

# Operational

## The UK maritime Role 3 medical treatment facility: the Primary Casualty Receiving Facility, RFA ARGUS

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### Introduction

The Royal Naval Medical Service has a maritime Role 3 medical treatment facility (MTF), in the form of the Primary Casualty Receiving Facility (PCRF) on board Royal Fleet Auxiliary (RFA) ARGUS, which in its largest configuration has 100 beds (4/4/10/20/70, indicating 4 resuscitation bays; 4 operating tables; 10 intensive care beds; 20 high-dependency beds and 70 general beds). The purpose of this article is to describe this facility, and its recent activities, in particular with reference to the future potential capabilities that are currently under review.

### The ship

The ARGUS is a 28,000 tonne Royal Fleet Auxiliary (RFA) vessel, whose primary role is as a PCRF. Her secondary function is as an aviation training ship, and much of her 175m length is taken up with a flight deck (Figure 1). Normally her ship's company consists of approximately 90 RFA personnel and 45 permanent Royal Navy (RN) officers and ratings, but this can be expanded to accommodate PCRF, Fleet Air Arm or other personnel. At maximum



Figure 1. RFA ARGUS.

occupancy she can accommodate 380 berthed personnel.

She started life as the MV CONTENDER BEZANT, a container carrier, and was taken up from trade before seeing action in the Falklands conflict in 1982. She was formally converted by Harland and Wolff in the 1980s, a process

that took over three years to complete. RFA ARGUS was named on 25 March 1987, and remains the maritime Role 3 MTF to this day. She has provided medical support to UK and Allied Forces during both Gulf Wars in her role as a primary casualty receiving ship.

The ARGUS is not a designated hospital ship, as she carries weapons systems and has other military roles. As a result she does not operate under the protection of the Geneva Convention of 1949. This allows her to be placed much closer to the battlespace, allowing for more rapid transfer of patients to definitive care. During her operational medical deployment during the Iraq conflict in 2003, she went to the Northern Arabian Gulf as a grey vessel (complete with her orange lifeboats painted grey), protected by other members of the maritime task force, rather than as a white vessel with Red Cross markings (such as the US hospital ship, the USNS COMFORT, which was also in the Gulf at the time, protected by the Red Cross).

### The Primary Casualty Receiving Facility (PCRF)

The PCRF is arranged over three decks beneath the flight deck. Access is via two large lifts or a ramp that connects the flight deck with all levels of the PCRF. On 4 Deck, the lowest level, there is a four-bay resuscitation room (Figure 2), with access to diagnostics including portable X-ray, ultrasound, 64-slice Computed Tomography (CT)



Figure 2. The emergency department, comprising four resuscitation bays (one bay to the left of the photograph behind a curtain).



Figure 3. Philips 64 slice CT scanner



Figure 4. Operating theatres with two-table configuration

(Figure 3), and laboratory facilities including haematology, biochemistry, blood transfusion and microbiology. ARGUS also carries a massive transfusion capability with an emergency donor panel and apheresis. There is a fully equipped operating theatre with three tables (Figure 4). A fourth table can be stood up in the dental department if required. Next to the operating theatres is an intensive care unit with ten beds. On 3 Deck, there is a high dependency unit with 20 beds, and 70 general ward beds.

While the PCRf has a maximum capacity of 100 beds, it can deploy at various strengths including a 'PCRf light' option of 2/2/5/10/10 (i.e. a 25-bed capability with two resuscitation bays, two operating theatre tables, five intensive care beds, ten high-dependency beds, and ten general beds).

When fully manned at maximum capability, the facility has 43 medical officers and 94 nurses on board.

The main advantage of the PCRf over a tented field hospital is that it is fully configured and the equipment is operationally ready at all times. Environmentally it is warm and dry, with power, water, and the equipment and diagnostics to effect advanced damage control resuscitation and surgery.

### Recent exercises and manpower

The staff of the PCRf are drawn from primary and secondary care, and are made up of doctors, nurses, and allied health professionals from across Defence. The capability provides consultant-delivered care in accordance with current best practice. In addition, members of the Royal Marines Band Service provide stretcher-bearers and runners to facilitate the handling and transfer of patients throughout the PCRf.

The PCRf is exercised approximately once per year, but has a permanent command group (including clinical leads and nursing heads of department), and hospital permanent staff including a Hospital Officer and Petty Officer Medical Assistant to maintain currency of stores and equipment. It underwent a combined validation and assurance process, conducted by Navy Command Headquarters, Army Medical Services training Centre and 2 Medical Brigade, as part of Exercise MEDICAL ENDEAVOUR in March 2014.

### Operation GRITROCK

ARGUS deployed in October 2014 in support of Operation GRITROCK, Sierra Leone, with a PCRf team on board, providing a 2/1/2/15 medical capability. This deployment will be described and explored in more detail in a future issue of the Journal.

### Challenges

The provision of maritime Role 3 medical care on a flexible platform that has the capability to match recent operational expectations is challenging.

Resupply to maritime medical treatment facilities depends on either regular shore-side resupply, transfer by helicopter, or drops of equipment from aircraft into the sea. The blood resupply by airdrop has recently been trialled successfully, so this has enhanced the range of potential operations. An effective resupply route needs to be considered for any operation that stretches the demand chain.

Another significant challenge is that of ensuring appropriate disposition of patients from the facility (clearing the back door). Without a reliable aeromedical evacuation chain behind her, the PCRf will eventually have to stop receiving casualties. The introduction of Maritime in-Transit Care (MiTC) will mitigate this by establishing an in-house solution for tactical aeromedical evacuation, reducing reliance on external agencies.

Space has always been an issue on board ship, but with the recent reconfiguration and expansion of the footprint of the emergency and imaging departments, extra room has allowed a more reasonable space for the enhanced resuscitation teams now employed to effect damage control resuscitation. Space is still, however, at a premium, and prior to the next planned refit a significant amount of work

is currently being undertaken towards further enhancement of the capability and adaptability of the four-deck infrastructure, focused particularly on operating theatres.

**Conclusion**

The PCRf is a truly remarkable capability, providing flexible maritime Role 3 medical care to land, littoral and maritime operations.

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