SUMMARY

The planning for surgery in war was revisited in 1937 when Ian Fraser was elected a member of the Surgical Travellers. At their 1938 Surgical Travellers meeting in Vienna, Ian and Eleanor Fraser were evicted from their hotel room by the Nazis. The 1939 meeting in Belfast discussed the organization of surgery and the conduct of Emergency Medical Service Hospitals in the United Kingdom; the vast majority were to be under civilian government and military control.

From 1943 lengthy and informative organizational meetings were held at least monthly under the chairmanship of Sir Alexander Hood, KBE, Head of the RAMC. Surgical Consultants, now Major Generals, Brigadiers or Full Colonels in the British and U.S. Armies stationed in the UK, prepared for the invasion of Europe. The allocation of medical, surgical, nursing and auxiliary responsibilities was delineated. Liaison with the RAF and US Army Air Force was close as it was with the proposed leaders, Ulstermen Brooke and Montgomery. Montgomery chose Arthur Porritt as Surgeon in Chief to Supreme Headquarters Allied Expeditionary Force (SHAEF), and Eisenhower, General Albert W. Kenner.

Just after D-Day, Porritt met Ian Fraser, who had waded in on Arromanches Beach. The triage and evacuation plans for Allied casualties had been controversial, particularly as regards Landing Ship Tanks (LSTs), with the dispute with the Hood-selected surgeons on one side, against medical and surgical deployment of LSTs, and Admiral Ernest King and Winston Churchill on the other, favouring LST use for surgery and evacuation. King and Churchill were correct but total Allied air superiority allowed wide use of many of the Allies’ Dakotas; 10,000 DC-3s were eventually in service. Supported by forty Allied combat planes to each Luftwaffe, the dispute about Landing Ship Tank use in about a fortnight became moot. The multifaceted role of the Princess Royal in the Emergency Medical Services of the United Kingdom and her close liaison with the Consultant Surgeons was of great value to the Allies.

INTRODUCTION

The planning of surgical response to Nazi aggression began in 1938 both in the Royal College of Surgeons of England and in the Surgical Travellers Club1-3. In 1938, the year of Chamberlain’s “Peace in our time” speech, the Army Blood
Transfusion Service was established under the direction of Lionel Whitby. During the March 1938 visit of the Surgical Travellers to Vienna at the start of Anschluss, Ian and Eleanor Fraser were moved, despite their protests, out of the Hotel Bristol, as von Papen had taken over the entire hotel (Fig. 1). From Vienna, the Frasers bussed down to Budapest. Here the displaced Travellers agreed to meet on Tuesday, 7 March and Wednesday, 8 March 1939 in Dublin, followed by three days of meetings and dinners in Belfast, before leaving from Ulster on the morning of Sunday, 12 March 1939. Ian Fraser was to be host and the fifteen consultant surgeons would plan for the inevitable war.

Heneage Ogilvie was leader and founder in 1927 of the Surgical Travellers. According to Sir Ian Fraser, members were chosen to “be amiable, enthusiastic, interested, interesting, intelligent, and above all, friendly and clubbable with a sense of humour.” Spouses likewise.

WORLD WAR II

Howard Florey decided, on the suggestion of Hugh Cairns, that Ian Fraser should test penicillin “in the forward area on war casualties.” Heneage Ogilvie was at the same time, in 1942 and early 1943 in North Africa, Sicily and Italy, testing regimens for sulfonamides. Fraser caught diphtheria at the Salerno landings and was flown to Catania to be cured by Max Rosenheim. Ogilvie, promoted to Major General, was recalled to the UK to be the consultant surgeon for the Eastern Command, while my father, having left Musgrave Park in July 1942, was from September 1942 consultant surgeon in the adjacent Northern Command. From Friday, 5 March 1943 my father had been meeting with General Paul Hawley and Colonel Professor Elliott Cutler at the U.S. Army Medical Corps European Headquarters in Cheltenham. Sir Alexander Hood, DGMS, RAMC agreed that Ian Fraser should be Ogilvie’s understudy in Eastern Command and at the War Office. Hood also arranged that Ogilvie and Fraser should meet together with General Paul Hawley and Cutler of the U.S. Army Medical Service, Vice-Admiral Gordon Gordon-Taylor of the Royal Navy (Fig. 2), and Brigadier Arthur Porritt, Chief Surgeon designate to Supreme Headquarters Allied Expeditionary Forces, together with Northern command’s Angus Hedley-Whyte (Fig. 3). Meetings of the group were held at 10:00 a.m. during April to December 1943 and on Thursday 13 January 1944, Wednesday, 9 February, Thursday, 13 April and Thursday, 11 May 1944 and Monday, 15 May 1944. Topics discussed included D-Day’s General Plan of Operation for Allied Medical Units and their supply.

The plans for evacuation of wounded and sick led to delineation of Army and Navy responsibility in LSTs, other Allied vessels and on the beaches and harbours on both sides of the Channel and the Irish Sea. The roles and availability of motors, aircraft and Hospital Trains were discussed and priorities assigned. The transfer of wounded to RAMC, US Army, US Navy and Royal Navy Hospitals was planned. In general, the Navies would be responsible for their own wounded and the Armies for both soldiers and airmen and wounded Prisoners of War. Standards for potable water and milk, their testing and procurements in Normandy were

Educated at Robert Gordon College in Aberdeen, Gordon-Taylor won the Aberdeen Gold Medal for Classical Studies. In 1898 he entered the Middlesex Hospital Medical School as an Entrance Scholar, winning in 1901 the Gold Medal in Anatomy. For the rest of his career he was associated with the Middlesex. World War I saw Gordon-Taylor at the Battle of the Somme where he amputated the leg of machine gunner Lionel Whitby. Passchendaele followed and Gordon Gordon-Taylor became Acting Consulting Surgeon to the 4th Army, where his surgical distinction made him a legend. He was promoted to Major and was awarded a Military OBE. In 1932 Gordon-Taylor was elected to the Council of the Royal College of Surgeons of England. In 1934, he visited Australia to examine in the Anatomy Section of the Primary Fellowship. On the outbreak of World War II he was appointed Consultant Surgeon to the Royal Navy. He assiduously visited the Naval Hospitals and the Emergency Medical Service Hospitals and ships. There were also visits to Canada, and the United States, where as Visiting Professor of Surgery at Harvard, he took Elliott Cutler’s place. Further World War II visits to the U.S. led to his heading an Anglo-American visit to Russia in 1943. Created KBE, he became a Commander of the Legion of Merit of the USA. When his former amputee patient Sir Lionel Whitby was Vice-Chancellor of Cambridge, Whitby arranged an honorary Cambridge Sc.D. Over thirty of Gordon Gordon-Taylor’s more than 135 publications concern war surgery.
enacted. Plans for treatment of tuberculosis and gas gangrene and the deployment of penicillin and sulfonamides and above all blood and plasma were delineated. “Whole blood will be an item of medical supply and will be distributed through medical supply channels. It will be given the highest priority in transportation”9. A ten-day supply of blank forms and stationery were to be stocked in advance dumps and a month’s supply in Base Depots.

The Allied Invasion of Normandy was to involve 8,000 doctors, six hundred thousand doses of penicillin, 50 tons of sulpha drugs, sixteen hundred pallets of medical equipment each weighing half a ton. Each rifleman, the surgeons decreed, should carry ashore or be dropped with equipment and supplies weighing not more than 43 pounds. The armies, navies and air forces edged this up to 68.4 pounds by D-Day with disastrous results from drowning upon disembarkation16.

On May 15, 1944, thirty-nine-year-old Pete Quesada was asked to explain the D-Day and Normandy tactical air plan. Major General J. Lawton Collins, known as “Lightning Joe Collins” asked “Pete, how are you going to keep the German Air Force from preventing our landing?” “There is not going to be any German Air Force there,” replied Quesada. Winston Churchill’s skeptical response was: “Ahh, young man, how can you be so sure?” He replied, “Mr. Prime Minister, because we won’t let them be there. I am sure of it. There will be no German Air Force over the Normandy invasion area”17. But there were barely enough LSTs18. On April 28, German E boats were to sink 3 LSTs off Slapton Sands, Devon, and drown over 700 Allied personnel. Each LST carried two physicians and 20 navy corpsmen from either the Royal Navy or US Navy18.

HOOD AND WAR CABINET

During the Thursday, 13 January 1944 conference in Hood’s office, the consulting surgeons could not agree on the partial conversion of Allied LSTs to casualty evacuation vessels from Normandy. They were flat-bottomed and unsuitable sites for surgical operations. Essentially all Allied Hospital Ships had been deployed to the Pacific or Africa or sunk by German bombing despite their Red Cross marking. The War Cabinet summoned Hood and the Fighter Command leader of the U.S. Army Air Force and asked to predict the Allied air coverage for the LSTs’ landing and evacuation roles. They opined that four British Hospital Ships should be lent for the U.S. Navy to operate on D-Day and the following month20.

1944 INSPECTIONS

On Sunday, 9 January, Brigadier Angus Hedley-Whyte took the train from York to Cambridge, the base of Major General Heneage Ogilvie, to discuss the inspections they would carry out from Middlesex to Scotland. Dinner was with Basil Hume, later Anthony Eden’s surgeon. On Wednesday, 12 January, all Consulting Surgeons had meetings in London in preparation for their meeting at 10:00 a.m. next day with Lieutenant General Hood. On Monday, 17 January, I went to London. Next day, I was returned to the Dragon School at Oxford and my father went to see the Princess Royal2 at Harewood House. Father’s first meeting had been Tuesday, February 9 to Friday, February 12, 19439. From Harewood,
my father went to 103 Field Ambulance near Leeds. According to Ian Fraser, the Consulting Surgeons’ job “was to visit all the various hospitals on the east coast to advise them that they must make a plan to evacuate their hospital when “D” day came, so leaving adequate empty beds for the wounded evacuated from France. The government would supply them with the necessary blood afterwards”3. The job from 1940 to 1945 of the Princess Royal was to facilitate the taking over of suitable stately homes for bed expansion. The Princess was to follow, with the Army Consultants, standards of care.

On Sunday, 23 January to 25 January, my father and DADMS Gwynne-Evans visited medical facilities of 2nd corps., Alan Brooke’s Corps with the BEF in France in 1940. Menthorpe Gate, Malton and Cottingham, Yorkshire, Ashkam House, Northumberland and Hutton- in- the-Forest, Penrith, were evaluated. Reports were made late on 25 January to the Royal College of Surgeons of England Council and next day to the Hospitals Committee of the BMA at Tavistock House. That evening, my father dined with Brigadier, later Lord Porritt, Surgeon in Ordinary to King George VI and to Ulsterman Bernard Montgomery, Allied Ground Commander (Fig.3). Ian Fraser and Molly Porritt joined them at the Berkeley Grill7.

On Tuesday, February 1, a conference with ‘Ford at Reg 2’ discussed potential EMS hospital expansions. On Thursday, February 3, the Medical Facilities of 77 Division were inspected together with Brigadier Arnold Stott22 and Major General Philip Mitchiner23. Stott’s wife Kay joined them for dinner. On Friday, 4 February, Arthur Porritt acting for General Montgomery conducted Hedley-Whyte and Stott on a two-day inspection of 2nd Corps. On the evening of 5 February, the three inspectors were joined by Lord Webb-Johnson and Norman Heatley at the York Club. Sunday, 6 February was spent on penicillin matters at Stannington on the Ridley Estate at Blagdon, Northumberland. Porritt got the night train back to London; Heatley spent the night at Moorfield, our house near the Royal Victoria Infirmary, Newcastle-upon-Tyne. Heatley caught the 9:20 a.m. train to Oxford and my father took the sleeper to London with Heatley. Our first night in London was spent at the LSTs going to the Invasion. The Whitbys agreed to top up American donations. On Friday and Saturday, 12 and 13 May 1944, my father had to attend to the UK Tax Authorities in Leeds who did not wish to grant tax abatement for stately home transfer to being an EMS hospital9.

D-DAY SHIPS

Ian Fraser wrote of wading ashore at Arromanches, “Water up to my nipples… was not strafed”4. Indeed, on the beach he met Montgomery’s surgeon Arthur Porritt and was given dry clothes and marched to the site of British Army Hospital 108 near Bayeux3,5. Fraser when in Yorkshire in Northern Command had planned the layout of 108 on photographs provided by RAF reconnaissance. My father, with his record of 1940 Normandy War surgery was a courtesy ex officio advisor. Senior Surgeon Fraser and Matron arranged camouflage over the objections of the Norman Baroness landowner. “Colonel Fraser was causing more damage than the Wehrmacht had in four years”7. Fraser claims he was able to adapt French telegraph pole bore diggers to make almost instantaneous hospital latrines23.

In the three months from mid-June to mid-September 1944, surgery on Allied and POW casualties was almost continuous. Casualties from British attack Epsom (26 June to 1 July), cost 4,020 men killed or wounded23. Charnwood 7 July: after the RAf had dropped 3,500 tons of bombs on Caen, led to 3rd British Division including the 1st and 2nd Battalions of the Royal Ulster Rifles’ taking Caen. The Norman capitol was due to have fallen on D-Day. Operation Goodwood began on 18 July, but failed to take Boarquebus ridge7. On D-Day + 43, 20 July, Goodwood fighting finally sputtered out23. On 25 July four American infantry and two armoured divisions attacked just west of St. Lô. They, as VII Corps, were commanded by ‘Lightning Joe Collins’26,29.

BREAKOUT

Collins’s Corps VII broke through German defenses in late July 1944. Meanwhile, Montgomery renewed British attacks in operations Bluecoat on 2 August and Totalize on 7 August. As August 1944’s heat wave continued, Fraser operated eight hours on eight hours off. Fraser, stripped to the waist, treated the wounds of Ulstermen, Canadians, Poles and German POWs, as well as UK and American Casualties1. In late August there was no longer the constant passage overhead of naval support gunfire of 7 battleships, 2 monitors, 23 cruisers and 104 destroyers23,27. Three of the battleships, the Arkansas, Texas and Nevada, had come from Ulster to support the Allies for June. They stayed off Normandy until required...
for the French Riviera landings\textsuperscript{26}. The \textit{Nevada} had been beached at Pearl Harbor and there repaired. The fourteen and sixteen-inch guns were accurate up to 25 miles inland: the front south of Bayeux and Hospital 108 was well within the range of Naval gunfire\textsuperscript{31}.

**EVACUATION OF WOUNDED**

On 16 December 1943 the U.S. Ninth Air Force made the inaugural flight of the UK evacuation system\textsuperscript{32}. Initially these flights were generally between Meghaberry Aerodrome near Lisburn and RAF Station Pershore, Worcestershire and took two hours. From December 1943 through May 1944, a total of 2,786 ambulatory and litter patients were flown from Ulster to England; many of whom were American casualties of training mishaps\textsuperscript{19,33,34,35}. In the spring of 1944 an increasing number of patients were flown to Prestwick and thence to the United States. There were 446 in May 1944. Also in May, Membury, Devon, and Ramsbury, Wiltshire Airfields were designated as the main reception air fields; field hospital and ambulance detachments were stationed at these two aerodromes\textsuperscript{33}. A temporary airstrip near Bayeux was established on 8 June and on 10 June a C-47 evacuated thirteen patients. Patients were also evacuated to RAF Merrifield, Somerset, and RAF Rednal, Shropshire. Allied Air Evacuation Liaison officers were deployed to the Office of the Chief Surgeon, Advance Echelon, Communications Zone, the offices of the Chief Surgeon of the First and Third U.S. Armies, and to the Advance headquarters of the Ninth Air Force. These liaison officers were scheduled to land in France on D-Day and to arrange for airfields, holding stations and medical evacuation planes\textsuperscript{32,36,37}. A week after Fraser’s arrival 600 patients a day were being flown to the UK. By the end of June 1944, 8000 patients had been evacuated to the UK from Normandy. During July 1944 only two of the 19,490 casualties air evacuated from Normandy died in flight\textsuperscript{35}. Heavily loaded transports could land at Querqueville, unload, then ‘hop’ to Binniville and Colleville or to a combat airstrip to pick up casualties. The only crash was a C-47 not from Normandy near Prestwick killing 13 patients and two crew\textsuperscript{33}. “Evacuation by air is the only means available at present for the proper evacuation of casualties from the Armies”, wrote General Hawley on 30 August 1944\textsuperscript{33}. “Where there is no supply by air, there is no evacuation by air”\textsuperscript{19,38}. The spring planning at Hood’s meetings of the Allied Consultant surgeons and Pete Quesada’s promise had been vindicated. During September 1944, partly because of the failure of Arnhem, 26,126 casualties had to be flown back to the UK—an explanation of the sadness and fatigue of the RAF who flew Ian Fraser to the UK and thence to India’ (Table 1).

**NORMANDY WOUNDS**

About 85\% of the battle casualties on which Fraser operated occurred in infantry riflemen; over half were caused by German shells and over half needed surgery of the extremities. Ten percent of casualties required thoracic surgery and five percent laparotomies\textsuperscript{19} (Fig.4).

Porritt’s SHAEF colleague, General Kenner stated, “Men wounded in the morning are often on the operating table of a general hospital in the UK within 10 hours”\textsuperscript{19}. The use of LST Tank ships for evacuation dwindled and the four hospital ships were generally not full. The death rate of Fraser’s 108 hospital ranged from 11 to 14 percent of surgical admissions. He and his staff treated “exsanguinations, eviscerations, cardiorespiratory difficulties, and deep shock”\textsuperscript{19,35,25}. On average, 108 hospital staff performed 100 major operations every twenty-four hours. The surgical nursing care was superb but Fraser noted that brunettes went grey-haired\textsuperscript{5}, a change that my father said happened in his BEF hospital four years earlier. Fraser was not short of donated blood. Of the men treated by Hospital 108, less than one percent died after reaching the UK. Kenner and Porritt attributed this to “the echeloning of skilled surgical care throughout the evacuation chain.” Professor Cutler concluded after his inspections of the Allied hospitals in Normandy in the first month after D-Day, “The level of professional care is very high…low incidence of serious infection”\textsuperscript{19}.

"A prolonged diet of C- and K-rations produced, after D-Day, vitamin deficiency”\textsuperscript{19}. The U.S. had not yet implemented the results of the 1942 Musgrave Park research\textsuperscript{39}. ‘We were vindicated,’ Rycroft told Duke-Elder as well as Rycroft’s own patients, including the Winston Churchills.

**EMS REARRANGEMENTS**

With the start in June 1944 of the V1 doodlebug and V2 rocket attacks, a further need for expansion of EMS beds
was mooted. After D-Day, EMS hospitals in Northern Ireland took “a steady stream of service casualties from overseas”40,41. In response to demands on the EMS it was decided by the Northern Ireland Ministry of Health and Local government to appoint as consultant advisors the Professors of Medicine and Surgery at Queen’s, W.W.D. Thomson and P.T. Crymble. These appointments, as effectively Allied Consultants, regularized their previous and existing service and their extensive contributions in both World Wars40. Both Brigadiers Ian Fraser DSO, and Angus Hedley-Whyte DSO were demobbed after VJ Day. Fraser wrote my father’s Lancelot obituary42.

Montgomery wrote in his memoirs:

“I learnt during the 1939-45 war that four things contributed to the saving of life:

2. Surgical teams operating well forward in the battle area, so that badly wounded could be dealt with at once without having to be moved by road to a hospital.
3. Air evacuation direct to a Base hospital many hundreds of miles in rear, thus saving bumpy journeys by road or rail.
4. Nursing sisters working well forward in the battle area. When I joined the Eighth Army in 1942, nursing sisters were not allowed in the forward battle area. I cancelled the order. Their presence comforted and calmed the nerves of many seriously wounded men, who then knew they would be properly nursed. No male nursing orderly can nurse like a woman, though many think they can”43.

The plans of Porritt, Ogilvie, the Surgical Travellers and Eisenhower’s Generals and Admirals, led to organized execution of Montgomery’s four precepts for the saving of life43.

ACKNOWLEDGEMENTS

The authors thank Shan McAnena, Director and Curator of Art, The Naughton Gallery and Deirdre Wildy, Head of Special Collections and Archives, McClay Library, Queen’s University Belfast for permission to reproduce Carol Graham’s portrait of Sir Ian Fraser. The authors also thank Sarah Pearson, Curator, Hunterian Museum, the Royal College of Surgeons of England for permission to reproduce the portrait of Lord Porritt, PRCS by Sir James Gunn, RA. John Hedley-Whyte also thanks the citizens of Bayeux for their help and forbearance during his visit.

REFERENCES

34. Annual Report of the Medical Department. Activities of the Eighth AF, 1943; Eighth AF. Medical Section Meetings, 7 Oct-15 Nov 1943.