and Birmingham Rotary Club is to launch a pilot programme in India to help train locals in trauma care.

Work is due to start at a private hospital in the city of Pune, which is part of Maharashtra, in the hope the system will be introduced throughout India as a result.

Injuries

A trauma unit is being set up at a clinic with money raised by the Birmingham Rotary Club and its fellow rotary club in Pune.

This will be in place to deal with victims of accidents, cardiac arrests and all serious injuries and ailments.

The Royal Life Saving Society plans to introduce first aid courses in Pune to help people with pre-hospital care.

Paramedic training will be given to Indian nurses at the clinic who will work on a rota basis, sharing the ambulance service between them.

The Rotary Club also plans to provide a fully-equipped ambulance to the area.

University caught in porn net

A UNIVERSITY was bombarded with complaints after

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THE TIMES OF INDIA

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CENTRE FOR ROAD SAFETY PEGS TOLL AT ONE EVERY HOUR

Highway to hell: State roads can take you there

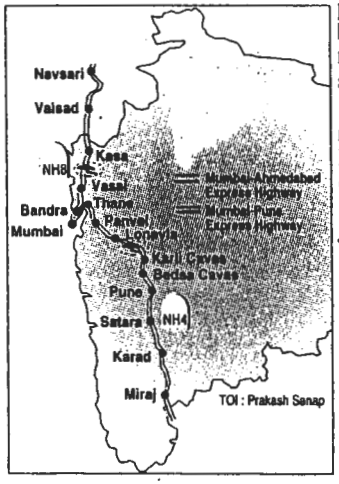
By Abhay Vaidya
The Times of India News Service

PUNE: With approximately 74,000 road accidents and nearly 9,500 related fatalities every year, Maharashtra has acquired the dubious distinction of leading the nation on the road mishap front. On an average, one person is killed and two seriously injured every hour in road accidents in Maharashtra, says a study conducted by the Centre for Road Safety (CRS) here.

Wrong overtaking, brake failure and cattle or animal pedestrian on the highway were listed as among the main reasons for accidents in a study on road accidents in the state by CRS scholars N. Ramasaamy and Vaishali Gijre.

The CRS, which is part of the Pune-based Central Institute of Road Transport (CIRT), has undertaken a series of case studies on road accidents in the country. The study on road accidents in Maharashtra, specifically, a case study of road accidents on NH 8 (Mumbai-Ahmedabad), was undertaken as part of the series.

The CRS study has highlighted that among all the national highways passing through Maharashtra, NH-4 (Mumbai-Pune-Bangalore) proved to be the most accident-prone. While 586 accidents and 718 related fatalities occurred on this highway in 1999, this was followed by NH-3 (Mumbai-Nashik-Dhule) which recorded 528 accidents and 659 related fatalities.



According to the scholars, increase in motor vehicle population in Maharashtra at the rate of more than ten per cent per year has been among the reasons for the large number of accidents in the state.

The 55.18 lakh vehicles registered in Maharashtra in 1999 comprised motorcycles (65.67 per cent), cars/jeeps (13.56 per cent), trucks/lorries (9.03 per cent) and autorickshaws (6.48 per cent) among others.

The accident analysis indicated that trucks, tankers, heavy commercial vehicles and cars were primarily involved in a large number of accidents. While head-on collision between vehicles was the single biggest cause of accidents, rear-end collision and over-taking were cited as the other major reasons for road accidents in the state.Commenting on the nature of accidents on the Mumbai-Pune expressway, CIRT director S. Padam said that overspeeding and then loosing control over vehicles was one of the main reasons for accidents on the Expressway.

"A large number of accidents on the Expressway are due to loss of vehicle control. Our drivers are not used to driving at high speeds on the Expressway," Mr Padam said while speaking to this newspaper.

Mr Padam, who is director of the Pune-based Central Institute for Road Transport (CIRT), said that people driving vehicles at over 100 kmph was a familiar site on the Expressway. "Many have been even driving at 120 kmph which is extremely hazardous. Ideally, drivers should not cross 90 kmph," he said.

Attachment 6

Examples of WMAS Paramedic Patient Report Forms

Attachment 7

Further material available:

Photographic evidence showing traffic congestion and undisciplined road users. Construction of new Mumbai to Pune Highway (Expressway) which is raising concerns for potential serious RTAs.

Photograph Album

VHS Video

PowerPoint Presentation