THE NEW ZEALAND SURGICAL TEAM IN VIETNAM

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# IN

# VIET-NAM

## (The Treatment of Vietnamese Civilians)

P.H. Eccles Smith

M.B., Ch.B., F.R.C.S. Edin., F.R.A.C.S., D.T.M. & H.

SURGEON/LEADER, N.Z.S.T. 1967/68

## SYNOPSIS.


New Zealand has had a Civilian Surgical Team at Qui Nhon in Viet-Nam for 5 years, working in a Vietnamese Provincial Hospital and treating Vietnamese patients.

Half of the patients are War Casualties, and it is characteristic of this particular War, that the total treatment of Civilian Casualties is done at the Base Hospital, so that large numbers of wounded are received at any one time, with wounds varying from the trivial to the very severe.

At the same time the Hospital receives the non-War accidents, the sick, injured and pregnant from a busy city and large Province.

A brief introduction of the geography, climate, history and economy of Viet-Nam, and the context of the Team within the Vietnamese Health Service and United States Agency for International Development provides the background for a report on the Surgical and Medical Treatment of the Vietnamese, with particular attention to the Surgery of Civilian War Casualties.

The text is illustrated with original photographs.

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## 1. The Geography, Climate and Economy of Viet-Nam.

### (a) Geographical Features

Viet-Nam forms the Eastern and Southern coastal fringe of the Indo-China land mass, extending from Latitude 9° to Latitude 26° north, at Longitude E 105, a distance of 1200 miles and occupying an area of 127,300 square miles, 65,200 in the south and 62,100 in the north. Time in Viet-Nam is Greenwich Mean Time plus 7 hours.

Viet-Nam is bordered in the north by the People's Republic of China, in the west by the kingdoms of Laos and Cambodia. To the east, south and south west it is bounded by the Gulf of Tongkin, the South China Sea and the Gulf of Siam.

Eighty percent of the country is tree covered, of which forty nine percent is jungle. Much of this part of the country is hilly or mountainous. The remaining twenty percent is made up of the deltas.

The country has an expanded Northern and Southern extremity joined by a narrow Central region. In the North, the Red River delta and in the South, the Mekong delta form the great lowland regions, but scattered all along the coast are smaller deltas and river flats separated by hill country. Surrounding the Red River delta are the mountains of North Viet-Nam, reaching to 10,000 feet near the border with China. The Annamite Cordillera separates Viet-Nam from Laos and in the South, the great Central Plateau forms two thirds of the country. The Mekong delta also forms three fifths of Cambodia. The country is divided into North and South Viet-Nam by the Demilitarised Zone at the 17th parallel, along the Song Ben Hai River.

### (b) Climate

The climate of Viet-Nam is tropical and monsoonal. In the Southern part of Viet-Nam the South-West monsoon brings heavy rain from May to October, whilst in the Central coastal region it is the North-East monsoon from December to February which brings the rain. Some parts of south-eastern Viet-Nam have a limited rainfall and are dry and sandy regions. The Central Plateau country is cooler and more pleasant except during the wet seasons. The low country becomes very hot and humid during the dry season. In the North, the summers are very hot and with heavy rain, accompanied by typhoons, but the winters are cool. The average winter temperature in North Viet-Nam is 60 F, and in summer 88 F. In the South the wet seasons average 75 F and the dry 86 F, although temperatures in the 60s and 100s are not uncommon.

(c) Economy

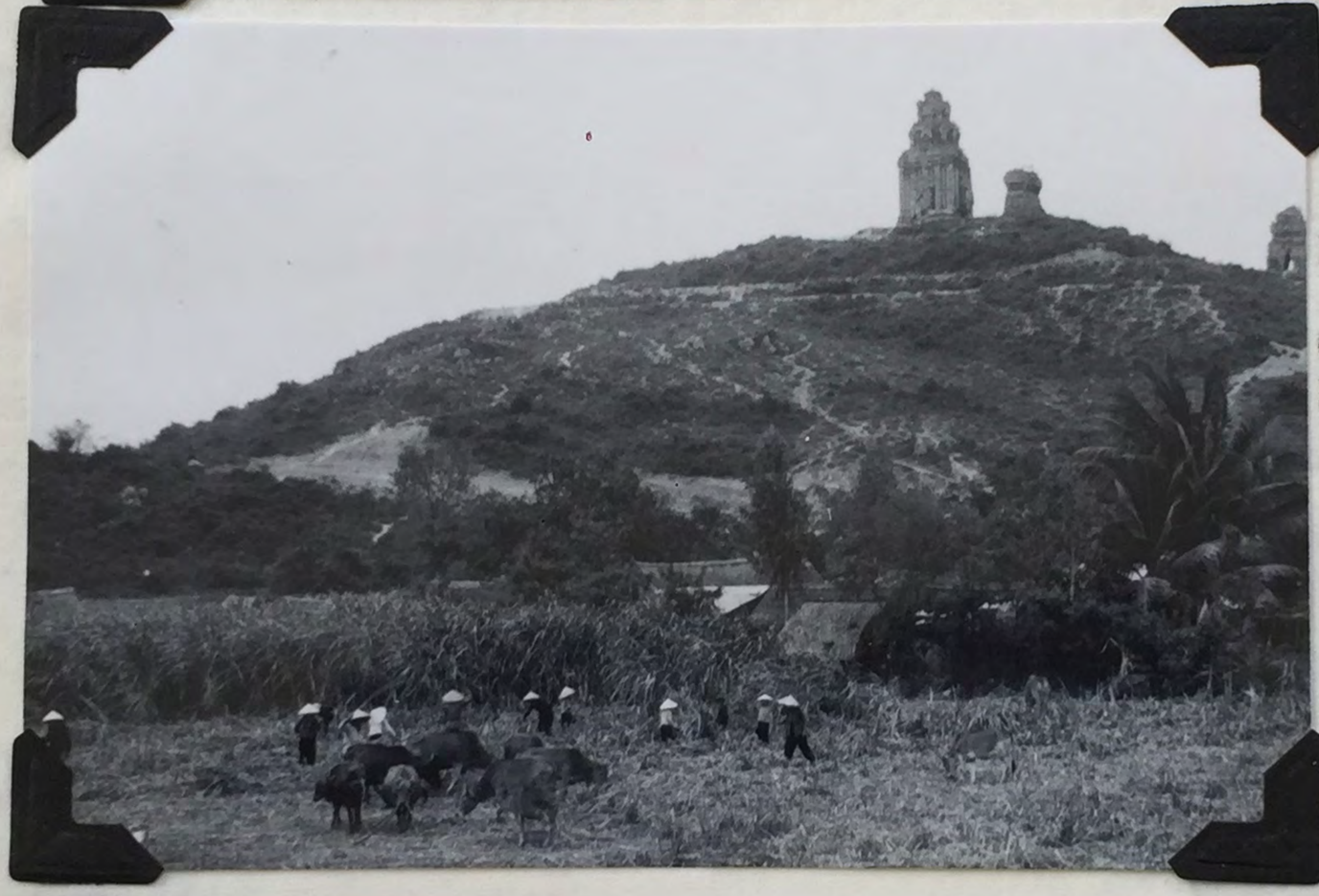
Rice is grown in all the deltas, the greatest production being in the Mekong. Tea, corn, sugar, coffee, fruit, vegetables and coconuts are all grown for local consumption and for export. Rubber is a major product, and duck feathers a significant export. Fishing is widespread and productive. The north has the bulk of the mineral deposits, and the two parts of Viet-Nam normally complement each other, the South being the main agricultural region, the North the industrial. The War has not only interfered badly with production, but also with the normal exchange between the two regions. Because of this agriculture has been expanded in the North and industry in the South.


VAN TRANG
HOA
QUẢNG TÂY
QUẢNG ĐÔNG
KOUANG TCHEOU WAN
VINH
BẮC VIỆT
THÁI LAN
CAMBOT
VIENTIANE
PHNOM PENH
SAIGON
CHÚ - TỪ
SAIGON
GIA ĐỊNH
Thủ Dầu
Tân Uyên
Long Hải
TỶ-LỆ-XÍCH 1 : 2.000.000



Rice fields.

Binh Dinh.



Sugar cane being harvested, in the foreground.
Cham Towers on the hill top.



Water buffalo grazing near rice fields.



Countryside of Binh Binh, with rice fields.



Fishing Boats at Song Cau



Market Gardens at Dalat, where all varieties of vegetables are grown.



Thatched Vietnamese village house.



Boat-building.
Song Cau.



Terraced hill-side at Song Cau.



Vegetable stall
Dalat Market.



Vietnemese country-
side. Palms and
Rice.



Vietnamese country
scene.



Waterlogged rice fields at Hoai An.



Children and rice.



Rice fields.

## 2. The People.

The population of Viet-Nam is about thirty and a half million, (30,500,000) of which sixteen and a half million live in North Viet-Nam, and fourteen million in the South. Twenty nine million (29,000,000) live in the deltas, that is, on 20% of the land, whilst the remaining 1.5 million live in the high country, occupying more than 100,000 square miles.

Originally the whole of Indo-China was peopled by a race of Austro-Indonesian peoples, but with the migrations into the region of Vietnamese, Thais, Laotians and Khmers, these aboriginal people have been driven into the high country, where they are collectively termed 'Montagnards' or Hill people.

The Vietnamese originated in Southern China and moved into what is now North Viet-Nam two thousand years ago, eventually, after 1800 years, occupying the whole of Viet-Nam. The Vietnamese form the majority population. The minority populations are the Montagnards, the Chams, the Cambodians, and the Chinese.

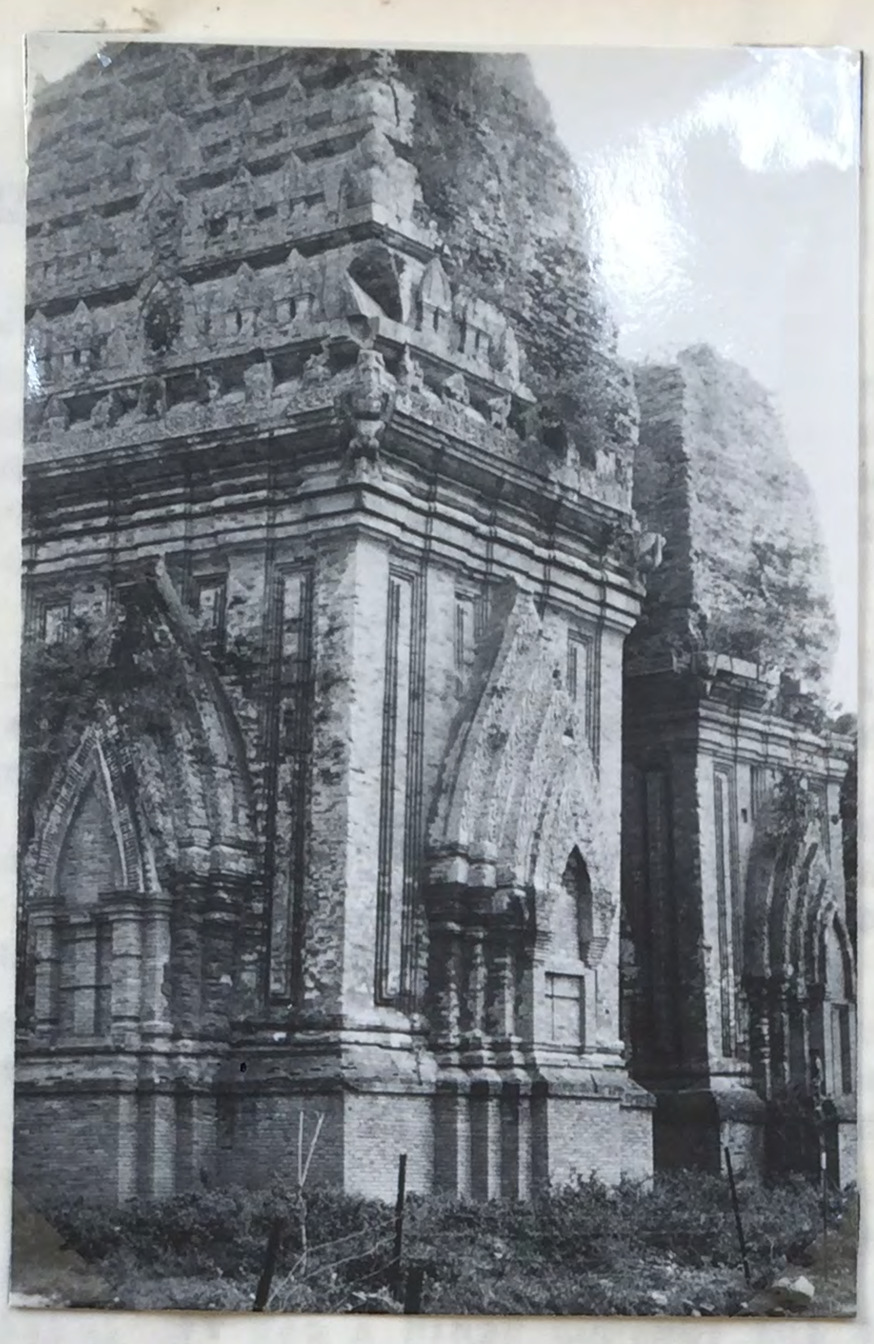
There are 3,600,000 Montagnards, of which one million live in South Viet-Nam and two million, six hundred thousand in the North. There are twenty five tribes in the South of which the most important are the Behar, Bru, Cheu, Hrey, Jarai, Koho and Raday and there are 11 tribes in the North, the principal tribes there being the Thai, Muong, Meo, Man, Nung and Tho, speaking different dialects and having different customs.

There are 20,000 Chams, living near Nha Trang, the last remains of a considerable Empire, and in the Mekong delta there are 500,000 Cambodians.

There are one million Chinese in Viet-Nam, the majority of them in the city of Cholon adjacent to Saigon. There are smaller numbers in all the cities, and in the North.

There was a recent migration of 860,000 refugees from North to South, in 1955-6, mainly Vietnamese and many of these Roman Catholics.

Whilst originally the same stock, the different climate, some intermarriage with other ethnic groups, different contact with the Chinese and the Europeans in the past has resulted in some differences between the Northerner and the Southern, whereby the Southerner is more indolent and easygoing compared with the drive and activity of his Northern cousin.



Cham Towers.
Built by the Cham people and seen throughout the extent of the old Champa Empire in Central Vietnam.



Montagnard woman with baby.

## 3. History.

### (a) Early History

Originating in Southern China, the Vietnamese migrated into the northern part of Viet-Nam about 2,000 years ago, to escape the pressure from the Han Dynasty of northern China. The Chinese invaded Northern Viet-Nam in 100 BC conquering the Vietnamese, and the region became a Chinese colony, remaining so for over 1,000 years.

There were many uprisings against the Chinese during this rule, with the Vietnamese striving for National Independence. Famous amongst these uprisings was that of the Trung sisters in AD 39, which resulted in the defeat of the Chinese. However, it was a short-lived victory, and the sisters were defeated a few years later, when both died. This uprising is still celebrated in Viet-Nam as a National Holiday.

Only in 940 AD did the Vietnamese finally rid themselves of direct Chinese rule. By this time they had occupied the country as far south as the present Demilitarised Zone, about half of the country.

As the Vietnamese moved further south, they came up against the Champa Empire. This had been founded in AD 192 with Indrapura as its capital. It was a Hindu Empire, and the Chams were not unlike the Vikings, being dependent on seafaring, pillage and conquest, and not devoting too much attention to agriculture. Gradually the more active and determined Vietnamese eroded into Champa, destroying the Chams, cultivating the land as they occupied it, and by 1471 the Empire was totally occupied. By 1600 the Chams had practically disappeared, and today the remaining 20,000 are all that is left of an Empire which at its height was strong enough to attack and defeat the early Angkor Empire of the Khmers in Cambodia.

From here the Vietnamese slowly continued the move southwards, occupying part of Cambodia, moving into the Mekong Delta, occupying Saigon in 1672 and completing the occupation of the Delta country by 1757. It is clear that the Vietnamese have been in occupation of South Viet-Nam for a relatively short period of history, and that the Europeans appeared at about the same time as the Vietnamese in this area. In the North, the occupation by Vietnamese is of much longer duration.

### (b) The Colonial Period

The first Catholic missionaries arrived in 1615, and the French in 1789. The extent of French influence increased gradually until 1884 when Viet-Nam, Cambodia and Laos came under French control as 'French Indo-China'.

The French divided Viet-Nam into three regions, Cochin-China in the south, ruled as a Colony, Annam in central Viet-Nam and Tongkin in the north, both ruled as Protectorates, with the Emperor of Viet-Nam ruling under French control from the Imperial City of Hue.

COLONIALISM HAS SUCH A BAD FLAVOUR THESE DAYS THAT WHAT GOOD MAY HAVE BEEN DONE TENDS TO BE OVERLOOKED. THAT THE FRENCH BLED VIET-NAM, TOGETHER WITH CAMBODIA AND LAOS, IS NOT ENTIRELY TRUE. WHILST A GREAT DEAL WAS TAKEN OUT, AN EQUAL OR GREATER RETURN WAS PUT IN. SCHOOLS, HOSPITALS, ROADS AND RAILWAYS WERE BUILT. RUBBER AND COFFEE WERE INTRODUCED, AND TEA CULTIVATION INCREASED, TOGETHER WITH CORN AND RICE. THE FRENCH BUILT UP THE COAL, TIN AND WOLFRAM INDUSTRIES AND ESTABLISHED THE MANUFACTURING COMPLEXES IN THE NORTH. THEY DISCOVERED AND RESTORED THE ANCIENT TEMPLES AND MONUMENTS, ESPECIALLY IN CAMBODIA. HOWEVER, THEY FAILED TO WORK AS EQUALS WITH THE VIETNAMESE, AND THE CIVIL SERVICE WAS HEAVILY OVERLOADED WITH FRENCH. WHEREAS THE BRITISH HAD LESS THAN FIVE THOUSAND TO SERVE OVER 300 MILLION IN INDIA, THE FRENCH HAD MORE THAN 5,000 TO SERVE THE 30 MILLION VIETNAMESE.

THE FALL OF FRANCE IN 1940, AND THE NON-INTERVENTION OF THE UNITED STATES AND BRITAIN, FORCED THE FRENCH IN INDO-CHINA TO ACCEDE TO THE JAPANESE DEMANDS FOR MILITARY BASES AND TRANSIT FACILITIES, ALTHOUGH THE FRENCH NOMINALLY REMAINED IN CHARGE UNDER THIS JAPANESE DOMINATION. NOT UNTIL 1945, WITH THE COLLAPSE OF THE GERMANS IN EUROPE AND THE INCREASING U.S. AND ALLIED PRESSURE IN THE PACIFIC DID THE JAPANESE TURN ON THE FRENCH, WHEN MANY WERE KILLED AND THE REMAINDER IMPRISONED. THE JAPANESE TOOK OVER CONTROL AND GRANTED VIET-NAM INDEPENDENCE UNDER THE EMPEROR, BAO DAI.

THE MANY NATIONAL GROUPS AND PARTIES HAD GRADUALLY BECOME AMALGAMATED INTO ONE MAIN PARTY CALLING ITSELF THE VIET MINH, DOMINATED BY HO CHI MINH, A DEDICATED COMMUNIST AND A FANATICAL NATIONALIST. THE COMMUNISTS BEING BETTER ORGANISED AND MORE RUTHLESS GRADUALLY DOMINATED THE VIET MINH AND WITH THE DEPARTURE OF THE JAPANESE, DECLARED NATIONAL INDEPENDENCE IN SEPTEMBER 1945.

THE RETURN OF THE FRENCH, AIDED BY BRITAIN AND NATIONALIST CHINA, UNDER CHIANG KAI-CHEK, AND THEIR FAILURE TO RECOGNISE THE STRENGTH OF NATIONALIST FEELING AND POWER, PRECIPITATED THE FIRST INDO-CHINA WAR WHICH DRAGGED ON, WITH TERROR, ATROCITIES, HEROISM AND SACRIFICE ON BOTH SIDES, UNTIL 1954, WHEN THE GENEVA CONFERENCE WAS HELD. THE CO-INCIDENT DEFEAT OF THE FRENCH AT DIEN BIEN PHU GAVE THE VIET MINH ADDITIONAL STRENGTH AT THE CONFERENCE. THE GENEVA CONFERENCE WAS CHAIRED JOINTLY BY THE RUSSIANS AND BRITISH AND WAS TO SOLVE THE PROBLEMS OF THE WHOLE OF FRENCH INDO-CHINA, NOT JUST VIET-NAM. AFTER MUCH WRANGLING, THE FINAL OUTCOME WAS A CEASE FIRE, THE TEMPORARY DIVISION OF THE COUNTRY AT THE 17TH PARALLEL, THE FREE MOVEMENT OF PEOPLE FROM NORTH TO SOUTH AND VICE VERSA FOR 300 DAYS, AND THE PROMISE OF NATIONAL ELECTIONS TO BE HELD IN TWO YEARS TO DECIDE THE FUTURE. AN INTERNATIONAL CONTROL COMMISSION WAS FORMED, HEADED BY INDIA WITH POLAND AND CANADA AS ITS MEMBERS, TO SEE THAT THE GENEVA CONFERENCE RESOLUTIONS WERE CARRIED OUT.

## (c) <u>RECENT HISTORY</u>

HO CHI MINH REMAINED IN CONTROL IN THE NORTH, AND NGO DINH DIEM BECAME PREMIER IN THE SOUTH. THE SOUTH WAS IN CHAOS AT THIS TIME AND IN HIS EARLY YEARS DIEM'S STRONG PERSONALITY HELPED TO STABILISE

THE COUNTRY, AND PLAYED A LARGE PART IN THE SETTLEMENT OF THE 860,000 REFUGEES, WHO POURED IN FROM THE NORTH. IN 1955 DIEM BECAME PRESIDENT, WITH THE EXILE OF THE EMPEROR BAO DAI.

THE COMMUNISTS IN THE NORTH PROCEEDED TO STRENGTHEN THEIR HOLD AND INTRODUCED THE LAND REFORM PROGRAMME. THIS LEAD TO THE SLAUGHTER AND IMPRISONMENT OF MANY THOUSANDS OF 'LANDLORDS' AND 'RICH' FARMERS, VERY FLEXIBLE DEFINITIONS, AND EVENTUALLY THE REPRESSION LED TO PEASANT UPRISINGS AND THE ADMISSION BY HO CHI MINH THAT THERE HAD BEEN ERRORS. SOME PRISONERS WERE RELEASED AND THE PROGRAMME LIBERALISED.

MEANWHILE IN THE SOUTH, THE DIEM REGIME WAS BECOMING SIMILARLY REPRESSIVE AND DICTATORIAL. ANY POLITICAL OR RELIGIOUS FACTION WHICH DID NOT AGREE WITH DIEM MET WITH FORCEFUL SUPPRESSION. THE ELECTIONS AGREED UPON AT GENEVA WERE NEVER HELD.

WITH THE GROWING DIS-SATISFACTION IN THE SOUTH, AND WITH THE REPRESSION OF THE OPPOSITION PARTIES, MANY OF THESE BECAME MORE SYMPATHETIC TO THE VIET MINH AND GRADUALLY THE SECOND INDO-CHINA WAR DEVELOPED, BUT THIS TIME VIET-NAM ALONE WAS TO BE THE BATTLE-GROUND. AT THIS STAGE IT WAS PREDOMINENTLY A GUERILLA WAR, CAREFULLY TUNED TO POLITICAL AIMS, A TRUE REVOLUTIONARY WAR, WHERE THERE WERE NO FRONT LINES OR CLEARLY DEFINED ENEMY, AND WHERE THE AIM WAS TO UNDERMINE ANY CONFIDENCE THE PEOPLE HAD IN THE SAIGON GOVERNMENT OF NGO DINH DIEM. THE METHODS USED BY THE GUERILLAS COMBINED TERROR, PROPAGANDA AND ASSISTANCE.

WITH SO MUCH ANTI-DIEM FEELING AND NO REAL OBJECTIVE TO FIGHT FOR, THE SOUTH VIETNAMESE TROOPS MADE LITTLE HEADWAY AGAINST THE COMMUNISTS WHO WERE BECOMING MORE AND MORE ORGANISED. THE NATIONAL LIBERATION FRONT HAD GROWN FROM THE VIET MINH, AND THE FIGHTING ARM OF THE FRONT, SOON TO BE KNOWN AS THE VIET CONG (SHORT FOR VIET-NAM CONG-SAN) WAS WELL LED AND BECOMING INCREASINGLY WELL ARMED.

THE ASSASSINATION OF NGO DINH DIEM IN 1963, AND THE COLLAPSE OF THE GOVERNMENT, WAS FOLLOWED BY A SERIES OF SHORT-LIVED MILITARY DICTATORSHIPS WHICH DID LITTLE TO RESTORE STABILITY, BUT THE ACCESSION TO POWER OF AIR VICE MARSHAL KY, AND LATER, THE HOLDING OF NATIONWIDE ELECTIONS FOR THE FIRST DEMOCRATIC GOVERNMENT, HAS GIVEN THE SAIGON GOVERNMENT A MUCH STRONGER BASE.

ALL THE TIME THESE EVENTS WERE TAKING PLACE, THERE WAS A GRADUAL INCREASE IN THE NUMBER OF AMERICANS IN VIET-NAM. STARTING WITH A FEW HUNDRED MEN IN THE MILITARY ASSISTANCE ADVISORY GROUP (MAAG), THE NUMBERS NOW STAND AT OVER HALF A MILLION MILITARY, QUITE APART FROM THE CIVILIANS.

INCREASING AMERICAN AND ALLIED ASSISTANCE TO THE SOUTH HAS COINCIDED WITH MORE ASSISTANCE TO THE VIET CONG AND NATIONAL LIBERATION FRONT FROM THE NORTH, AND WITH AID FROM OTHER COMMUNIST COUNTRIES. MANY NORTH VIETNAMESE ARMY UNITS ARE NOW OPERATING IN THE SOUTH. THE WAR IS WIDESPREAD, AND WHILST THE GUERILLA WARFARE CONTINUES, A MUCH MORE ORTHODOX FORM OF FIGHTING HAS BEEN TAKING PLACE IN RECENT YEARS.

WITH CONTINUED DIVISION OF THE COUNTRY AT THE 17TH PARALLEL, WITH ASSISTANCE TO THE NORTH COMING FROM THE COMMUNIST COUNTRIES WHILST AID TO THE SOUTH COMES FROM THE ENGLISH SPEAKING WORLD, AND WITH OVERSEAS TECHNICAL TRAINING OF VIETNAMESE BEING TO TWO DIFFERENT DISCIPLINES, THE DIVISION OF THE COUNTRY IS BECOMING MORE AND MORE REAL. THE VIETNAMESE ARE INTENSELY NATIONALISTIC, BUT ALSO VERY REGIONALLY MINDED. THE NORTHERNER IS SUSPECT BY THE SOUTHERNER, AND THE CENTRAL VIETNAMESE ARE SUSPICIOUS OF BOTH NORTH AND SOUTH. THE MONTAGNARDS HAVE A LONG HISTORY OF ILL-TREATMENT BY THE VIETNAMESE AND SUSPICION OF THEM, WHILST MANY VIETNAMESE REGARD THE MONTAGNARDS WITH CONTEMPT. NON-COMMUNISTS FEAR THE COMMUNISTS, AND WHILST THE POLITICAL PLATFORM OF THE NATIONAL LIBERATION FRONT IS VERY LIBERAL AND FAR SEEING, MANY DO NOT TRUST IN ITS GENUINENESS. THE PRESENT IS CONFUSED AND THE FUTURE DARK AND UNCERTAIN.

THIS, THEN, IS THE COUNTRY WHICH IN 1962 ASKED FOR ASSISTANCE TO MAN ITS MEDICAL SERVICES.

## 2. The New Zealand Surgical Team.

### (a) Development

New Zealand was the first free world country to respond to the call for medical assistance, and the first Surgical Team was sent in February 1963.

The Provincial Hospital at Qui Nhon, in the Province of Binh Dinh had been selected by the New Zealand Ambassador as the most suitable posting for the Team, but lack of liaison between the Ministry of Health and the Hospital authorities led to some initial difficulties, mainly caused by the lack of awareness on both sides of the arrival of the Team, and its role.

The first Team consisted of a Surgeon/Leader, anaesthetist, laboratory technician and two nurses, most of whom were there for one year. In those days wives and children accompanied the Team and work was not particularly heavy in this pleasant seaside resort, although conditions at the hospital were poor.

Each year since then a new Team has been appointed. The dates of arrival and departure of the different members of the Teams have been staggered so that there is always a gradual take over. Until the middle of 1965 wives and children still accompanied the Team, but deteriorating security necessitated their evacuation at that time, and it has never been secure enough since to permit their return.

The gradual increase in work began to accelerate in 1966 and it was clear that the Team was too small. At this time the total number of Teams in Viet-Nam was being increased as well as the enlargement of the existing Teams. In mid-1966 the Team was increased to 15, of whom 5 were doctors, 6 nurses, a radiographer, laboratory technician, administrator and a general handy-man.

This 15 man team was the one I took over as Surgeon/Leader in February 1967.

### (b) The Doctors

The five doctors are the Surgeon/Leader, the 2nd surgeon, the 3rd surgeon, the anaesthetist and the physician. The Team Leader is not only 1st surgeon but he acts as the Team's representative to the Vietnamese, and the Americans, for whom and with whom we work. He is responsible for the Team's welfare, and for the organisation and standard of their work. He is assisted by the 2nd surgeon who is of equal experience and ability but who has no administrative duties. The position of 3rd surgeon is filled by a registrar and this is usually a six month tour of duty. The Royal Australasian College of Surgeons, whilst not accepting Qui Nhon as a training hospital for Fellowship candidates, views the six months service there with interest, and if otherwise suitably experienced, will allow the time in lieu of six months in a recognised hospital. This seems reasonable, as the candidate will get more practical experience in six months than he could possibly get in New Zealand. The anaesthetist is responsible for the anaesthetics service, which

INCLUDES THE TRAINING OF VIETNAMESE NURSE-ANAESTHETISTS, AND FOR THE SUPERVISION OF THE RESUSCITATION AND RECOVERY ROOMS. THE MEDICAL OFFICER IS A RECENT APPOINTMENT AND TO DATE HAS BEEN HELD BY THREE GENERAL PRACTITIONERS FOR 6 MONTHS TOURS, AND HAS NOW BEEN UP-GRADED TO A SPECIALIST PHYSICIAN WHO WILL DO A ONE YEAR TOUR.

(c) THE NURSES

THE 2 - 3 NURSES OF THE EARLIER TEAMS HAD LIMITED THEIR WORK TO THE OPERATING AND RECOVERY ROOMS, BUT WITH THE ESTABLISHMENT INCREASED TO SIX, THEY HAVE EXTENDED THEIR WORK TO ALL PARTS OF THE HOSPITAL, AND, ALTHOUGH THEY ARE NOT IN CHARGE, THE EFFECT OF THEIR PRESENCE HAS BEEN A GRADUAL IMPROVEMENT IN THE CLEANLINESS OF THE WARDS AND IN THE STANDARDS OF NURSING CARE.

(d) THE TECHNICIANS

THE RADIOGRAPHER WAS INCLUDED TO TEACH THE VIETNAMESE TECHNICIANS BETTER METHODS OF RADIOGRAPHY, BETTER PROCESSING AND FILING OF FILMS, AND THIS HE WAS ABLE TO DO. VIETNAMESE ARE VERY QUICK TO LEARN AND THIS DEPARTMENT BECAME A VERY EFFICIENT PART OF THE HOSPITAL. AT THE COMPLETION OF HIS TOUR, THE RADIOGRAPHER WAS REPLACED BY A PHARMACIST, IN THE HOPE THAT HE COULD IMPROVE THE HOUSEKEEPING OF THE PHARMACY.

THE LABORATORY TECHNICIAN WHO WENT WITH THE FIRST TEAM WAS UNABLE TO DO MUCH BECAUSE OF THE LACK OF FACILITIES, BUT AS THESE IMPROVED IT BECAME NECESSARY TO RE-APPOINT A LABORATORY TECHNICIAN TO THE TEAM AND THIS WAS DONE IN 1966. BY THIS TIME THE ADMINISTRATIVE WING OF THE HOSPITAL HAD BEEN BUILT, CONTAINING A NEW LABORATORY. IT HAS TAKEN A VERY LONG TIME TO GET THE LABORATORY FUNCTIONING AND EVEN NOW IT IS NOT ABLE TO DO MANY ESSENTIAL EXAMINATIONS.

(e) THE ADMINISTRATOR

THE ADMINISTRATOR IS A RECENT APPOINTMENT. CONDITIONS IN VIET-NAM ARE SO DIFFICULT AND CONFUSED, THAT IT TAKES A GREAT DEAL OF TIME TO DEAL WITH THE SIMPLEST ADMINISTRATIVE PROBLEM. IT BECAME ESSENTIAL TO RELIEVE THE LEADER OF THIS LOAD AS THE CLINICAL WORK WAS INCREASING. THE ADMINISTRATOR DEALS WITH THE RUNNING OF THE TEAM AND, SO FAR, HAS ALSO HAD THE BULK OF THE LOGISTICS TO ATTEND TO. THIS PART OF THE JOB WILL BE HANDED OVER TO THE VIETNAMESE WHEN THEY ARE TRAINED IN THE COMPLEXITIES OF STORE MANAGEMENT, INDENT AND ISSUE OF MEDICAL STORES. THE ADMINISTRATORS JOB INVOLVES HOURS OF WASTED TIME, HOURS SPENT WAITING FOR FREIGHT AND PASSENGERS TO ARRIVE BY AIR, HOURS OR EVEN DAYS ATTEMPTING TO COMMUNICATE WITH SAIGON OFFICIALS. IT CALLS FOR A VERY TOLERANT PERSONALITY.

THE FINAL MEMBER OF THE TEAM IS THE HANDY-MAN OR MAINTENANCE OFFICER, WHO IS EMPLOYED TO KEEP OUR VEHICLES ON THE ROAD AND THE ORDINARY FACILITIES OF HOUSING UNDER REPAIR, BUT HE ALSO SPENDS A GREAT DEAL OF TIME DEALING WITH STORES. HE IS USED TO DO MINOR REPAIRS IN THE HOSPITAL, AND AT BUSY TIMES IS USED AS AN ORDERLY AND MALE NURSE.

(F) CONDITIONS OF SERVICE

THE SURGICAL TEAM IS EMPLOYED BY THE EXTERNAL AID DIVISION OF THE DEPARTMENT OF EXTERNAL AFFAIRS, AS PART OF NEW ZEALAND'S COLOMBO PLAN COMMITMENT. ALL MEMBERS ARE CIVILIANS AND VOLUNTEERS, AND MOST ARE FULL-TIME EMPLOYEES IN THE HOSPITAL SERVICE IN NEW ZEALAND. SALARIES ARE PAID FROM NEW ZEALAND, AND THE BASIC SALARY IS NORMALLY THAT DRAWN IN THE HOSPITAL SERVICE, AND IS AUGMENTED BY A WIFE AND CHILD SEPARATION ALLOWANCE, AND BY AN OVERSEAS ALLOWANCE. AT QUI NHON, THE PAY ARRIVES FROM SAIGON, AND MUST BE BROUGHT BY A MEMBER OF THE EMBASSY STAFF OR ONE OF THE TEAM MEMBERS, TO ENSURE ITS SAFE ARRIVAL. ONLY THE AMOUNT REQUIRED TO LIVE IN QUI NHON IS SENT, THE REST IS BANKED IN BANGKOK. THE SALARY IS PAID PARTLY IN VIETNAMESE CURRENCY, WITH 320 PIASTRES TO THE £ STERLING, AND PARTLY IN MILITARY PAYMENT CERTIFICATES, MPC, WHICH ARE EQUAL IN VALUE TO THE US DOLLAR. IN VIET-NAM, THE DOLLAR IS A FORBIDDEN CURRENCY, IN AN ATTEMPT TO CONTROL THE BLACK MARKET AND CORRUPTION. ONLY CERTIFIED PEOPLE CAN HAVE THE MPC, AND THEY CAN ONLY BE USED TO PURCHASE GOODS IN THE AMERICAN MILITARY STORES, ARMY POST OFFICES AND US CLUBS. THEY ARE NORMALLY USED BY AMERICANS BUT THE NEW ZEALANDERS WERE PERMITTED A LIMITED ISSUE. WE WERE ALLOWED TO USE THE MILITARY STORES, COMMISSARY, POSTAL SERVICE AND CLUBS, WITH SOME LIMITATIONS AND RESTRICTIONS.

BEFORE ARRIVAL IN VIET-NAM IT IS NECESSARY TO BE IMMUNISED AGAINST SMALL-POX, CHOLERA, PLAGUE, TYPHOID, PARA-TYPHOID, TETANUS, TYPHUS AND POLIOMYELITIS. ILLNESS IN THE TEAM IS NOT SERIOUS, AND IS LIMITED TO RECURRENT DIARRHOEA AND VOMITING, BOILS AND ABSCESSES, SHORTLIVED FEBRILS ILLNESSES, PROBABLY VIRAL, AND INFECTIVE HEPATITIS. ONE MEMBER DIED FROM DEHYDRATION AND ELECTROLYTE UPSET FROM DYSENTERY IN 1966, AND ONE MEMBER WAS INVALIDED HOME IN 1967 WITH TROPICAL PULMONARY EOSINOPHILIA, AND HAS BEEN SUFFICIENTLY DISABLED TO HAVE TO RETIRE FROM ACTIVE PRACTICE.

ALTHOUGH PART OF THE USAID (UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT) PROGRAMME, THE AMERICANS RESPECT OUR NEW ZEALAND STATUS AND INDIVIDUALITY, BUT WE ARE EXPECTED TO CONFORM TO THEIR GENERAL OVERALL PLAN OF MEDICAL AID. USAID HAS CIVIL AID PROJECTS THROUGHOUT THE WORLD, AND IN VIET-NAM NOT ONLY ASSISTS THE MEDICAL NEEDS, BUT ALSO REFUGEE WORK, AGRICULTURE, SCHOOLS, AT THE UNIVERSITIES, FISHERIES, CIVIL ADMINISTRATION AND REVOLUTIONARY DEVELOPMENT. THE MEDICAL TEAMS COME UNDER THE PUBLIC HEALTH DIVISION, CURRENTLY UNDER THE CONTROL OF COLONEL MONTGRIEFF.

ALSO PRESENT IN VIET-NAM IS THE MILITARY ASSISTANCE COMMAND, VIET-NAM, MACV, AND IN SOME WAY WE WERE PART OF THIS ORGANISATION TOO, IN THE DIVISION OF CIVIL OPERATIONS FOR REVOLUTIONARY DEVELOPMENT SUPPORT, CORDS. WE WERE IN ADVISORY TEAM 27 OF MACV/CORDS.

HOUSING IS DIFFICULT AND EXPENSIVE, RENTS EXTORTIONATE, AND MAINTENANCE AND SERVICE POOR. FOR LONG PERIODS ELECTRICITY IS NOT AVAILABLE, WHICH MEANS NO FANS, NO LIGHT, NO WATER SINCE WATER IS FROM A WELL AND HAS TO BE PUMPED BY ELECTRICITY, NO REFRIGERATION, AND IN THE HOT MONTHS LIFE CAN BE ARDUOUS.

At present the Team is scattered in four houses in Qui Nhon. Whilst it would be desirable to have a Team compound, this has not been possible.

The Team owns its own vehicles, long wheelbase Land Rovers, three petrol and two diesel. Unfortunately, the lack of spares, poor servicing and persistent vandalism, combined with the poor roads and the climate result in constant breakdowns. In Viet-Nam one needs to run a vehicle that the American Army runs, so that spares and servicing can be done. The most useful vehicle is the M 151 Jeep (Truck Utility ¼ Ton 4 x 4 M 151 Federal Stock No. 2320 - 542 - 4783 made by the Ford Motor Company).

Responsibility for housing and vehicles has now been assumed by USAID, so that the position may improve.



The New Zealand
Surgical Team.
Feb 1968



M 151 Jeep

5. THE REPUBLIC OF VIET-NAM (SOUTH VIET-NAM) THE MINISTRY OF HEALTH (BO-Y-TE) AND USAID.

(A) SOUTH VIET-NAM OR THE REPUBLIC OF VIET-NAM

IS DIVIDED INTO FOUR ADMINISTRATIVE REGIONS, WHICH ARE ALSO MILITARY DIVISIONS, AND INTO 44 PROVINCES. THE POPULATION IS MOST CONCENTRATED IN THE MEKONG DELTA AND IN THE COASTAL AREAS JUST SOUTH OF THE DEMILITARISED ZONE. THE CENTRAL PLATEAU IS SPARSELY POPULATED, WITH AN AVERAGE OF 5 PEOPLE PER SQUARE MILE. THE LARGEST PROVINCE IN AREA IS DARLAC, BUT THE POPULATION IS ONLY 15,000. BINH DINH IS THE SECOND LARGEST IN AREA AND THE LARGEST IN POPULATION, HAVING 900,000.

(B) THE MINISTRY OF HEALTH

MOST PROVINCES HAVE A PROVINCIAL HOSPITAL, AND THESE ARE UNDER THE CONTROL OF THE VIETNAMESE MINISTRY OF HEALTH IN SAIGON. THIS MINISTRY IS RUN BY VERY ABLE AND DEDICATED MEN, UNDER THE VIGOROUS LEADERSHIP OF THE MINISTER, DR. TRAN-LU-Y. THEY ARE WELL AWARE OF THE DEFICIENCIES OF THE SYSTEM, AND ARE DOING ALL THAT THEY CAN TO CORRECT THEM. THEY ARE GRATEFUL FOR THE ASSISTANCE THAT THE FOREIGN TEAMS ARE GIVING, BUT RIGHTLY RESENT ANY INTERFERENCE WITH THE AUTHORITY OF THE MINISTRY. THEY WELCOME CONSTRUCTIVE CRITICISM AND ADVICE AND ONE CAN ONLY REGRET THAT THE CONDITIONS PREVAILING IN VIET-NAM DO NOT ALLOW THE IMPLEMENTATION OF THEIR FORWARD LOOKING PLANS.

THE FOUR REGIONS IN VIET-NAM HAVE A REGIONAL DIRECTOR OF MEDICAL SERVICES, APPOINTED BY THE MINISTER, AND EACH PROVINCE HAS A MEDECIN CHEF, WHO, IN MANY CASES, IS ALSO THE DIRECTOR OF THE PROVINCIAL HOSPITAL. HIS WORK COVERS PREVENTATIVE MEDICINE, PUBLIC HEALTH, RURAL HEALTH AND MATERNITY SERVICES, AND HE IS OFTEN AN ARMY DOCTOR WITH DUTIES AT THE LOCAL VIETNAMESE ARMY HOSPITAL.

(C) USAID

USAID OPERATES AT NATIONAL, REGIONAL AND PROVINCIAL LEVELS, AND ALTHOUGH PREDOMINENTLY AMERICAN DOES HAVE OTHER NATIONALS ON THE STAFF, PARTICULARLY IN LIAISON WITH THE FREE WORLD TEAMS. MANY USAID PERSONNEL ARE SECONDED OR RETIRED MILITARY.

ALTHOUGH THERE IS LITTLE DOUBT THAT THE RUNNING OF USAID INVOLVES A LOT OF RED TAPE AND PAPER WORK, THE AMERICANS ARE NOTED FOR THEIR GENEROSITY, AND NOWHERE IS THIS MORE MARKED THAN IN THEIR CONTACTS WITH THE NEW ZEALANDERS. AT ALL LEVELS WE RECEIVED CO-OPERATION, ASSISTANCE, ADVICE AND HELP, AND AT ALL TIMES THIS WAS FRIENDLY. WHETHER OR NOT THE CONCEPT OF ASSISTANCE IS RIGHT OR NOT, THERE IS NO QUESTION OF THE DEDICATION OF MANY OF THOSE INVOLVED IN THE OPERATION, MEN AND WOMEN. THERE IS A TENDENCY TO ASSUME THAT WHAT IS RIGHT IN THE UNITED STATES IS NECESSARILY RIGHT IN VIET-NAM, AND MORE TOLERANCE AND A DEEPER INSIGHT INTO THE BACK-GROUND AND SOCIAL STRUCTURE WOULD BE WISE AT TIMES.

THERE IS NO USAID PHD REPRESENTATIVE IN QUI NHON, BUT THE NHA TRANG REGIONAL HEADQUARTERS PERSONNEL VISIT REGULARLY.

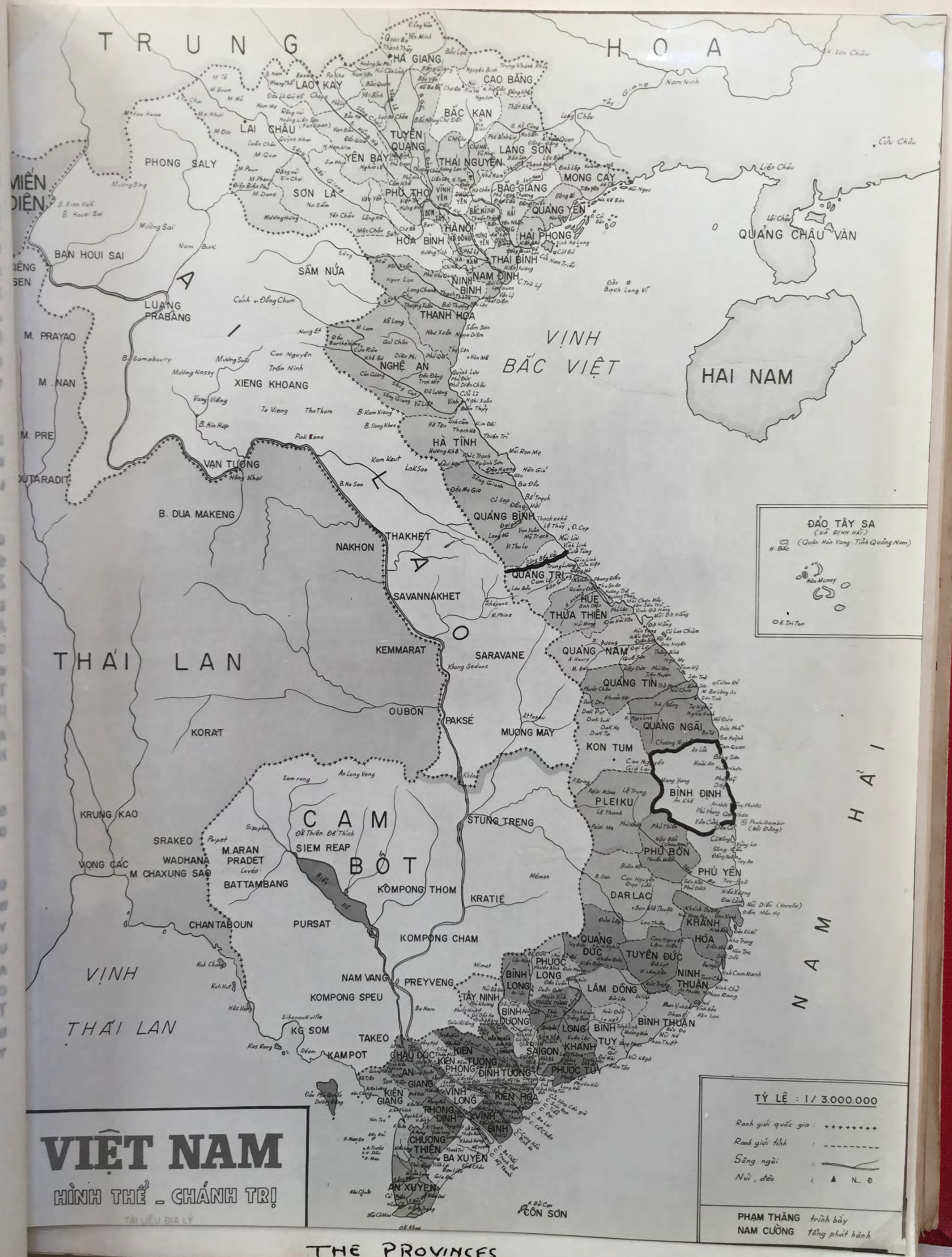
In Viet-Nam there are now some 44 medical Teams. These are either MILPHAP, Military Public Health Assistance Programme, or PHAP, Civilian Public Health Assistance Programme Teams. The majority of these teams are American MILPHAP Teams, varying in size from 6 - 16 men, Army, Navy and Air Force, and doing civilian curative and preventative work based on the smaller Provincial Hospitals. There are some Free World MILPHAP Teams, including the New Zealand Combined Services Team, which is based in the northern part of Binh Dinh, separate from but complementary to the Surgical Team. There are several other civilian teams from Free World countries, Australia, South Korea, Nationalist China, The Phillipines, England, Iran, Spain, Japan, Italy, 'free' Cuba and Switzerland, represented by the Swiss Red Cross. Assisted by, but not under the same USAID control, are several Mission Teams, Quakers, Catholics, Inter-Denominational and the Vietnamese and other Red Cross Teams.

Although only one of so many, the New Zealand Team has the distinction of being the longest Free World Team in Viet-Nam, of working in the most populated Province, and having one of the largest patient loads.

Whilst relying on the Ministry of Health and USAID for all official assistance, it is necessary to have alternative sources of supply. The New Zealand Team gets some extra supplies from the New Zealand Government; it gets much assistance from voluntary bodies who either send specifically requested items direct to Viet-Nam, via the Army Post Office, or through the Health Department in New Zealand; it gets its greatest assistance from the New Zealand Red Cross Society, which has a special Qui Nhon Fund, into which anyone can pay a donation. These stores are sent by sea to Singapore, then air freighted by the RNZAF Bristols to Qui Nhon. Some of this fund is used in New Zealand and some is transferred to Saigon and used to purchase items from Hong Kong, Singapore or America.

It is also necessary to have some local sources of unofficial supply, and this means the American Military Hospitals, whose greatest contribution is the supply of blood.

In addition to the PHAP and MILPHAP Teams, there are many groups of US and Allied Military Medical Personnel, both doctors and NCOs, who do medical work of all sorts in their free time. These are not yet as co-ordinated as they should be, and have the problem of an unstable pool of available people, since they are liable to be moved at any time, so that there is often neither continuity of staff or of interest. In Binh Dinh they are becoming better organised. These teams are called MEDCAP, Medical Civil Aid Programme. It should be noted that they work for the Vietnamese civilians voluntarily, in their free time, and are unpaid.




TÀI LIỆU ĐỊA LÝ

THE PROVINCES

## INDEX TO INTERNAL ADMINISTRATIVE DIVISIONS

| | POPULATION |
|---|---|
| **AN GIANG (37)** | **384,173** |
| CHAU THANH | |
| CHO MOI | |
| HUE DUC | |
| THOT NOT | |
| **AN XUYEN (43)** | **273,650** |
| CAU NGANG | |
| DAM DOI | |
| NAM CAN | |
| QUAN LONG | |
| RUNG DAU DOC | |
| TRUNG BINH | |
| **BA XUYEN (39)** | **364,726** |
| KE SACH | |
| LONG PHU | |
| MY XUYEN | |
| THANH TRI | |
| TRUAN HOA | |
| **BAC LIEU (40)** | **233,025** |
| GIA RAI | |
| PHUOC LONG | |
| VINH CHAU | |
| VINH LOI | |
| **BIEN HOA (27)** | **288,901** |
| CAN GIO | |
| LONG THANH | |
| DI AN (2) | |
| DUC TU | |
| LONG THANH (5) | |
| NHON TRACH | |
| QUANG XUYEN (3) | |
| **BINH DINH (7)** | **788,916** |
| AN NHON | |
| AN TUC | |
| BINH KHE | |
| HOAI AN | |
| HOAI NHON | |
| PHU CAT | |
| PHU MY | |
| TUY PHUOC | |
| **BINH DUONG (23)** | **175,821** |
| BEN CAT | |
| CHAU THANH (2) | |
| LAI THIEU (3) | |
| PHU HOA (5) | |
| TRI TAM | |
| **BINH LONG (22)** | **88,000** |
| AN LOC | |
| CHAU THANH (2) | |
| LOC NINH | |
| **BINH THUAN (17)** | **228,417** |
| HAI LONG | |
| HAI NINH | |
| HAM THUAN | |
| HOA DA | |
| PHAN LY CHAM | |
| THIEN GIAO | |
| TUY PHONG | |
| **BINH TUY (18)** | **32,748** |
| HAM TAN | |
| TANH LINH | |
| **CHAU DOC (36)** | **407,204** |
| AN PHU | |
| CHAU PHU | |
| TAN CHAU | |
| TINH BIEN | |
| TRI TON | |
| **CHUONG THIEN (41)** | **240,023** |
| DUC LONG | |
| KIEN HUNG | |
| KIEN LONG | |
| KIEN THIEN | |
| LONG MY | |
| **DARLAC (11)** | **140,751** |
| BAN ME THUOT | |
| BUON HO | |
| LAC THIEN | |
| PHUOC AN | |
| **DING TUONG (31)** | **490,945** |
| BEN TRANH (1) | |
| CAI BE (2) | |
| CAI LAY (3) | |
| CHAU THANH (4) | |
| CHO GAO (5) | |
| GIAO DUC (6) | |
| LONG DINH (7) | |
| **GIA DINH (26)** | **625,957** |
| BINH CH.-NH (1) | |
| GO VAP (2) | |
| HOC MON (3) | |
| NHA BE (4) | |
| TAN BINH (5) | |
| THU DUC (6) | |
| **GO CONG (28)** | **165,058** |
| HOA BINH | |
| HOA DONG | |
| HOA LAC | |
| HOA TAN | |

| | POPULATION |
|---|---|
| **HAU NGHIA (25)** | **263,969** |
| CU CHI (PHU HOA) | |
| DUC HOA | |
| DUC HUE | |
| TRANG BANG (4) | |
| **KHANH HOA (12)** | **222,357** |
| CAM LAM | |
| DIEN KHANH | |
| KHANH DUONG | |
| NINH HOA | |
| VAN NINH | |
| VINH XUONG | |
| **KIEN GIANG (42)** | **342,459** |
| HA TIEN | |
| KIEN AN | |
| KIEN BINH | |
| KIEN LUONG | |
| KIEN TAN | |
| KIEN THANH | |
| PHU QUOC | |
| **KIEN HOA (32)** | **550,651** |
| BA TRI | |
| BINH DAI | |
| DON NHUAN | |
| GIONG TROM | |
| HAM LONG (8) | |
| HUONG MY | |
| MO CAY | |
| THANH PHU | |
| TRUC GIANG (9) | |
| **KIEN PHONG (35)** | **259,723** |
| CAO LANH | |
| HONG NGU | |
| KIEN VAN | |
| MY AN | |
| THANH BINH | |
| **KIEN TUONG (30)** | **54,290** |
| CHAU THANH | |
| KIEN BINH | |
| TUYEN BINH | |
| TUYEN NHON | |
| **KONTUM (6)** | **79,504** |
| DAK SUT | |
| DAK TO | |
| KONTUM | |
| **LAM DONG (16)** | **59,538** |
| BAO LOC | |
| DI LINH | |
| **LONG AN (29)** | **374,120** |
| BEN LUC | |
| BINH PHUOC (2) | |
| CAN DUO | |
| TAN THU (4) | |
| THANH DUC | |
| THU THUA | |
| **LONG KHANH (20)** | **88,216** |
| DINH QUAN | |
| XUAN LOC | |
| **NINH THUAN (13)** | **134,241** |
| AN PHUOC | |
| BUU SON | |
| DU LONG | |
| THANH HAI | |
| **PHONG DINH (38)** | **370,877** |
| CHAU THANH | |
| PHONG PHU | |
| PHUNG HIEP | |
| THUAN NHON (4) | |
| THUAN TRUNG (3) | |
| **PHU BON (9)** | **51,000** |
| PHU THIEN | |
| PHU TUC | |
| THUAN MAN | |
| **PHU YEN (10)** | **327,628** |
| DONG XUAN | |
| HIEU XUONG (2) | |
| SON HOA | |
| SONG CAU | |
| TUY AN | |
| TUY HOA (7) | |
| **PHUOC LONG (21)** | **48,587** |
| BO DUC | |
| DON LUAN | |
| DUC PHONG | |
| PHUOC BINH | |
| **PHUOC TUY (19)** | **94,125** |
| DAT DO | |
| DUC THANH | |
| LONG DIEN | |
| LONG LE | |
| XUYEN MOC | |
| **PLEIKU (8)** | |
| LE THANH | |
| LE TRUNG | |
| PHU NHON | |

| | POPULATION |
|---|---|
| **QUANG DUC (15)** | **22,686** |
| DUC LAP | |
| KHIEM DUC | |
| KIEN DUC | |
| **QUANG NAM (3)** | **502,976** |
| DAI LOC | |
| DIEN BAN | |
| DUC DUC | |
| DUY XUYEN | |
| HIEU DUC | |
| HIEU NHON (4) | |
| HOA VANG | |
| QUE SON | |
| THUONG DUC | |
| **QUANG NGAI (5)** | **653,562** |
| BA TO | |
| BINH SON | |
| DUC PHO | |
| MINH LONG | |
| MO DUC | |
| NGHIA TRANH | |
| SON HA | |
| SON TINH | |
| TRA BONG | |
| TU NGHIA | |
| **QUANG TIN (4)** | **354,206** |
| HAU DUC | |
| HIEP DUC | |
| LY TIN | |
| TAM KY | |
| THANG BINH | |
| TIEN PHUOC | |
| **QUANG TRI (1)** | **269,347** |
| CAM LO | |
| GIO LINH | |
| HAI LANG | |
| HUONG HOA | |
| MAI LINH (3) | |
| TRIEU PHONG | |
| TRUNG LUONG | |
| **TAY NINH (24)** | **235,602** |
| HIEU THIEN | |
| KHIEM HANH | |
| PHU KHUONG | |
| PHUOC NINH | |
| **THUA THIEN (2)** | **422,675** |
| HUONG DIEN | |
| HUONG THUY | |
| HUONG TRA | |
| NAM HOA | |
| PHONG DIEN | |
| PHU LOC | |
| PHU THU (7) | |
| PHU VANG (8) | |
| QUANG DIEN (9) | |
| VINH LOC | |
| **TUYEN DUC (14)** | **56,209** |
| DON DUONG | |
| DUC TRONG | |
| LAC DUONG | |
| **VINH BINH (33)** | **322,764** |
| CANG LONG | |
| CAU KE | |
| CAU NGANG | |
| CHAU THANH (4) | |
| LONG TOAN | |
| TIEU CAN (5) | |
| TRA CU | |
| TUNG LIEM | |
| **VINH LONG (34)** | **526,811** |
| BINH MINH | |
| CHAU THANH (2) | |
| CHO LACH (5) | |
| DUC THANH (4) | |
| DEU TOM | |
| LAP VO | |
| MINH DUC (7) | |
| BA DEC (8) | |
| TAM BINH | |
| **AUTONOMOUS CITIES** | |
| DA LAT | |
| DA NANG | |
| HUE | |
| SAIGON | |
| VUNG TAU | |

THAILAND

LAOS

CAMBODIA

NORTH VIETNAM

DEMARCATION LINE

SOUTH CHINA SEA

GULF OF SIAM

(1) QUANG TRI

(2) THUA THIEN

(3) QUANG NAM

(4) QUANG TIN

(5) QUANG NGAI

(6) KONTUM

(7) BINH DINH

(8) PLEIKU

(9) PHU BON

(10) PHU YEN

(11) DARLAC

(12) KHANH HOA

(13) NINH THUAN

(14) TUYEN DUC

(15) QUANG DUC

(16) LAM DONG

(17) BINH THUAN

(18) BINH TUY

(19) LONG KHANH

(20) PHUOC TUY

(21) PHUOC LONG

(22) BINH LONG

(23) BINH DUONG

(24) TAY NINH

(25) HAU NGHIA

(26) GIA DINH

(27) BIEN HOA

(28) GO CONG

(29) LONG AN

(30) KIEN TUONG

(31) DING TUONG

(32) KIEN HOA

(33) VINH BINH

(34) VINH LONG

(35) KIEN PHONG

(36) CHAU DOC

(37) AN GIANG

(38) PHONG DINH

(39) BA XUYEN

(40) BAC LIEU

(41) CHUONG THIEN

(42) KIEN GIANG

(43) AN XUYEN

REGION I

REGION II

REGION III

REGION IV

Qui Nhon

CON SON

(Administered from Saigon)

### SOUTH VIETNAM
## POPULATION AND ADMINISTRATIVE DIVISIONS

Persons per square mile: 0, 50, 250, 500, 750, 1000

Persons per square kilometer: 0, 19, 97, 193, 290, 386

Population data based on estimates by districts for 1960 and January 1963
Administrative divisions September 1963

- International boundary
- Province (Tinh) boundary
- District (Quan) boundary
- National capital
- Province (Tinh) capital
- District (Quan) headquarters
- Railroad
- Road

Scale 1:1,000,000

0 25 50 75 Statute Miles

0 25 50 75 Kilometers



Refugee houses.
Qui Nhon.



Houses built over
the sea.



Buddhist Temple
at Qui Nhon.



Refugee houses.
Qui Nhon.





The Huey Helicopter. Used for Medical Evacuation and for Military purposes.
The commonest aircraft in Vietnam.



The Chinook helicopter. Passenger and cargo freighter.



The Sikorsky crane helicopter. Can be used as is, lifting very considerable loads, or can be fitted with a 'pod', for freight or even with an emergency operating theatre.




C 47. Air America passenger and freight courier service run by USAID.




Inside a C47



Large Jet cargo aircraft.

C 133.




Spotter plane.



Spotter plane, loaded with very sophisticated electronic devices




Lambretta 3 wheel 500cc vehicle, #86 very common in Vietnam as a passenger hire vehicle. This one used as an ambulance at the Civil Hospital.




Lambretta 3 wheel
500cc vehicle, ~~was~~
very common in
Vietnam as a
passenger hire
vehicle. This one
used as an ambul-
ance at the Civil
Hospital.



Dead Viet Cong on display in main street Bong Son.



Dead Viet Cong on display in main street Bong Son.

7. THE HOSPITALS IN QUI NHON.

THERE ARE SIX HOSPITALS IN QUI NHON -

(1) THE PROVINCIAL HOSPITAL
(2) THE ROMAN CATHOLIC HOLY FAMILY HOSPITAL
(3) THE VIETNAMESE ARMY HOSPITAL
(4) THE U.S. 67TH EVACUATION HOSPITAL
(5) THE 85TH EVACUATION HOSPITAL AND
(6) THE ROMAN CATHOLIC LEPROSARIUM.

IN ADDITION TO THESE THERE IS A HOME RUN BY THE SAVE THE CHILDREN FUND, BUILT AND MANNED BY BRITISH, AND A BUDDHIST ORPHANAGE.

(A) THE PROVINCIAL HOSPITAL

THE NEW ZEALAND SURGICAL TEAM WORKS AT THE PROVINCIAL HOSPITAL, WHICH IS RUN BY THE VIETNAMESE MINISTRY OF HEALTH. THE DIRECTOR, OR MEDECIN CHEF, DR. MINH, IS A CAPTAIN IN THE PARATROOPS WITH A FINE MILITARY RECORD, AND WHO HAS BEEN SECONDED TO THE HEALTH SERVICE FROM THE MINISTRY OF DEFENCE. IN ADDITION TO RUNNING THE HOSPITAL, HE IS ALSO PROVINCIAL MEDECIN CHEF, RESPONSIBLE FOR THE WHOLE OF THE MEDICAL SERVICES, CURATIVE AND PREVENTATIVE, IN THE PROVINCE. HE IS RESPONSIBLE FOR THE MUNICIPAL AND RURAL MATERNITY SERVICES, AND THE PUBLIC HEALTH DIVISION. IT IS INTERESTING TO NOTE THAT THIS RESPONSIBILITY COMMANDS SO MEAGRE A SALARY THAT HE IS OBLIGED TO RUN A PRIVATE PRACTICE IN ORDER TO EARN ENOUGH FOR HIS WIFE AND FAMILY TO LIVE IN VERY MODEST CONDITIONS. HE IS A VERY ASLE ADMINISTRATOR, AND A GOOD DOCTOR. HE IS ASSISTED BY A MALE HEAD NURSE AND A MALE ADMINISTRATOR, BOTH ABLE MEN, AND BOTH FULLY TRAINED NURSES.

THE HOSPITAL IS IN TWO PARTS, THE 'OLD' ORIGINAL QUI NHON HOSPITAL, OF 97 BEDS, AND THE 'NEW' HOSPITAL OF 323 BEDS, SEPARATED BY ABOUT ½ MILE. THE OLD HOSPITAL HAS FIVE WARDS, OF WHICH FOUR ARE USED FOR PATIENTS, AND ONE AS A STORE. ALL ARE IN VERY POOR CONDITION AND WILL BE PULLED DOWN WHEN CONDITIONS AND FINANCE PERMIT. ONE WARD HOUSES TUBERCULOSIS AND PLAGUE PATIENTS, AND THE OTHER THREE SURGICAL CONVALESCENTS, MOSTLY AMPUTEES OR PLASTERED LIMBS. THE HOSPITAL IS ALWAYS FULL, BUT RARELY ARE THERE MORE PATIENTS THAN BEDS.

THE MAIN PART OF THE 'NEW' HOSPITAL WAS BUILT IN 1961, AND IT HAS BEEN ADDED TO SINCE THEN. FOUR TWO-STORIED WARD BLOCKS OPEN OFF ONE SIDE OF A STRAIGHT COVERED WAY, AND THE MATERNITY WARD, OPERATING ROOM UNIT AND ADMINISTRATIVE BLOCK OPEN OFF THE OTHER SIDE.

THE WARDS HAVE A WIDE VERANDA ON ONE SIDE, AND ARE OPEN WARDS, WITH NO CUBICLES OR SIDE ROOMS. AT ONE END IS A TOILET AND SHOWER ROOM, RARELY IF EVER OPERATIONAL, AND AT THE OTHER END IS A STORAGE AND STERILISING ROOM, AND A SECOND ROOM WHICH IS USED BY THE NURSE-IN-CHARGE AS HER LIVING QUARTERS. THE VERANDA-SIDE WINDOWS ARE GLASSED, BUT THOSE ON THE OTHER SIDE HAVE SLATTED SHUTTERS. THE FLOORS ARE TILED. THE BEDS LINE EACH SIDE OF THE WARD, AND ARE SO CLOSE THAT THEY ARE PRACTICALLY TOUCHING; TO GET TO A BEDSIDE, ONE HAS TO PUSH THE NEXT BED AWAY. BECAUSE OF THE PROXIMITY OF THE BEDS, THE BED LOCKERS ARE PLACED BEHIND THE BED-HEAD, GIVING A 2

ESULTS IN THE AVAILABLE
TED, AND FREQUENTLY, THIS
RDS HAVE 28 - 30 BEDS, BUT
- 24 BEDS IN A WESTERN
RD BEARS LITTLE RELATION
S MORE PATIENTS THAN BEDS,
BY DOUBLING-UP IN THE
RAL AREA. TWO PATIENTS
AND THE VIETNAMESE SMALL,
NDS. UNTIL 1967 THE BEDS
Y, STAINED AND EVEN RAT-
, THE NEW ZEALAND RED CROSS
M MATTRESSES IN A STRONG
LARGE AMERICAN FOWLER BEDS,
E MATTRESS IS COVERED WITH A
OL, BUT AN INCREASING AMOUNT

RECEIVING ROOM, OR CAP CUU,
IX BEDDED SIDE ROOM WHICH IS
ERA SEASON. WHEN NOT IN
ROOM. THE OTHER WARDS ARE
GERY; ABDOMINAL, HEAD AND
IN ACTUAL FACT, THERE IS NO
AD THE LOAD EVENLY. THERE
SHARE THE SAME OPEN WARD AND
TO NO DIFFICULTIES.

LOCKS, THE MATERNITY WARD
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ROOMS HAS BEEN CONVERTED
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E INSIST ON HAVING THIS

S ANOTHER WARD, BUILT WITH
IT HOUSES PATIENTS BEING
ONLY WARD IN THE HOSPITAL
TIENTS. IT HAS NO RUNNING

IN 1967. PRIOR TO THIS
MS AND A CONCRETE SLAB, AND
G. THE NEW LAUNDRY HAS
DRYERS, CONSTANT HOT WATER
EASED QUANTITY OF LINEN TO
ATING ROOM LINEN HAS
TNAMESE LINES, WITH WOOD
REBY KEEPING THE KITCHEN
ON TO MAINTAIN A

A CENTRAL HALL, FROM
ECTING SCRUB ROOM, A SMALL

ROOM WHICH IS USED FOR MINOR WORK, A RECOVERY ROOM AND A PREPARATION ROOM, USED FOR PACKING, STORING, AND STERILISING EQUIPMENT, AND ALSO AS A CHANGE ROOM AND OFFICE/COFFEE ROOM. A NEW RECOVERY ROOM HAS BEEN ADDED, OPENING OFF THE OLD ROOM, AND ALTHOUGH THE WHOLE UNIT IS SMALL AND CRAMPED BY EUROPEAN STANDARDS, IT HANDLES A REMARKABLE VOLUME OF WORK.

THE ADMINISTRATIVE WING HOUSES THE HOSPITAL OFFICES, THE DIRECTORS OUT-PATIENT DEPARTMENT, A DENTAL CLINIC, THE LABORATORY AND X-RAY DEPARTMENT.

THE PROVINCIAL MEDICAL WAREHOUSE, A BUDDHIST CHAPEL, STORE ROOMS, NURSES ACCOMMODATION AND MORTUARY COMPLETE THE HOSPITAL.

ALL WATER IS DRAWN FROM WELLS, OF WHICH THERE ARE FIVE IN THE HOSPITAL COMPOUND, ONLY ONE OF WHICH HAS A PUMP AND STORAGE TANK, SO THAT RUNNING WATER IS AVAILABLE ONLY IN THE OPERATING UNIT, X-RAY AND LABORATORY. THE WARDS MAY HAVE RUNNING WATER FOR AN HOUR IN THE MORNING, JUST GIVING TIME TO FILL A VARIETY OF CONTAINERS FOR THE DAY. WHEN THESE ARE EMPTIED SOMEONE, USUALLY A RELATIVE, HAS TO GO TO THE WELLS AND DRAW MORE WATER, BY HAND.

ELECTRICITY COMES FROM THE LOCAL VIETNAMESE POWER STATION, BUT IS OF VERY IRREGULAR VOLTAGE. IT IS ADEQUATE FOR WARD AND ROOM LIGHTING, BUT NOT SUITABLE FOR THE MAIN X-RAY PLANT OR THE LABORATORY EQUIPMENT, THE LATTER HAS HAD TO BE CONVERTED TO OPERATE ON BATTERIES. NO AIR-CONDITIONING CAN BE USED. TO PROVIDE LIGHT AND POWER WHEN THE MUNICIPAL SUPPLY IS OFF, A NOT INFREQUENT OCCURRENCE, A SMALL 40 KW GENERATOR IS SUFFICIENT FOR THE OPERATING UNIT. A LARGER GENERATOR, 100 KW WAS LOANED FROM THE AMERICAN ARMY LATE IN THE YEAR TO SUPPLEMENT THE REMAINDER OF THE HOSPITAL.

SEWERAGE DISPOSAL IS SUPPOSED TO BE TO SEPTIC TANKS. THIS REQUIRES A PUMPING STATION BETWEEN THE ORIGIN AND THE TANKS, AND ADEQUATE PIPING IN BETWEEN. FOR THE WHOLE YEAR, THE PUMPS WERE OUT OF ACTION, AND SOME PIPING COLLAPSED. CONSEQUENTLY THERE WERE NO WORKING TOILETS IN THE WARDS, NOR ANY SHOWERS. THIS MEANT THAT PATIENTS AND THEIR RELATIVES WERE OBLIGED TO USE THE HOSPITAL GROUNDS. SURPRISINGLY THERE WAS LITTLE VISUAL OR OLFACTORY OFFENSE, AND DURING THE LATTER MONTHS WHEN SOME CLEANING UP AND GARDENS WERE MADE, SHRUBS AND BOUGAINVILLEA THRIVED.

A GREAT DEAL REMAINS TO BE DONE TO UPGRADE THE HOSPITAL TO ACCEPTABLE STANDARDS. MUCH HAS BEEN DONE, BUT AS LONG AS 520 PATIENTS ARE THE AVERAGE NUMBER OCCUPYING 420 BEDS, WHEN BY REASONABLE STANDARDS THERE SHOULD BE ONLY ABOUT 300 BEDS ANYWAY, PROGRESS IS BOUND TO BE SLOW. THE HOSPITAL NEEDS TO BE MUCH BIGGER, AND MUCH BETTER STAFFED.

(8) <u>THE CATHOLIC HOSPITAL</u>

THE HOLY FAMILY HOSPITAL, RUN BY THE ROMAN CATHOLICS IS OPEN TO BOTH VIETNAMESE AND FOREIGNERS. IT HAS 40 BEDS, AND IS VERY CLEAN AND WELL RUN. IT HAS ITS OWN DOCTOR AND NURSING STAFF, MOSTLY NUNS, ASSISTED BY SOME LOCALLY RECRUITED NURSES. IT IS NOW A RECOGNISED TRAINING SCHOOL FOR THE ONE YEAR NURSING COURSE. THEY

RUN A BUSY OUT-PATIENTS DEPARTMENT, LIMIT ADMISSIONS TO THE NUMBER OF BEDS, AND MAKE A SMALL CHARGE, WHICH IS AN EXCELLENT IDEA, SINCE IT LIFTS THE SERVICE FROM THE STIGMA OF CHARITY. THE CHARGE IS VERY SMALL FOR THE POOR PATIENTS, BUT REASONABLE FOR THE RICHER. THE NEW ZEALAND ANAESTHETIST ASSISTS AT THIS HOSPITAL, AND THEIR RADIOGRAPHER HELPS AT THE PROVINCE HOSPITAL. SOME ADDITIONAL HELP IS GIVEN BY THE AMERICAN MILITARY DOCTORS, UNDER THE MEDCAP SCHEME.

(c) <u>THE ARVN HOSPITAL</u>

THE VIETNAMESE MILITARY HOSPITAL (ARVN OR ARMY OF THE REPUBLIC OF VIET-NAM HOSPITAL) HAS 400 BEDS, AND SERVES THE VIETNAMESE ARMY PERSONNEL AND THEIR IMMEDIATE RELATIVES. IN VIET-NAM THERE ARE FIVE CATEGORIES OF MILITIA, AND THE ARVN HOSPITAL DEALS WITH TWO OF THESE, THE PROVINCIAL HOSPITAL THREE (REGIONAL FORCES, POPULAR FORCES, REVOLUTION DEVELOPMENT CADRE). THOSE TREATED AT THE PROVINCE HOSPITAL ARE REALLY ARMED CIVILIANS WITH DIFFERING DEGREES OF TRAINING, WHILST THE FULLY TRAINED AND BETTER EQUIPPED 'SOLDIERS' GO TO THE MILITARY HOSPITAL. THE ARVN HOSPITAL IS FAR BETTER STAFFED THAN THE PROVINCIAL AND IS NEVER FULL. SOME MILITARY PERSONNEL DO COME TO THE PROVINCIAL HOSPITAL FOR OPERATION, THEN REVEAL THEIR MILITARY STATUS POST-OPERATIVELY AND ASK FOR TRANSFER. THIS IS ALWAYS PERMITTED, BUT THE EXERCISE IS VERY LIKELY TO IRRITATE AND OFFEND OUR MILITARY COLLEAGUES, AND WE TRY NOT TO BE CAUGHT IN THIS WAY. SO MUCH OF OUR WORK DEPENDS ON THE GOOD WILL OF THE VIETNAMESE THAT ANY ACT WHICH MAY UNDERMINE THIS MUST BE AVOIDED.

(d) <u>THE 67TH AND 85TH EVACUATION HOSPITALS</u>

THE AMERICANS MILITARY FORCES HAVE TWO HOSPITALS IN QUI NHON, THE 67TH AND THE 85TH EVACUATION HOSPITALS, STAFFED BY AMERICAN ARMY MEDICAL CORPS PERSONNEL, MALE AND FEMALE. THEY ARE ESSENTIALLY EVACUATION HOSPITALS, AND ANY PATIENT, SICK OR WOUNDED, WHO WILL NOT BE FIT TO RESUME FULL DUTY WITHIN FOUR WEEKS IS EVACUATED, BY AIR, TO THE AMERICAN BASES IN JAPAN, THE PACIFIC ISLANDS OR THE UNITED STATES. THE HOSPITALS DO TREAT SOME VIETNAMESE CIVILIANS, PRINCIPALLY WAR CASUALTIES, BUT THESE ARE 'EVACUATED', I.E., TRANSFERRED TO THE PROVINCE HOSPITAL IN 5 - 10 DAYS.

THESE MILITARY HOSPITALS ALSO ADMIT AMERICAN AND FREE WORLD CIVILIANS WHO ARE SICK OR INJURED. MANY OF THE DOCTORS IN THESE TWO HOSPITALS DO MEDCAP WORK, BUT NOT AT THE PROVINCIAL HOSPITAL. THE AMERICAN AIR FORCE HAS A SMALL DISPENSARY ON THE AIRFIELD WHERE SIMPLE TREATMENTS AND FIRST AID ARE GIVEN TO SICK OR INJURED VIETNAMESE AIRFIELD LABOURERS.

(e) <u>THE LEPROSARIUM</u>

FIVE MILES TO THE SOUTH OF QUI NHON IS A CATHOLIC-RUN LEPROSARIUM, WHICH ACCOMMODATES SOME 800 PATIENTS AND THEIR FAMILIES. IT IS ALMOST SELF-CONTAINED, IS VERY CLEAN AND TIDY, WITH NEAT VILLAS AND HOUSES LAID OUT IN BEAUTIFUL GROUNDS. IT HAS WARDS, OPERATING ROOM, SCHOOL, ASSEMBLY HALL AND CHAPEL, MOST OF THIS BEING BUILT BY THE LEPERS. THE LEPROSARIUM IS SITUATED ON THE BEACH, WHICH THE NEW ZEALANDERS ARE ALLOWED TO USE. MEDCAP

DOCTORS WORK AT THE LEPROSARIUM TREATING THE DEFORMITIES RESULTING FROM THE DISEASE, ORTHOPAEDIC AND OPHTHALMIC SURGEONS, PHYSICIANS AND GENERAL SURGEONS, THE DISEASE ITSELF BEING TREATED BY THE STAFF OF THE LEPROSARIUM.

(f) THE SCF HOME

IN QUI NHON, THE 'SAVE THE CHILDREN FUND' OF ENGLAND HAVE BUILT A CHILDREN'S HOME, ACCOMMODATING ABOUT 30 CHILDREN AT PRESENT, BUT RE-ORGANISATION AND FURTHER BUILDING WILL INCREASE THIS TO 100 SHORTLY. SOME CHILDREN ARE TRANSFERS FROM THE PROVINCE HOSPITAL, WHO REQUIRE MORE SKILLED AND DETAILED ATTENTION THAN IS AVAILABLE THERE; SOME ARE BROUGHT IN BY AMERICAN DOCTORS, AMERICAN SOLDIERS, REFUGEE CAMP ADVISORS AND FROM THE ORPHANAGES. SOME ARE ORPHANS, OTHERS ARE TEMPORARILY SEPARATED FROM PARENTS, OTHERS HAVE THE PARENTS WITH THEM. THE HOME IS RUN BY AN ADMINISTRATOR AND THREE ENGLISH NURSING SISTERS, ALL TRAINED AT GREAT ORMOND STREET, AND BY THE VIETNAMESE WHOM THEY HAVE TRAINED TO ASSIST THEM. ALTHOUGH NOT A HOSPITAL, OR PART OF THE PROVINCIAL HOSPITAL, IT DOES FORM A VERY VALUABLE ADDITION TO THE FACILITIES AT OUR COMMAND. THE HOME IS NOW LARGELY FINANCED BY THE NEW ZEALAND BRANCH OF THE SCF, BUT THE HOME WAS CONCEIVED AND BUILT BY THE EFFORTS OF MISS BRIDGET STEPHENSON, A VERY REMARKABLE ENGLISH LADY.

(g) THE NZ COMBINED SERVICES MILPHAP TEAM HOSPITALS

IN THE NORTHERN PART OF THE PROVINCE, THE NEW ZEALAND COMBINED SERVICES MILPHAP TEAM ASSISTS IN THE RUNNING OF THREE INSTITUTIONS.

FIRST THERE IS THE BASE HOSPITAL AT BONG SON, AT PRESENT CONSISTING OF A SMALL BUILDING AND FOUR LARGE ARMY TENTS. THE COMPLEX ACCOMMODATES 80 PATIENTS. A NEW HOSPITAL IS ALMOST COMPLETED, WITH 100 BEDS IN FOUR WARDS, WITH A CLINICAL SERVICES WING WITH CASUALTY, OUT-PATIENTS, X-RAY, LABORATORY, DENTAL CLINIC, OPERATING ROOM, AND A SEPARATE STORE.

SECOND THERE IS AN 8 BEDDED DISPENSARY AT HOAI AN, RUN BY TWO NCOS, AND VISITED BY A DOCTOR. NO PATIENT EVER STAYS IN THE DISPENSARY OVERNIGHT, SINCE SECURITY IS VERY POOR, AND THE VIET CONG HAVE SHOT IT UP ON SEVERAL OCCASIONS WITH LOSS OF LIFE.

THIRD THERE IS A 25 BED HOSPITAL AT PHU MY, WITH A MATERNITY WARD ATTACHED. THIS IS RUN BY 3 NCOS, WITH A DOCTOR VISITING.

THE NZ MILPHAP TEAM TRANSFER THE MORE SERIOUS CASES TO THE PROVINCE HOSPITAL, BUT ARE ABLE TO MANAGE MOST OF THE WORK PRESENTING. TRANSFER BETWEEN CIVILIAN HOSPITALS IS NOT ALWAYS EASY. THE DISTANCE BY ROAD, SOME 80 MILES, IS TOO FAR FOR A SERIOUS CASE, TAKING INTO CONSIDERATION THE STATE OF THE ROAD WHICH, IN ANY CASE, IS INSECURE AT NIGHT. TRANSFER IS USUALLY BY HELICOPTER, AND ONLY IF AN AMERICAN ARMY UNIT WITH MANY HELICOPTERS IS STATIONED NEARBY, E.G., THE 1ST AIR CAVALRY, ARE THESE EASILY AVAILABLE.



Inside Ward 13,
Surgical
Convalescents



The Mortuary.



The main Ward
buildings,
New Hospital,
Wards 1-8.



The main Ward buildings,
New Hospital,
Wards 1-8.




Maternity Ward,
with Paying ward
on first storey.






Maternity Ward,
with Paying ward
on first storey.



Maternity Ward.
Wards 9 & 10.



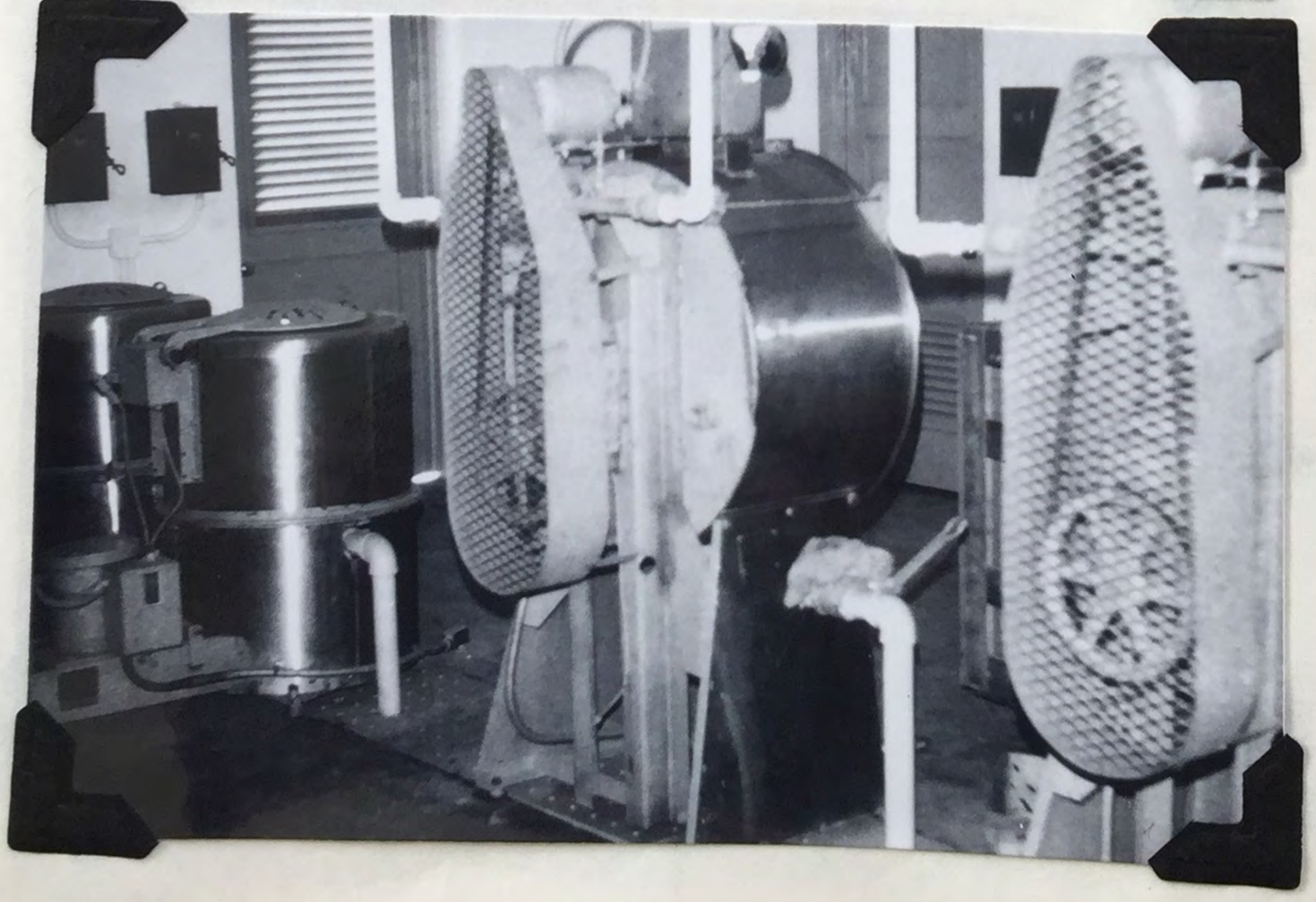

The Operating Ro
Resuscitation &
Recovery Room
Unit.



Wards 3& 4.



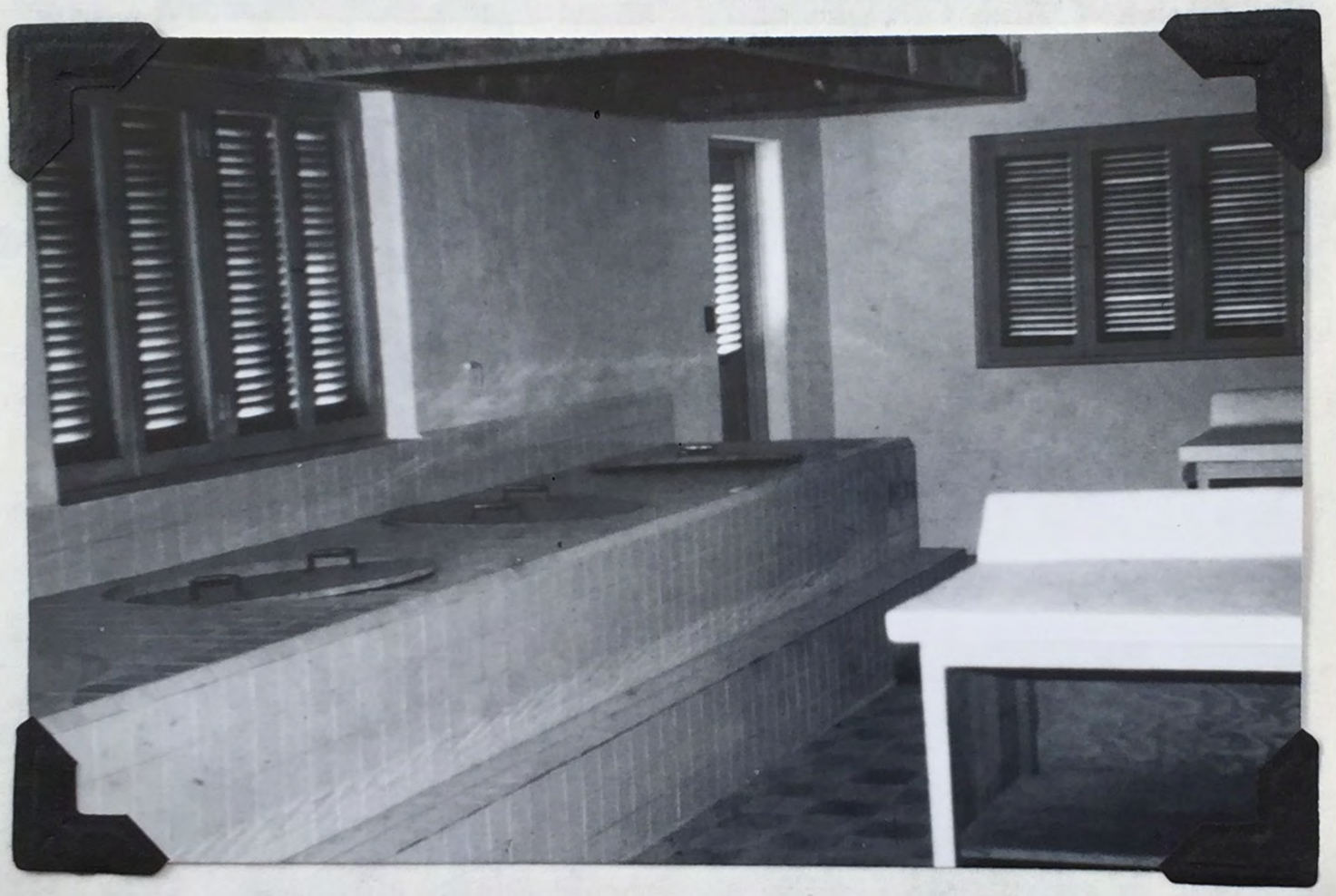
Old original laundry.



New Laundry.




Old Kitchen.



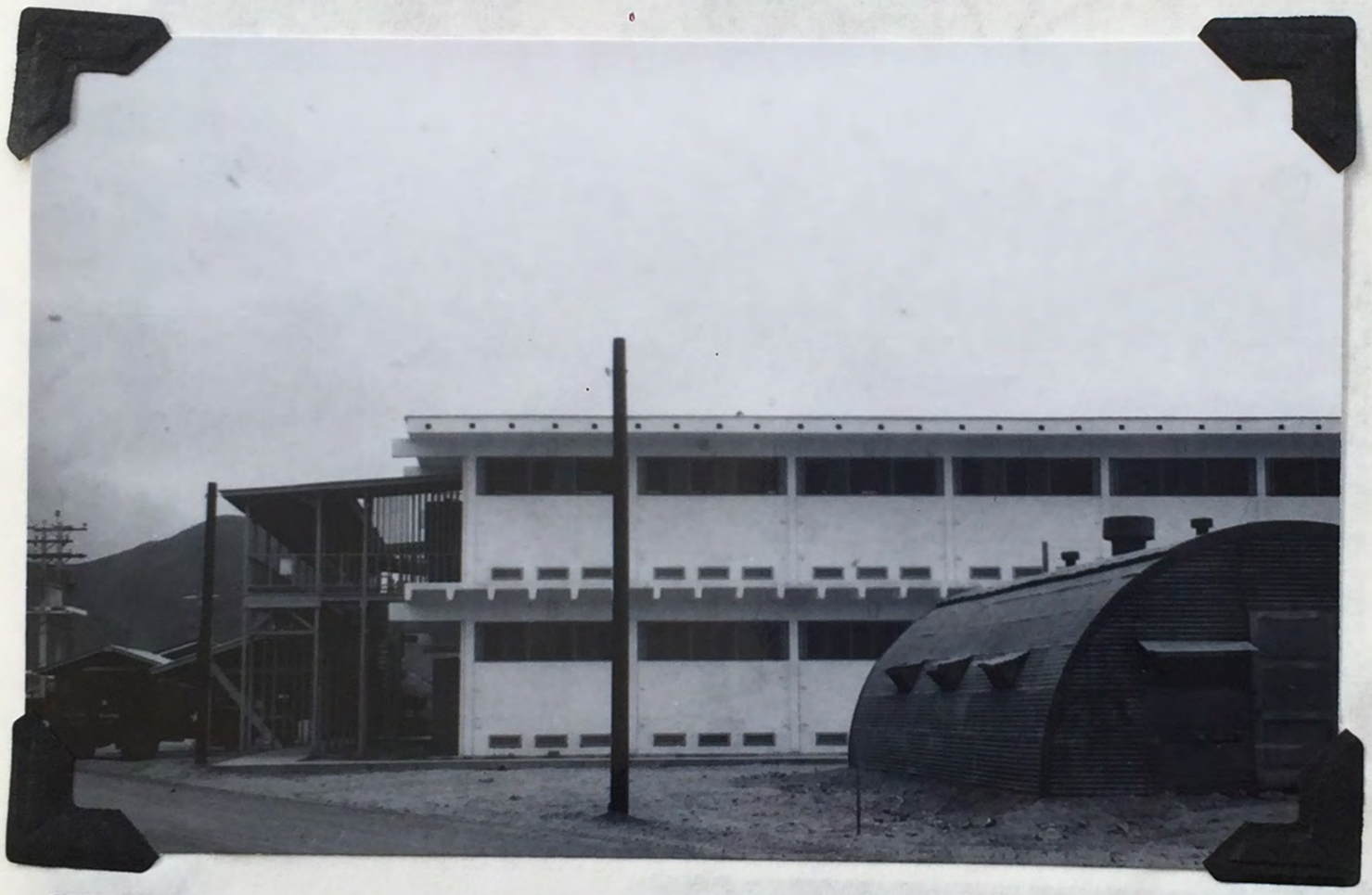
New Kitchen.




Red Cross Office
& Dr Hoan's
Rooms.



The 67th Evac-
uation Hospital.



The 67th Evac-
uation Hospital.



Rural Maternity
Hospital, Hoai
An.

ANYONE ELSE. ONLY RARELY IN THE CHILDREN'S WARD WOULD THIS BE OVERCOME. AN EVEN GREATER PROBLEM IS THE MONTAGNARD PATIENT, WHERE LANGUAGE AND MUTUAL DISLIKE AGGRAVATE THE DIFFICULTIES.

## 9. The Organisation of the Hospital.

The hospital can be divided into ten main areas of activity:

(a) The Out-patients Department
(b) The Receiving Room or Cap Cuu
(c) The Special Departments
(d) The Operating Room Unit, or Giai Phau
(e) The Wards
(f) The Maternity Ward
(g) The Logistics Department
(h) The Kitchen and Laundry
(i) The Administration
(j) The Mortuary
(k) The Temple

### (a) The Out-patients Department

This is the clinic run by the Vietnamese Director of the Hospital. Little acute work is seen here, the majority of patients being civil servants with minor illnesses. The clinic is situated in the administrative wing of the hospital, as are the X-Ray and Laboratory.

Some 15 - 20 patients are seen here daily. A dental clinic adjoins the department, manned by a dental nurse who does simple dentistry. A Dentist comes once weekly.

### (b) Cap Cuu, the Receiving Room

All patients coming to the Hospital come first to this department, except the Directors out-patients. It is the converted ground floor Ward in the first Ward block. It is manned by the New Zealand Medical Officer or physician during the day, and visited at frequent intervals during the day by one of the surgeons.

It receives acute and non-acute cases, medical and surgical and a very wide range of clinical material passes through each day. It is a large room with three rows of three simple beds for the examination of patients. The Vietnamese nurse in charge is efficient and able, and it is she who sorts the patients into medical and surgical. Here the Interpreters are absolutely essential.

Cap Cuu is principally a sorting area, separating the medical from the surgical cases, and then assessing each patient. Adjoining the main room is a minor operating room, which has been staffed by a New Zealand nurse until very recently. Here the minor suturing, abscesses, chest aspirations, lumbar punctures etc. are done. Most suturing is done by the nurse.

Surgical cases are seen at the repeated visits by the surgeons. Although an attempt is made to roster one surgeon to acute work each day, the volume of work makes this difficult, and a fluid arrangement has to be accepted. Cases requiring operation, acute or cold, are sent on to the Unit, via X-Ray if necessary.

Medical cases are seen by the physician, and either admitted to the Hospital or given treatment as Out-patients.

There are times when the indolence of the Nurses is very irritating, but they are extremely good when a sudden influx of Casualties occurs. In no time they will have the necessary intravenous resuscitation going, and provided a doctor is there to give clear directions, the patients are sorted and cleared rapidly. On one occasion a truck overturned and fifty injured passengers arrived at the Cap Cuu within ten minutes. These were cleared to wards, X-Ray, minor surgery, the Unit or sent home within one hour. At times like these the Vietnamese are excellent.

Cap Cuu received an average of 1289 new patients each month, an annual total of 15,473.

Of these 10,904 were admitted, an average of 908 each month. The proportion admitted indicates the severity of illness or injury of the average out-patient.

The minor surgery room gives an average of 342 treatments monthly, with an annual total of 4104.

The vast majority of patients come before dark, which is about 7 p.m. throughout the year. No minor surgery is done in Cap Cuu after 4 p.m., and most patients are seen by the New Zealanders.

The Medical Records Office is in this building, and is not very satisfactory. The case notes consist of one sheet with the patients statistics, and one sheet which is used for history, progress, operation, treatment orders, treatment record etc, clearly a very unsatisfactory system. Admittedly there is rarely time to write more than the barest notes, and the treatment, but nevertheless a better system should be devised. This should be at National level, and be instituted at all Hospitals. It is not common for a follow-up patient to have his original notes unless he took them home with him from the Ward on discharge.

(c) <u>The Special Departments</u>

Only the X-Ray and Laboratory fall into this category. There is no physiotherapy, occupational therapy, or rehabilitation.

The X-Ray has a modified American Field Portable machine, used with a table and a Bucky diaphragm, which is used for most films. There is a larger machine which is used for chests, and for screening but it is very sensitive to voltage fluctuations, and is out of commission for long periods. A second mobile portable machine is kept in the operating room unit, for urgent films there.

Most of the work is the taking simple types of X-Rays on War and domestic accidents, doing an average of 1700 exposures on 1087 patients each month. Indexing and filing are good.

The limited staff are available at all hours and do a very good job. Unfortunately they are all liable to call-up into the Army, which would immobilise the department.

The Laboratory has not yet got into its stride. There are three technicians, and the New Zealand Technologist, with two additional girls who do only Malaria slides for the Public Health Division.

THE LABORATORY CAN COPE WITH SIMPLE BLOOD EXAMINATIONS, FOR HAEMOGLOBIN, RED AND WHITE COUNTS, SIMPLE URINE TESTING, AND STOOL EXAMINATIONS FOR BACTERIA OR OVA, BUT IT CANNOT DO ANY BIOCHEMISTRY, OR ELECTROLYTES. AFTER A GREAT DEAL OF DIFFICULTY THE EQUIPMENT, SUCH AS FLAME PHOTOMETER AND SPECTROPHOTOMETER ARE TO HAND, BUT ARE NOT YET FUNCTIONING. THIS IS A VERY GRAVE LACK, AND WHEN THE LABORATORY CAN EXTEND TO THESE IMPORTANT TESTS, CLINICAL CONTROL OF THE PATIENTS WILL IMPROVE.

(D) <u>THE OPERATING ROOM UNIT OR GIAI PHAU</u>

KNOWN AS 'THE UNIT', AND ALWAYS REFERRED TO AS SUCH, THIS BUILDING COMBINES A RECEIVING-RESUSCITATION ROOM, OPERATING AND RECOVERY ROOMS.

OPENING OFF A CENTRAL HALL ARE TWO OPERATING ROOMS, WITH A SINGLE 2-SINK SCRUB ROOM BETWEEN THEM. THE ROOMS ARE SMALL AND SIMPLE, BUT HAVE ALL THE BASIC NEEDS, WITH REASONABLE LIGHTING, DIATHERMY, SUCTION, SIMPLE ANAESTHETIC MACHINES, A SMALL BOILING WATER 'STERILIZER' AND THE USUAL TYPE OF OPERATING TABLE, CAPABLE OF ANY POSITION.

THERE IS NO ANAESTHETIC ROOM, AND INDUCTION TAKES PLACE ON THE OPERATING TABLE. THE TABLES HAVE THE USUAL FOAM-RUBBER CUSHIONING, AND WHEN IN USE ARE COVERED WITH A LARGE RUBBER SHEET, WHICH IS CHANGED AND WASHED BETWEEN EACH CASE. NO LINEN IS USED ON THE TABLES. THE FLOORS ARE TILED, AND THE WALLS TO A HEIGHT OF 5 FEET. THERE IS ONLY ONE ACCESS DOOR TO EACH ROOM, SO THAT PATIENTS COME IN AND LEAVE THROUGH THE SAME DOOR. THE SCRUB ROOM OPENS THROUGH A SECOND DOOR. THE WINDOWS ARE NOT FIXED, BUT ARE HINGED FRAMED-GLASS SHUTTER-TYPE, NORMALLY LEFT OPEN TO GET WHATEVER BREEZE THERE IS, THE OPENING BEING PROTECTED BY TATTERED FLY-WIRE. THE ROOMS HAVE AIR-CONDITIONING BUT THEY DO NOT WORK.

DURING THE HOT MONTHS, OPERATING CONDITIONS CAN BE VERY TRYING.

A SMALL ROOM USED AS A MINOR OPERATING ROOM OPENS FROM THE HALL. IT IS ALSO USED FOR PLASTER CHANGES, DRESSINGS, AND EXAMINATIONS. IT IS NOT SUITABLE FOR AN ANAESTHETISED PATIENT, AS THERE IS NO SUCTION.

THERE IS A LARGE ROOM WHICH IS USED AS A CENTRAL STERILISING UNIT FOR THE OPERATING AND RECOVERY ROOMS. HERE DRESSINGS, OPERATING ROOM LINEN, INSTRUMENT SETS AND EXTRA INSTRUMENTS ARE AUTOCLAVED IN ONE OF THREE MACHINES. THIS ROOM ACTS AS A CHANGE ROOM FOR DOCTORS AND MALE NURSES, AN OFFICE AND A COFFEE ROOM. CLEARLY, THIS IS NOT IDEAL BUT LIMITED ACCOMMODATION MAKES IT NECESSARY.

THE RECEIVING ROOM IS REACHED DIRECT FROM THE COVERED WAY, AND OPENS INTO THE HALL. ORIGINALLY THE HALL WAS THE RECEIVING ROOM, AND THE RECEIVING ROOM WAS THE RECOVERY ROOM. IN THOSE DAYS THE HALL WAS ALWAYS FULL OF STRETCHERS AND PATIENTS, WITH LITTLE ROOM TO MOVE. TO GET A PATIENT INTO THE OPERATING ROOMS ONE HAD TO SCRAMBLE OVER THE STRETCHERS OF WOUNDED, WHILST TRYING TO KEEP THE STRETCHER FROM TIPPING. NOW, WITH THE NEW RECEIVING ROOM, THERE IS AMPLE SPACE TO MOVE, AND THE HALL IS KEPT CLEAR.

Every surgical patient requiring more than the minor treatment that can be done in Cap Cuu, is sent to this receiving room, and here the sorting and resuscitation takes place. A normal morning visit to Cap Cuu will produce a wide variety of surgical material from War wounds, acute and cold surgery, some very serious, some relatively minor. Since there is no way of predicting the volume of work which may arrive at any time, the aim is to clear the surgery as it comes. In some instances one can admit cold surgery to the wards for operation the following day, but if the volume of acute surgery is great and a few days elapse, the patient will have gone home. The same occurs if a patient is admitted for a few days of preparation prior to operation. With some cases this does not matter greatly, but with malignancies it is distressing. Consequently, it is necessary to try and operate as the patients arrive.

Patients for operation receive no preparation other than resuscitation where it is needed. There is neither time nor staff to wash, and change into theatre clothes, because with War casualties and accidents one does not know in what order the patients will be dealt with, and they are done as they become fit. Premedication is not given. In many cases, morphia or pethidine are given for pain during the waiting and resuscitation period, but a formal sedative with atropine is not given. When in the operating room, the clothing is removed and part or all the patient washed. It is important to make sure that clothing and any valuables are handed to the relatives, otherwise they will be stolen. When the clothing is so torn and soiled that it is no use, the patient is given clothes received from the New Zealand Red Cross.

The lack of what we would regard as imperative pre-operative preparation, as regards clothes, washing and premedication, and the taking of these obviously surgically dirty patients directly into the operating room, did not lead to any of the catastrophies which similar action would lead to in Hospitals at home. Certainly some of the rules were relaxed in the Emergency Hospitals in Birmingham during the Air Raids, without disaster, and conditions in Viet-Nam are far worse.

The Recovery room, built this year, and opening off the Resuscitation room, has 11 beds, with room for an additional 17 stretchers if required. With a full complement the stretchers and beds would be touching, side to side and end to end. If a stretcher was raised on trestles, another would be placed underneath it. Fortunately it was not often that full. Here as elsewhere in the hospital, it was not uncommon to have two patients in a bed.

Where possible a child would be put at the foot of a bed containing an adult. Relatives were present in the Unit at all times, and were more help than hindrance.

(e) <u>The Wards</u>

All are open wards except the Maternity Ward, are numbered, and are designated by the type of patient they accommodate.

| | | |
|---|---|---|
| **New Hospital** | | |
| Ward 1 | Childrens Medical and Surgical | 29 cots |
| Ward 2 | Converted to Cap Cuu | 10 + 6 beds (Cholera) |
| Ward 3 | Medical | 28 beds |
| Ward 4 | Surgical. Head, Chest and Abdominal | 30 beds |
| Ward 5 | (Surgical. General, Burns and Minor | 23 beds |
| | (Medical | 5 beds |
| Ward 6 | Surgical. Fractured Femur | 29 beds |
| Ward 7 | Surgical. Lower Limb | 33 beds |
| Ward 8 | Surgical. Upper Limb | 27 beds |
| Ward 9 | (Medical and Surgical | 12 beds |
| | (Maternity | 20 beds |
| | Paraplegic Room Surgical | 4 beds |
| Ward 10 | Maternity | 21 beds |
| Ward 16 | Surgical. (Vietnamese doctors only) | 25 beds |
| | Recovery Room Surgical | 11 beds |
| **Old Hospital** | | |
| Ward 11 | Medical. (Plague and T.B.) | 37 beds |
| Ward 12 | Surgical Convalescent | 29 beds |
| Ward 13 | Surgical Convalescent | 20 beds |
| Ward 14 | Surgical Convalescent | 23 beds |
| Ward 15 | Not Used. Store | |
| | **TOTAL:** | 420. |

Strict conformity to the Ward classification was not carried out. If one ward was overcrowded, patients would be admitted to another ward. Since there were always more patients than beds, usually between 500 - 530 patients, one was never faced with refusal of a ward Nurse to take a patient. One never bothered about this, you just sent patients to whichever ward you thought was the most suitable for the patient, confident that the Ward Charge-Nurse would cope, either by putting another stretcher in the centre of the ward, or doubling up in a bed. Patients accepted these conditions, knowing that under the circumstances nothing else could be done. It was noticeable that those patients who were able to, kept their beds clean and tidy, with linen brought in by relatives.

Because wards were designated by condition, it follows that there was no segregation of the sexes, and not only are the Wards shared by men and women, but the beds too. This never seemed to cause any problem, or embarrassment, the pervading atmosphere was one of cheerful resignation. Not only was there mixing of the sexes, but also mixing of the 'enemy' with the 'friendly' civilians. Known Viet Cong and persons sufficiently suspect to be classified as security risks were nursed in the same wards and even the same beds as the other patients. Their only identification was the chain or handcuff which tethered them to the bed. There never seemed to be any friction between them and the other patients. In many cases they seemed

BETTER NOURISHED AND MORE CO-OPERATIVE AS PATIENTS. AT LEAST THEY COULD NOT GO HOME IN THE MIDDLE OF TREATMENT!

FOR MOST OF THE YEAR THE WARD TOILETS WERE OUT OF ACTION, BUT THERE WERE NEVER ANY UNPLEASANT SIGHTS OR ODOURS IN THE WARDS AS A RESULT OF THIS. THE VIETNAMESE ARE SO DISCREET THAT ONE WAS RARELY AWARE THAT TOILETING WAS TAKING PLACE. THE TIN CANS, BOTTLES OR PANS WERE EMPTIED OUT IN THE HOSPITAL GROUNDS.

THE LARGE NUMBER OF PATIENTS IN THE WARDS MEANT A GREAT DEAL OF CLERICAL WORK FOR THE CHARGE NURSE. TO OBTAIN THE DAYS SUPPLY OF DRUGS SHE HAD TO LIST EVERY PATIENT AND EVERY DRUG THEY WERE HAVING, THE IV SETS REQUIRED AND THE IV FLUIDS NEEDED. THIS WAS DONE EVERY MORNING, SO THAT IF A PATIENT WAS ADMITTED LATER, THEY COULD GET NO TREATMENT UNTIL THE FOLLOWING DAY, UNLESS THIS WAS SENT WITH THEM. UNTIL THE THEFT OF DRUGS CAN BE CONTROLLED, THIS SYSTEM HAS TO OPERATE, BUT IT IS CUMBERSOME AND INEFFICIENT.

INJECTIONS WOULD BE GIVEN AS ORDERED, WHETHER ONCE, TWICE OR THREE TIMES DAILY, BUT ORAL PREPARATIONS WOULD BE ISSUED TO THE PATIENT OR RELATIVES ONLY ONCE DAILY, NO MATTER HOW MANY TIMES DAILY THE DOSE WAS TO BE GIVEN, NOR HOW MANY PREPARATIONS WERE GIVEN. A HANDFUL OF PILLS AND CAPSULES WOULD BE HANDED OVER, AND AT WEEKENDS THE TWO DAY SUPPLY WOULD BE GIVEN. IN VIET-NAM, INTRAVENOUS MEDICATION IS REGARDED AS THE MOST EFFICACIOUS, FOLLOWED BY INTRA-MUSCULAR AND SUB-CUTANEOUS INJECTIONS. TABLETS AND PILLS, NO MATTER HOW BRILLIANTLY COLOURED, WERE REGARDED AS A VERY POOR TREATMENT. ONE WAS OBLIGED, ON OCCASIONS, TO GIVE SOME HARMLESS INJECTION IN ORDER TO KEEP THE PATIENT IN HOSPITAL TO BE SURE THEY RECEIVED THE ORAL PREPARATION THEY NEEDED. THERE WAS NO WAY OF KNOWING THAT THE DOSES ORDERED EITHER OF INJECTIONS OR ORAL MEDICATION WAS GIVEN.

INTRAVENOUS DRIPS WERE PUT UP BY THE NURSES, AND CATHETERISATION WAS DONE BY THEM, AND HERE AGAIN THE SEX OF NURSES AND PATIENTS DID NOT MATTER. IN MANY WAYS THE VIETNAMESE HAVE AN ENVIABLE ATTITUDE TO ILLNESS AND TREATMENT.

WHERE IT WAS CLEAR TO THE RELATIVES THAT A PATIENT WAS LIKELY TO DIE, HE OR SHE WOULD BE TAKEN HOME. SOMETIMES THIS WAS ALL FOR THE BEST, BUT IN SOME INSTANCES WHEN DEATH WAS BY NO MEANS INEVITABLE, THE PATIENT'S HOPE OF SURVIVAL WAS REMOVED BY HIS BEING TAKEN HOME. THIS WOULD OCCUR WITH CEREBRAL MALARIA, TETANUS, TYPHOID, AND RABIES INCUBATIONS UNDERGOING IMMUNISATION. IN SOME OTHER PATIENTS THE INABILITY OF THE PATIENT OR RELATIVES TO UNDERSTAND THAT SOME DISEASE REQUIRED LONG TREATMENT WOULD RESULT IN THEM GOING HOME. HERE, TUBERCULOSIS WAS THE COMMONEST FAILURE.

THE NEW ZEALAND NURSES ASSIGNED TO THE WARDS SUPERVISE AND ASSIST IN THE TREATMENT OF THE PATIENTS UNDER THE CARE OF THE NEW ZEALAND DOCTORS. THE VIETNAMESE NURSES DO NOT LIKE THEM TO ATTEND TO THE PATIENTS UNDER VIETNAMESE CARE. THIS IS UNFORTUNATE BECAUSE THEY COULD BE VERY USEFUL. HOWEVER, AS SOME 80% OF THE PATIENTS ARE UNDER NEW ZEALAND CARE, THE MAJORITY BENEFIT. THE NEW ZEALAND NURSES DO THE DAILY ADJUSTMENT OF SPLINTS, SUPERVISE AND CHANGE PLASTERS, DO WHAT PHYSIOTHERAPY THEY CAN, HELPED ON OCCASIONS BY AN AMERICAN ARMY

PHYSIOTHERAPIST, LOOK AFTER THE PARAPLEGICS, AND DO THE GENERAL NURSING CARE OF THOSE PATIENTS WITHOUT RELATIVES, WHO GET NO NURSING FROM THE VIETNAMESE.

(f) THE MATERNITY WARD

FOR THE FIRST FEW YEARS OF THEIR TIME IN QUI NHON, THE TEAM DOCTORS HAD VERY LITTLE TO DO WITH THIS WARD, AND THEY WERE NOT WANTED BY THE VIETNAMESE MIDWIVES. ONLY WHEN SEVERE COMPLICATIONS HAD ARISEN WOULD THEY BE CALLED TO HELP. THIS ATTITUDE HAS ALL CHANGED AND DURING THE LAST YEAR FREQUENT CONSULTATIONS WERE SOUGHT. THE VIETNAMESE NATIONAL MIDWIFE IS WELL TRAINED AND DEXTROUS. NORMAL DELIVERY IS ALWAYS CONDUCTED BY HER. SHOULD COMPLICATIONS ARISE, SHE WILL SEND FOR A DOCTOR, USUALLY ONE OF THE NEW ZEALANDERS, AND IT IS A NORMAL EVENT NOWADAYS FOR CAESARIAN SECTION TO PRODUCE BOTH A LIVE MOTHER AND BABY, BUT THIS IS A RECENT ADVANCE.

THE COMMON INDICATIONS FOR CAESARIAN SECTION ARE OBSTRUCTED LABOUR, USUALLY MALPOSITION, AND FOR ANTE-PARTUM HAEMORRHAGE, AND IN THOSE PATIENTS COMING TO THE MATERNITY WARD IN EARLY LABOUR, HELP IS SOUGHT AS RAPIDLY AS IT WOULD BE AT HOME. ONLY THOSE WHO COME FROM GREAT DISTANCES HAVE ADVANCED COMPLICATIONS.

VERY LITTLE ANTE-NATAL WORK IS DONE, AND THERE IS ROOM FOR MUCH IMPROVEMENT IN THE GENERAL STANDARD OF OBSTETRICS. ALL BABIES ARE IMMUNISED WITH BCG, AND MOST GO HOME WITHIN TWO OR THREE DAYS. THE BABY WILL BE TAKEN HOME IF THE MOTHER IS DETAINED, AS WITH THE CAESARIAN SECTIONS. THERE IS NO NURSERY IN THE WARD, THE BABIES SHARE THE MOTHER'S BED. COTS ARE ON ORDER SO THAT THIS WILL BE CORRECTED.

IN SPITE OF THE POOR CONDITIONS, LITTLE INFECTION IS SEEN, AND THE CAESARIAN SECTIONS HEAL WELL. ALL BUT VERY FEW OF THESE ARE LOWER SEGMENT SECTIONS, BUT SOME OF THE VIETNAMESE DOCTORS STILL DO A CLASSICAL.

THIS IS A BUSY WARD, DELIVERING SOME 200 BABIES EACH MONTH. IT HAS A WAITING WARD WITH 8 BEDS, A DELIVERY ROOM, 8 4-BEDDED POST-NATAL ROOMS, AND IT HAS A LECTURE ROOM, AS QUI NHON IS A TEACHING HOSPITAL FOR THE RURAL MIDWIVES.

THE VIETNAMESE MIDWIFE DELIVERS IN THE LITHOTOMY POSITION.

(g) THE LOGISTICS DEPARTMENTS

THIS COMPRISES THE PROVINCIAL WAREHOUSE, THE HOSPITAL STORES AND THE PHARMACY. ORIGINALLY THE HOSPITAL INDENTED DIRECT TO THE MAIN MEDICAL STORAGE DEPOT AT PHU THO IN SAIGON, AND THE ORDER WAS SENT DIRECT TO QUI NHON, BY AIR. THIS WAS A VERY INEFFICIENT SYSTEM, AS PHU THO HAD TO SUPPLY THE WHOLE OF VIET-NAM, AND DELAYS, FAILURE OF ARRIVAL OF STORES, AND 'DUE OUTS' (STORES NOT AVAILABLE AT TIME OF ORDER BUT FOR WHICH THE ORDER IS HELD AND WILL BE FILLED LATER) WERE NUMEROUS. THIS SYSTEM HAS BEEN DRASTICALLY OVERHAULED, AND DECENTRALISED, AND NOW A REGIONAL WAREHOUSE COMPLEX AT NHA TRANG HOLDS THE BULK STOCK FOR THE WHOLE OF REGION 2, WITH A PROVINCIAL WAREHOUSE IN THE HOSPITAL GROUNDS AT QUI NHON HOLDING A 90 DAY SUPPLY FOR ALL THE VARIOUS MEDICAL SERVICES IN BINH DINH.

The Hospital orders direct from the Warehouse. This has eliminated a bulk pharmacy at the Hospital, which was required under the old scheme, leaving only the Pharmacy itself, which orders a 30 day supply. If additional stores are needed, it is a simple matter to get a supplementary supply.

One difficulty is that the items are listed in a Federal Catalogue, and each item has a Federal stock number, comprising eleven numbers, which must be quoted to get the item. The Catalogue is not easy to use, many items are under different names to those we are familiar with, e.g., Liquid Paraffin is listed as Mineral Oil.

Medical equipment is ordered through the Warehouse, but is held in a separate store in the hospital, which has been run by the New Zealand Administrator to date. The Warehouses are run by Americans with Vietnamese and Korean assistants.

During the year a team of logistics experts visited many Hospitals in Viet-Nam, advising on better methods, and their teaching has been very useful.

As has been mentioned earlier, Ward ordering is a cumbersome, time-wasting system, and the dispensing for out-patients is very poor. Drugs ordered are issued in a twist of paper, without instructions, and if more than one preparation is ordered, a mixed bag of pills will be issued. It is little wonder that sometimes patients take the whole lot at one time, and then wonder why a dramatic cure does not result. It is very important, therefore, to order the least number of different drugs, and these in small quantities when treating out-patients.

Rapid improvements are taking place in the Pharmacy, and within a year, it should be running efficiently.

(h) Kitchen and Laundry

The new laundry, already described, has allowed a limited amount of bed linen to be used in the Hospital, and with increased facilities in the future, this will be even better. The present equipment occupies only a small part of the new building, and there is room for expansion.

The new kitchen has made it possible to cook three meals daily for all patients. Breakfast is only a light meal of rice soup, lunch is rice with vegetables and fish or meat, and the evening meal the same. At all times a huge vat of tea is kept brewing, the Vietnamese being great tea drinkers, the well water being undrinkable unless boiled.

Cooking is done under contract, and the rising prices during the year were making this an unprofitable operation for the contractor, and the size and quality of the meals were falling off. It is planned to get the services of a Vietnamese Roman Catholic Sister to run the kitchen, as was done in the old days, prior to the fall of the Diem regime. This should improve not only the meals but also the hygiene.

(i) The Administration

The administration is entirely Vietnamese, although assistance

ADVICE AND ENCOURAGEMENT IS GIVEN BY THE NEW ZEALAND TEAM LEADER AND ADMINISTRATOR. IN VIET-NAM ONE GETS FURTHER BY TRYING TO UNDERSTAND THEIR OUTLOOK AND DIFFICULTIES THAN BY ABUSING THEIR FAILURES. SOMETIMES IT IS NECESSARY TO USE PRESSURE, BUT A DISPLAY OF ANGER GETS ONE NOWHERE, AND IF ONE HAS SUCCUMBED TO THIS TEMPTATION, IT IS NECESSARY TO MAKE A FORMAL GESTURE TO GET RELATIONS BACK TO THEIR OLD FOOTING. THIS MAY BE NO MORE THAN A FORMAL GREETING WITH HAND-SHAKING, BUT ONE MUST MAKE THE GESTURE, OTHERWISE A WALL OF OBSTRUCTION APPEARS. THE GREATEST DIFFICULTY IS ENCOUNTERED IN GETTING THE VIETNAMESE TO APPROACH A SENIOR IN ORDER TO GET SOMETHING DONE. THERE ARE MANY PROBLEMS AT THE HOSPITAL WHICH CAN ONLY BE DEALT WITH THROUGH THE PROVINCE CHIEF'S OFFICE, BUT HOSPITAL ADMINISTRATIVE STAFF ARE VERY LOATH TO APPROACH THIS OFFICIAL OR HIS STAFF. THE SAME ATTITUDE APPLIES WITH APPROACHES TO THE AMERICANS, BUT IT IS IMPORTANT THAT THE VIETNAMESE STAFF BE ENCOURAGED TO DEAL WITH THEIR OWN PROBLEMS AND NOT LEAVE THEM FOR THE NEW ZEALANDERS TO SOLVE. IT IS NECESSARY AT TIMES TO OFFER TO ACCOMPANY A VIETNAMESE STAFF MEMBER ON ONE OF THESE VISITS, BUT TO MAKE HIM DO THE TALKING.

HOSPITAL ADMINISTRATION IS HAMPERED BY LACK OF MAINTENANCE STAFF. A VIETNAMESE HOSPITAL HAS NO ENGINEER, NO PLUMBER, NO CARPENTERS, NO PAINTERS, NO ELECTRICIAN, OR GROUNDSMEN. CONSEQUENTLY NO PREVENTATIVE MAINTENANCE IS DONE, AND WHEN SOMETHING BREAKS DOWN, THE APPROPRIATE ARTISAN IS CALLED FROM THE TOWN. THIS MEANS THAT BROKEN DOORS, WINDOWS, AND FLY-SCREENS, BLOCKED PIPES, ELECTRICAL FAILURES ARE AN EVERYDAY OCCURRENCE. ONLY BY A GREATLY INCREASED EXPENDITURE AND THE AVAILABILITY OF THE NECESSARY STAFF COULD THESE PROBLEMS BE OVERCOME, AND WITH SO MANY MEN IN THE ARMED FORCES, THERE IS NO HOPE OF AN EARLY SOLUTION.

(J) <u>THE MORTUARY</u>

THIS WAS A TROUBLESOME AREA DURING THE EARLY MONTHS OF THE YEAR. IN VIET-NAM, IT IS THE RELATIVES WHO TAKE THE DECEASED AWAY AND ARRANGE BURIAL. IT WAS NOT UNCOMMON FOR THE BODIES OF THOSE WHO HAD DIED IN HOSPITAL WITHOUT RELATIVES PRESENT OR AVAILABLE, TO BE DUMPED AT THE MORTUARY, WHICH IS ONLY A SMALL OPEN BUILDING WITH NO STAFF, AND NO REFRIGERATION. ALSO, IT WAS NOT UNCOMMON FOR BODIES OF PATIENTS DYING ELSEWHERE TO BE DUMPED AT THE MORTUARY, WITHOUT ANYONE BEING NOTIFIED. IN THE CLIMATE OF VIET-NAM, A BODY RAPIDLY DECOMPOSES AND THE STENCH WOULD BE MOST OFFENSIVE, NOT ONLY TO US, BUT ALSO TO THE OCCUPANTS OF THE ARMY BARRACKS ADJACENT TO THE HOSPITAL. EVENTUALLY THE DUMPING WAS STOPPED, AND THE HOSPITAL ADMINISTRATION GIVEN THE AUTHORITY TO BURY UNCLAIMED BODIES. THE OFFENSE HAS NOW CEASED.

NO POST-MORTEM EXAMINATIONS WERE DONE BY THE NEW ZEALANDERS, WHO HAD NEITHER THE TIME NOR THE AUTHORITY. MEDICOLEGAL AUTOPSIES WERE DONE BY ONE OF THE VIETNAMESE DOCTORS.

(K) <u>THE TEMPLE</u>

NEAR THE MORTUARY IS A SMALL BUDDHIST CHAPEL, BUILT BY VOLUNTARY DONATIONS, AT WHICH RELATIVES PRAY, AND TO WHICH ANY PATIENT AT THE HOSPITAL MAY GO. THERE IS NO CHRISTIAN CHAPEL AT THE HOSPITAL.



Arrival at Hospital
by enclosed hammock
(Dr Dobsons Film)



Arrival at Hospital
by hammock.
(Dr Dobson's Film)



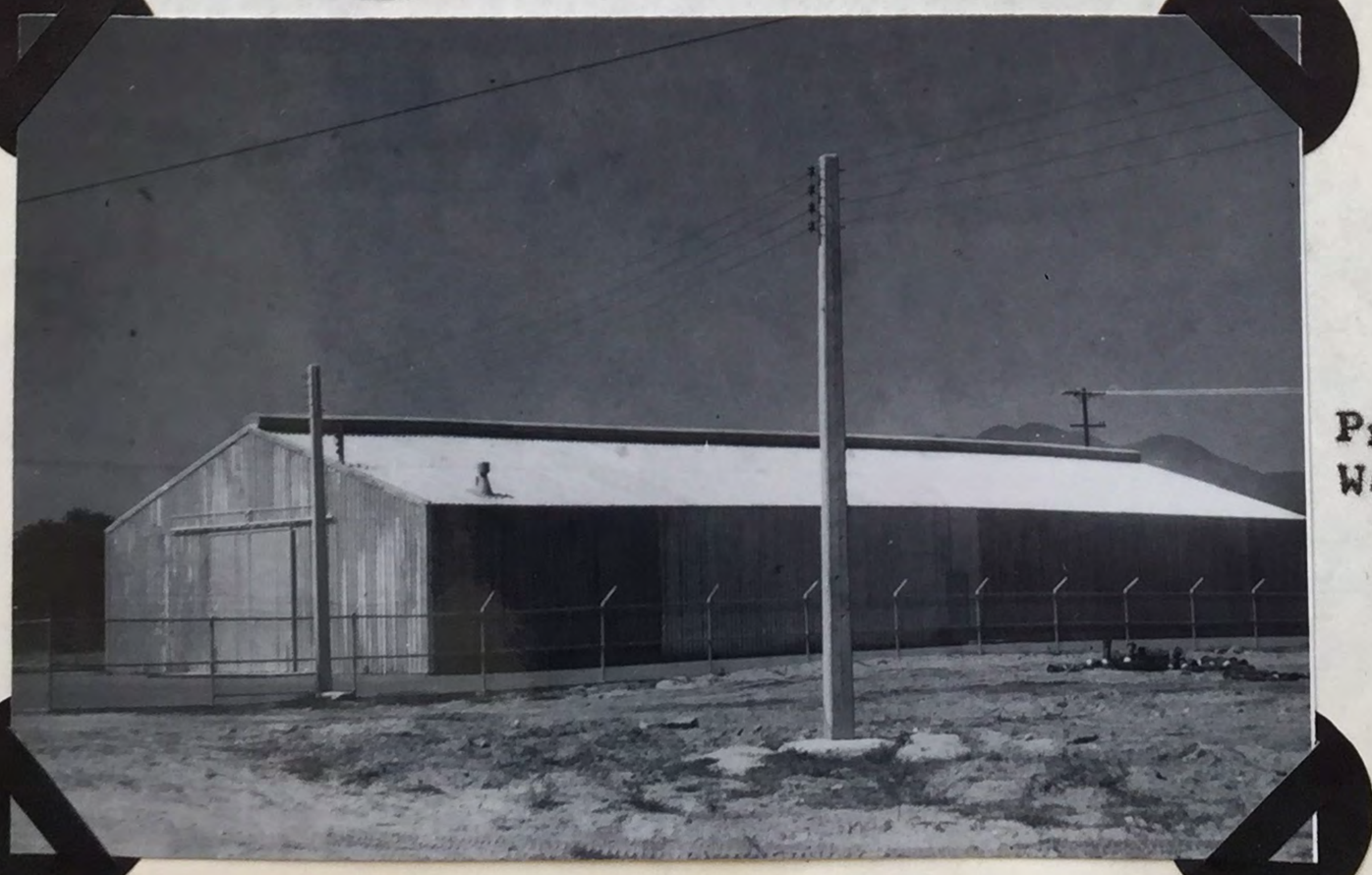
Provincial Medical
Warehouse.



Arrival at Hospital
by enclosed hammock
(Dr Dobsons Film)



Arrival at Hospital
by hammock.
(Dr Dobson's Film)



Provincial Medical
Warehouse.



Interrogation of a patient in Cap Cuu, using an interpreter.
(Dr Dobson's Film)



Patients in Cap Cuu.
(Dr Dobson's Film)



Preparing linen for autoclaving in the Operating Room Unit. Note that the nurse squats in the traditional manner on the Table.



Ward 6. Fractured femurs.

As it was with the old beds at the beginning of the year.



Ward 8. Lower limb injuries. Note the number of stretchers in the centre of the ward.



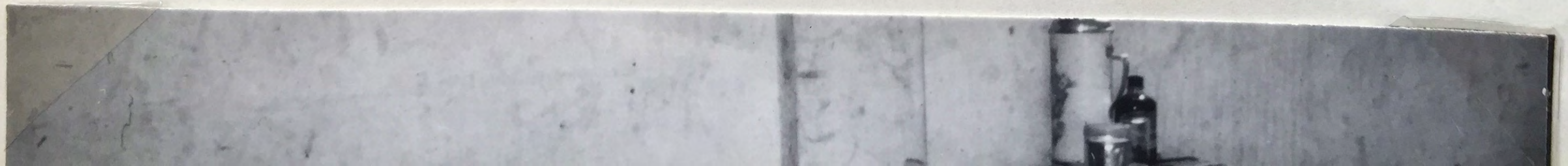
Ward 5. Surgical. Two patients in each bed, and men and women in same ward.



Ward 8. Lower limb injuries. Note the number of stretchers in the centre of the ward.







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Ward 5. Surgical. Two patients in each bed, and men and women in same ward.



Ward 6.
Fractured Femurs.
New Beds.



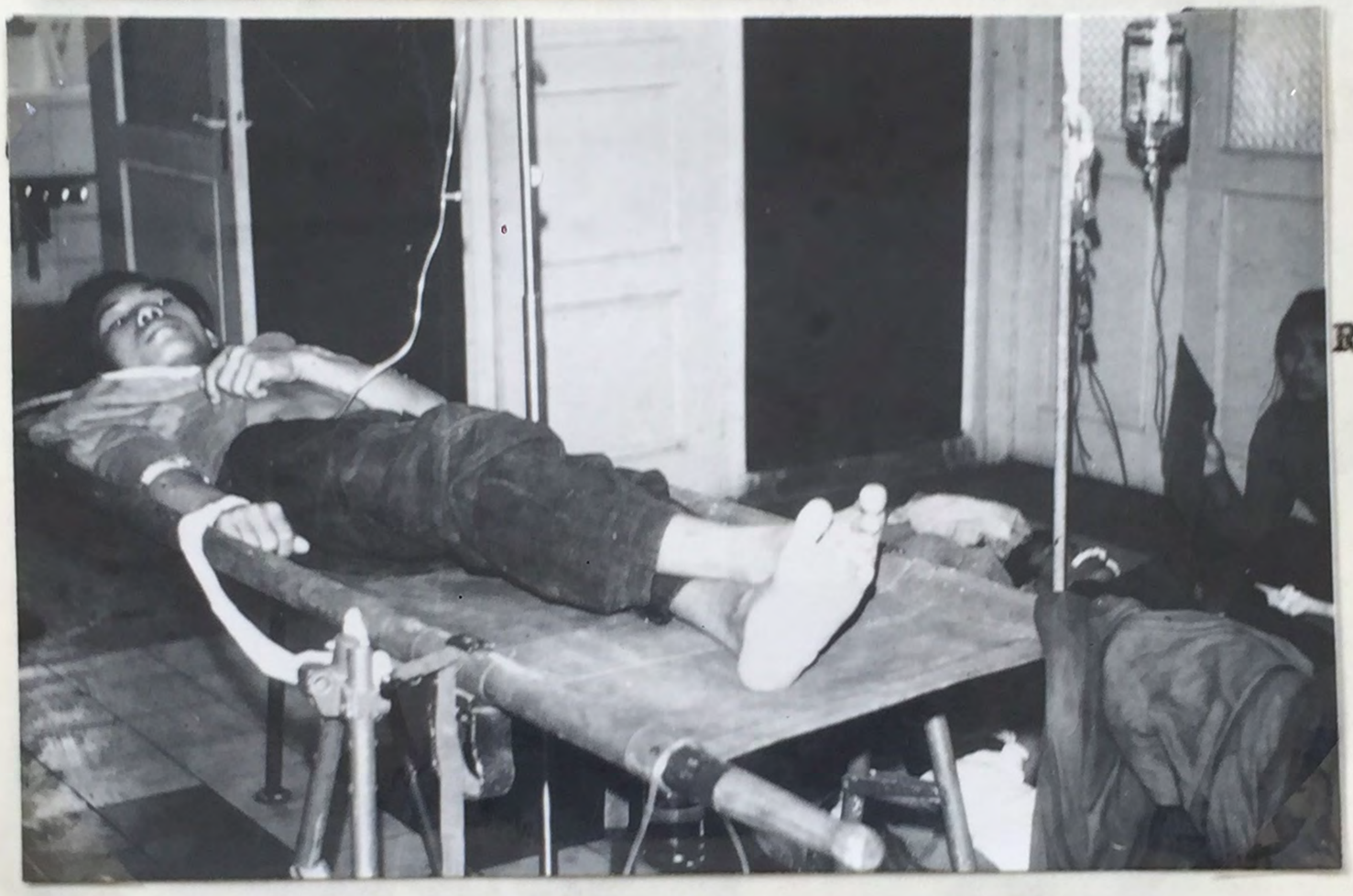
Ward 4.
Surgical.
New Beds, but
still very crowde
and with stretche
and camp beds in
centre.



Ward 4. Surgical
New Beds, but
still has cases
in centre of War



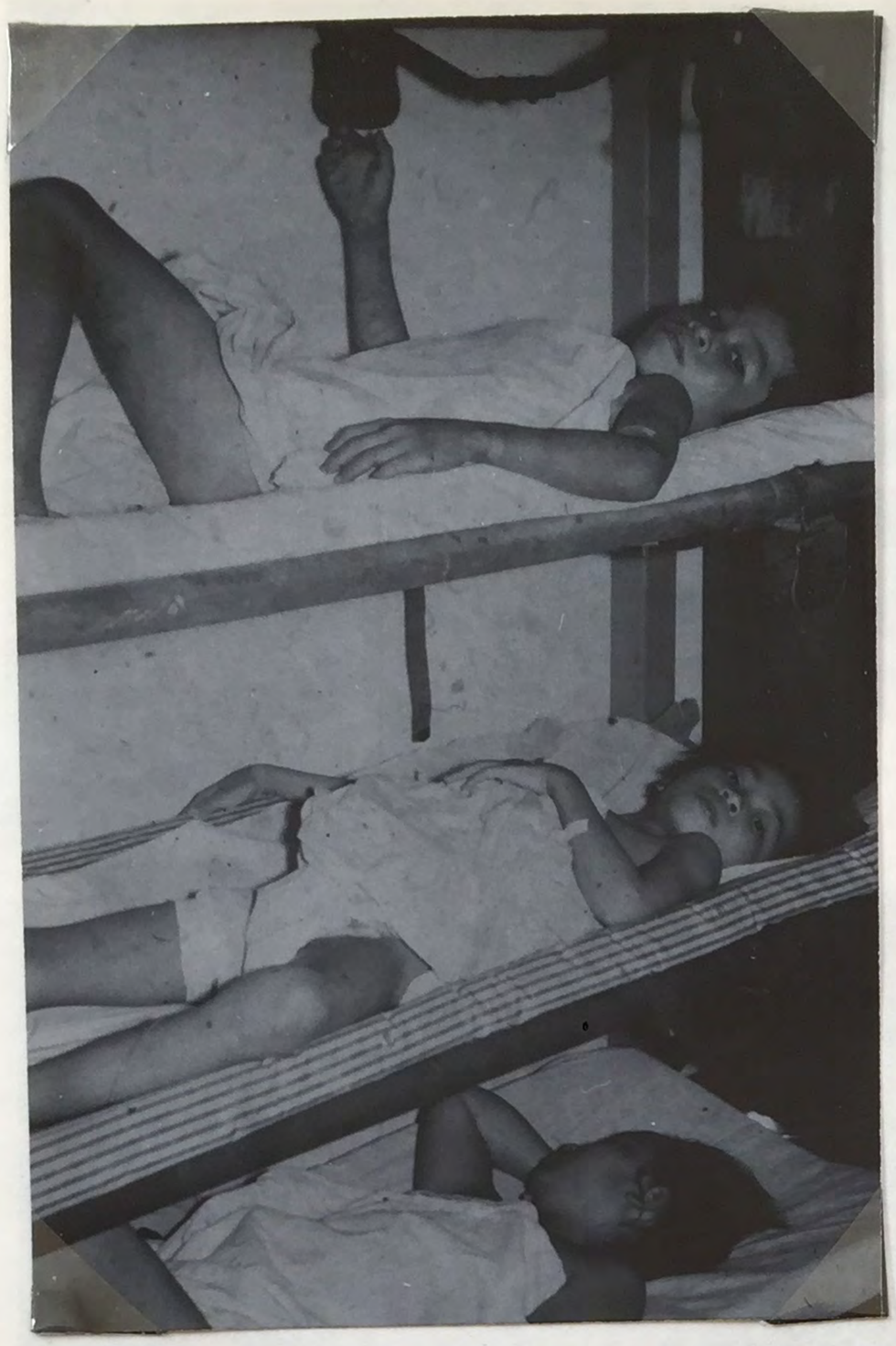
Casualties in hallway of the operating rooms, undergoing reeuscitation & awaiting operation.



Resuscitation.



Patients recovering from their anaesthetics. Still on the stretchers, but tilted head-down.



Injured children on 4-stretcher wall fitting. Old Recovery room.



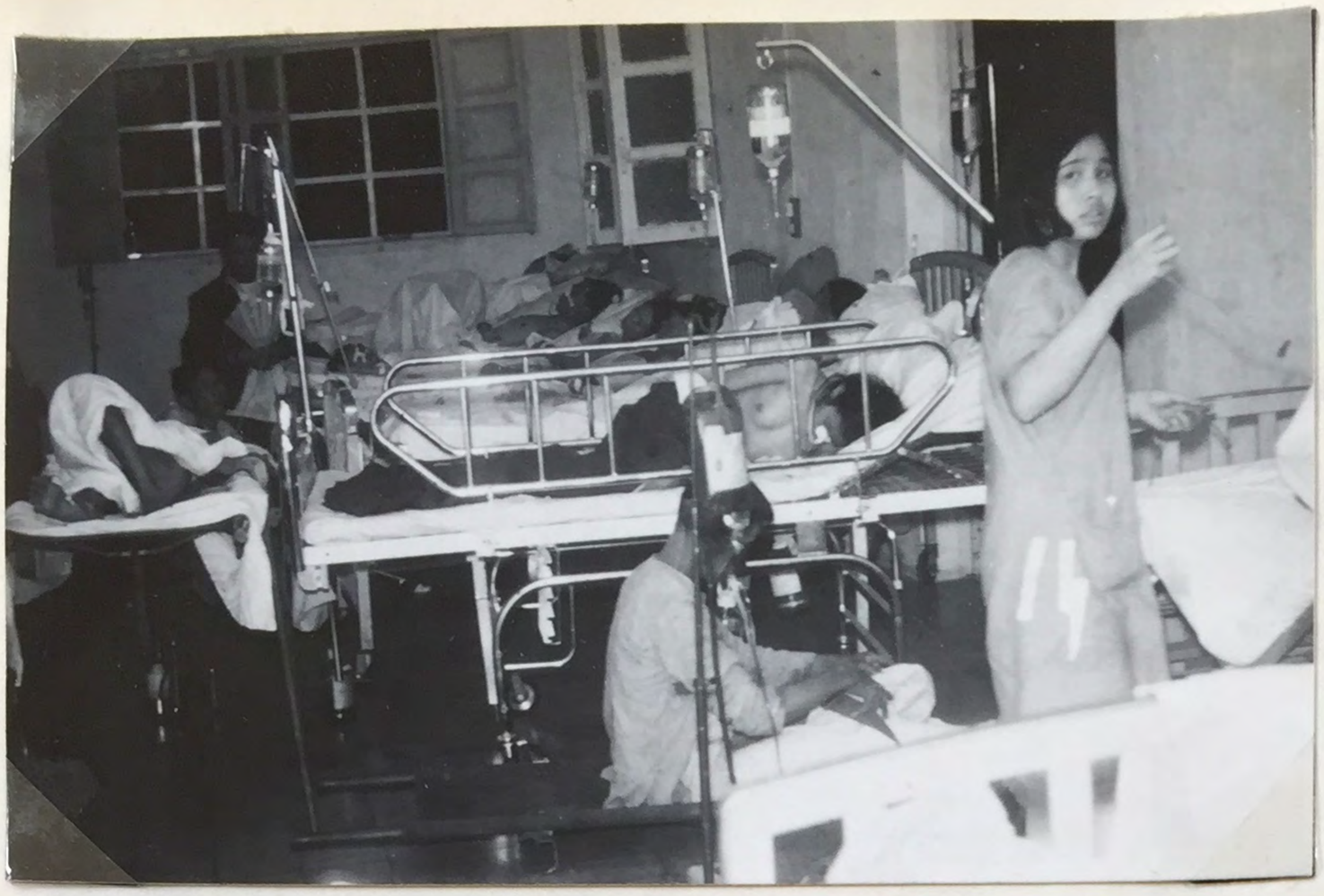
Stretchers between beds and wall-stretchers. Old recovery room.



The 5 beds of the old recovery room.

Average occupancy of this room was 17.

(Dr Dobson's Film)



New Recovery Room.



New Recovery Room



New Recovery Room

11 beds, and up tp 18 stretchers.

All of these patients are War casualties.



The usual operating team, New Zealand surgeon, Vietnamese nurse/anaesthetis and a single Vietnamese nurse/ assistant.

Mr Enwright, Mr Cung, Nurse Hung.



New Recovery roo Stretcher on trestles for bilateral chest wound. Relatives looking after patients.



New Recovery room. Two to a bed, and stretchers between. Relatives presen



Mothers feeding children in Ward 1.



Children injured by mortar bomb, nursed on stretchers in childrens ward.



More of the same group of children

Fifteen were injured in this incident.

10. THE PATIENTS.

ALL PATIENTS TREATED ARE VIETNAMESE OR MONTAGNARDS (EXCEPT FOR ONE FRENCHMAN WHO HAD TAKEN VIETNAMESE NATIONALITY). THE GREAT MAJORITY ARE CIVILIANS BUT SOME SPECIAL FORCES, SPECIAL POLICE AND CIVIL POLICE, AND PARA MILITARY FORCES ARE TREATED HERE.

VIETNAMESE ARE A SMALL PEOPLE, SLIGHT AND GRACEFUL, WITH A GOLDEN SKIN, STRAIGHT BLACK HAIR, WHICH IS THICK AND LONG IN THE WOMEN. THEY ARE A VERY ATTRACTIVE RACE, BRIGHT AND ALERT. VERY FEW ARE FAT, AND THEY RETAIN A YOUTHFUL APPEARANCE INTO THE FORTIES. THE OLD PEOPLE ARE ERECT AND VERY DIGNIFIED. AGE IS DIFFICULT TO ASSESS IN CHILDREN, BECAUSE OF THE CUSTOM WHEREBY THE CHILD IS ONE YEAR OLD AT BIRTH, AND GAINS A YEAR AT EACH NEW YEAR. CONSEQUENTLY A CHILD BORN A FEW DAYS BEFORE 'TET', THE NEW YEAR, WILL BE TWO YEARS OLD AFTER TET BY VIETNAMESE CALCULATION, WHEREAS BY OUR RECKONING, WILL BE ONLY ONE WEEK OLD.

THE MONTAGNARDS ARE DARKER-SKINNED THAN THE VIETNAMESE, A RANGE OF COFFEE COLOURS, BROADER IN THE HIPS AND SHOULDERS AND LESS 'CHINESE' IN APPEARANCE.

THE FEW MONTAGNARDS TREATED IN QUI NHON, WERE THOSE BROUGHT IN BY THE AMERICAN MEDICAL EVACUATION (MED. EVAC.) HELICOPTERS FROM MONTAGNARD AREAS. THEY ARE GOOD PATIENTS, BUT GET SCANT ATTENTION FROM THE VIETNAMESE STAFF. LANGUAGE IS A BARRIER, SINCE THERE IS NOT ONLY A GREAT DIFFERENCE BETWEEN THE VIETNAMESE AND MONTAGNARD LANGUAGES, BUT THERE ARE MANY MONTAGNARD DIALECTS. THE RELATIONSHIP BETWEEN THE TWO RACES IS A MAJOR PROBLEM IN VIET-NAM, AND WHILE THE SAIGON GOVERNMENT IS ALERT TO THE PROBLEM, HEADWAY IS SLOW. THE NATIONAL LIBERATION FRONT EXPLOITS THE DIFFICULTIES BY PROPAGANDA AND TERROR.

THE PATIENTS CAN BE DIVIDED INTO SEVEN CATEGORIES:

(A) WAR CASUALTIES
(B) TRANSFERS FROM THE AMERICAN HOSPITALS
(C) WAR-RELATED, DOMESTIC AND CIVIL ACCIDENTS
(D) ACUTE AND EMERGENCY SURGERY
(E) ARRANGED AND NON-ACUTE SURGERY
(F) OBSTETRIC AND GYNAECOLOGY
(G) MEDICAL CASES

THEY COME FROM THE CITY, THE SURROUNDING COUNTRY-SIDE, AND FROM NEIGHBOURING PROVINCES. THEY ARRIVE BY HELICOPTER, AMBULANCE, TRUCK, ON FOOT OR IN SOME PASSENGER HIRE VEHICLE, CARRIED BY RELATIVES, SLUNG IN HAMMOCKS AND CARRIED, AND MOST OF THEM COME DURING THE DAYTIME. FEW AREAS OF THE PROVINCE ARE SECURE ENOUGH AT NIGHT TO PERMIT TRAVEL, AND THE SUNSET CURFEW RESTRICTS MOVEMENT. THE HOSPITAL ITSELF IS SURROUNDED BY A BARBED-WIRE PERIMETER FENCE, AND HAS A CONSTANT GUARD OF ARMED POLICE. ACCESS AT NIGHT IS DIFFICULT, EVEN FOR THE NEW ZEALAND DOCTORS VISITING PATIENTS, AND ONE IS OFTEN EITHER LOCKED OUT OR LOCKED IN.

THE SOUND OF WARFARE AT NIGHT FORTELLS THE FLOW OF CASUALTIES THE FOLLOWING DAY.

(A) THE WAR CASUALTIES

THIS CLASSIFICATION IS USED FOR THOSE PATIENTS WHO HAVE BEEN INJURED BY SOME OFFENSIVE WEAPON, SUCH AS BULLETS, GRENADE OR BOMB FRAGMENTS, SHELL FRAGMENTS EITHER NAVAL OR ARTILLERY, MORTAR BOMBS, ROCKETS, LAND MINES AND CLAYMORE MINES, AND BY VIET CONG-MADE BOOBY TRAPS, EITHER HOME MADE EXPLOSIVES OR BAMBOO SPIKES IN VARIOUS FORMS, BUT WHICH ARE USUALLY SMEARED WITH FAECES, MAKING IT AN UNPLEASANT WEAPON.

THE ORTHODOX MISSILES ARE RELATIVELY CLEAN, AND BECAUSE OF THE SCANT CLOTHING WORN IN VIET-NAM, LITTLE IS CARRIED INTO THE WOUNDS. ONE DOES GET BITS OF VEHICLES FORMING MISSILES AND LODGING IN PATIENTS WHERE A ROAD IS MINED.

CIVILIANS MAY BE WOUNDED DURING FIGHTING BETWEEN THE VIET CONG OR NORTH VIETNAMESE ARMY TROOPS AND THE TROOPS OF THE SOUTH VIETNAMESE GOVERNMENT AND THEIR ALLIES, THE AMERICANS, AUSTRALIANS, KOREANS, THAIS, PHILIPPINOS AND NEW ZEALANDERS.

THEY MAY BE INJURED WHEN EITHER SIDE MORTARS AN AREA, OR BY ALLIED BOMBING AND SHELLING. THEY MAY BE INJURED WHEN THE VIET CONG OCCUPY A VILLAGE OR HAMLET AND DELIBERATELY SHOOT DOWN PEOPLE AS PART OF THE TERROR CAMPAIGN, AND THEY ARE INJURED WHEN VIET CONG LAID MINES ARE EXPLODED.

TO THE INJURED CIVILIAN IT DOES NOT MATTER MUCH WHO INFLICTS THE INJURY, THE DAMAGE IS THE SAME.

MULTIPLE WOUNDS ARE COMMON, AS IS CONTAMINATION WITH EARTH AND VEGETATION, AND MANY OF THE SMALL HIGH VELOCITY BULLETS FRAGMENT ON IMPACT.

THE DELAY IN ARRIVAL AT HOSPITAL IS VARIABLE, DEPENDING ON DISTANCE AND AVAILABILITY OF TRANSPORT, BUT IS USUALLY BETWEEN 12 - 24 HOURS. THE HELICOPTER EVACUATION OF WAR WOUNDED BRINGS THEM IN IN LARGE NUMBERS AT ONE TIME, WITH ALL DEGREES OF INJURY, FROM THE TRIVIAL TO THE VERY SEVERE.

WAR CASUALTIES FORM THE LARGEST GROUP OF THE SEVEN CATEGORIES, FORMING JUST UNDER 50% OF THE ADMISSIONS AND OPERATIONS. BECAUSE OF THE NATURE OF THE WOUNDS, THEIR HOSPITALISATION IS LONGER SO THAT THEY FORM A HIGHER PERCENTAGE OF THE IN-PATIENTS, NEARLY 70%. THEY REMAIN IN THE SAME HOSPITAL FOR THE WHOLE OF THEIR TREATMENT, THERE IS NO FURTHER EVACUATION, AND HAVE THE ADVANTAGE OF CONTINUOUS SUPERVISION BY THE SAME SURGEON FOR THE WHOLE PERIOD.

THE SURGICAL TREATMENT IS DIVIDED INTO:

I Resuscitation
II Anaesthesia
III Surgery
Iv Post-Operative care.

(I) RESUSCITATION

RESUSCITATION FORMS THE MOST IMPORTANT PART OF EARLY TREATMENT OF THE MAJOR WAR WOUNDS. IT IS VERY CLEAR THAT MANY CIVILIANS DIE PRIOR TO REACHING HOSPITAL BECAUSE OF LACK OF FACILITIES FOR ADEQUATE

RESUSCITATION AT THE SITE OF INJURY, BUT OF THOSE WHO REACH HOSPITAL ALIVE, THE MORTALITY RATE IS BETWEEN 1 - 2%.

INTRAVENOUS FLUIDS FORM THE PRINCIPAL MEANS OF RESUSCITATION AND THESE WERE AVAILABLE IN ADEQUATE SUPPLY. THE FLUIDS USED WERE BLOOD, ALBUMIN, PLASMANATE (CUTTER), MACRODEX, DEXTRAN, SALINE, DEXTROSE-SALINE, RINGERS SOLUTION AND DEXTROSE.

BLOOD IS THE MOST IMPORTANT FLUID IN THESE CASES, MOST OF WHOM HAVE HAD CONSIDERABLE BLOOD LOSS. THIS IS NOT WITHOUT ITS PROBLEMS IN THE CONDITIONS OBTAINING. VERY FEW VIETNAMESE WILL GIVE BLOOD EVEN FOR THEIR OWN CLOSE RELATIVES, AND THEN ONLY ON PROLONGED AND REPEATED APPEAL. BECAUSE OF THEIR SMALL SIZE, ONLY 250 ML ARE WITHDRAWN AT A BLEEDING. SO LITTLE IS OBTAINED FROM DONORS, AND TO DATE IT HAS NOT BEEN POSSIBLE TO START A BLOOD BANK, THAT THE TEDIOUS TASK OF PERSUADING AND BLEEDING IS RESERVED FOR NON-URGENT COLD SURGERY. WITH THE WAR CASUALTIES, THE VAST MAJORITY ARRIVE AT HOSPITAL HOURS OR DAYS BEFORE THE RELATIVES, SO THAT AT THE VERY TIME BLOOD IS NEEDED, THERE ARE NO DONORS ANYWAY.

HOWEVER, THE TWO AMERICAN ARMY HOSPITALS IN QUI NHON GET A REGULAR SUPPLY OF BLOOD FLOWN IN FROM JAPAN, THE PACIFIC BASES AND THE UNITED STATES, BLOOD FROM AMERICAN MILITARY AND CIVILIAN DONORS, AND SENT FOR USE ON THE AMERICAN MILITARY WOUNDED. WHEN THIS BLOOD REACHES ITS EXPIRY DATE, 3 WEEKS FROM BLEEDING, IT IS GIVEN TO THE NEW ZEALAND TEAM. WE USE IT FOR 10 - 14 DAYS FROM THE EXPIRY DATE, BUT AT TIMES OF GREAT NEED, THE AMERICANS WILL RELEASE BLOOD WITHIN THE EXPIRY DATES IF THEY HAVE ENOUGH TO SPARE. WE WERE USING BETWEEN 100 - 240 PINT (500 ML) UNITS EACH MONTH. MOST OF THE BLOOD SUPPLIED IS GROUP O RH+, LOW TITRE, BUT A SMALL QUANTITY OF O RH-, A RH+ AND B RH+ WERE RECEIVED. THIS BLOOD WAS STORED IN A REFRIGERATOR IN ONE OF THE OPERATING ROOMS, AND LOOSELY REFERRED TO AS THE BLOOD BANK.

ALL VIETNAMESE WHO WERE BLOOD GROUPED IN QUI NHON HOSPITAL IN 1967-68 WERE RH+. I DO NOT KNOW THE GROUPS ELSEWHERE IN VIET-NAM, BUT NO RH- WERE FOUND IN QUI NHON.

BLOOD GROUPING AND CROSS MATCHING WAS DONE WHENEVER POSSIBLE, BUT THIS WAS BY NO MEANS ALWAYS. SOMETIMES THERE WOULD BE NO LABORATORY STAFF AVAILABLE, SOMETIMES THE URGENCY AND NUMBER OF CASES MADE BLOOD EXAMINATION OF ALL IMPOSSIBLE. ON MANY OCCASIONS BLOOD OF GROUP O + WAS GIVEN UNCROSSED. WHEN THE BANK HELD ONLY GROUP A, B OR O RH + HIGH TITRE, CROSS MATCHING WAS ALWAYS DONE. THIS GIVING OF OUT-DATED BLOOD, WITHOUT THE USUAL PRECAUTIONS INDICATES THE CONDITIONS UNDER WHICH THIS WORK WAS DONE. NO PATIENT DIED FROM TRANSFUSION REACTION, MANY DIED BECAUSE BLOOD REPLACEMENT WAS NOT POSSIBLE IN TIME. TWO PATIENTS DEVELOPED JAUNDICE, ONE OF WHOM HAD A SEVERE LIVER WOUND. NOT UNEXPECTEDLY SOME RIGORS, AND SKIN RASHES WERE ENCOUNTERED, BUT NOT OF ANY SEVERITY. IT WAS FELT THAT THE RISKS WERE JUSTIFIED AND THE REACTIONS RESPONDED TO IV HYDROCORTISONE MGM 100.

BLOOD WAS RECEIVED IN PLASTIC BAGS, AND GIVEN WITH ABBOTT BLOOD SETS, USING A BRAUNULA AS THE CANNULA. THE MEDIUM SIZE BRAUNULA PROVED TO BE FAR BETTER THAN THE INTRACATH OR ANGIOCATH TYPE OF CANNULA. BRAUNULAS WERE NOT PART OF THE USAID SUPPLY, BUT WERE

OBTAINED FROM NEW ZEALAND FROM AN INTERESTED DONOR, WHO SENT HUNDREDS. IF BLOOD WAS REQUIRED RAPIDLY, A PRESSURE BAG WAS USED ON THE BLOOD BAG, OR A CUTTER SAFTIPUMP SET USED. THE LATTER NECESSITATED HAVING SOMEONE TO PUMP THE CHAMBER ALL THE TIME, BUT ITS RATE OF DELIVERY WAS THE MORE RAPID, ABOUT 5 MINUTES FOR 500 ML BLOOD, DOUBLED IF 2 DRIPS WERE USED.

A SECOND SOURCE OF BLOOD WAS THE ARVN HOSPITAL, BUT THIS WAS VERY LIMITED, AND THE UNITS WERE ONLY 250 ML.

OF THE INTRAVENOUS FLUIDS, THE CUTTER PLASMANATE WAS THE MOST VALUABLE AFTER THE BLOOD. IT WAS AVAILABLE AT MOST TIMES, AND WAS SUPPLIED IN 250 ML GLASS BOTTLES, EACH WITH A DRIP SET. IT IS AN EXPENSIVE PREPARATION, OF HUMAN PLASMA PROTEINS IN SALINE, BUT BEING LIQUID, DOES NOT REQUIRE THE TIME NECESSARY TO RECONSTITUTE DRIED PLASMA, WHICH WAS NOT USED AND NOT SUPPLIED.

A LIMITED QUANTITY OF ALBUMIN, MANUFACTURED IN AUSTRALIA, FROM NEW ZEALAND PLASMA, WAS AVAILABLE, IN 100 ML BOTTLES, AND THIS IS A VERY USEFUL PREPARATION, ESPECIALLY IN THE BURN CASES.

THE CLIMATE BEING HOT, NECESSITATED LARGER QUANTITIES OF SALINE THAN ARE CUSTOMARY AT HOME, AND 3 - 4 LITRES DAILY COULD BE GIVEN TO THE SMALL VIETNAMESE WITHOUT DANGER OF SALT RETENTION. THE ELECTROLYTES WERE USED EXTENSIVELY DURING AND AFTER OPERATIONS, AND IN RESUSCITATION.

AFTER THE ESTABLISHMENT OF THE INTRAVENOUS DRIPS, RESUSCITATION WAS LIMITED TO CONTROL OF BLEEDING, PAIN RELIEF, AND SPLINTAGE.

RESUSCITATION REQUIRED LARGE QUANTITIES OF BLOOD, PLASMA, AND SALINE, GIVEN RAPIDLY. IT WAS NO USE IF NOT GIVEN RAPIDLY.

(ii) <u>ANAESTHESIA</u>

ALL NEW ZEALAND TEAMS HAVE HAD AN ANAESTHETIST WITH THEM, AND THIS HAS RESULTED IN THE GRADUAL TRAINING OF A GROUP OF VIETNAMESE NURSE/ANAESTHETISTS, SOME OF THEM VERY SKILLED. UNFORTUNATELY, ALL WERE GENERAL NURSES AND THEY WERE OFTEN ASSIGNED TO WORK OTHER THAN ANAESTHETICS. THIS DID ON OCCASIONS RESULT IN ONLY ONE ANAESTHETIST BEING AVAILABLE, AND THE NEW ZEALAND ANAESTHETIST WOULD HAVE TO SPEND THE TIME GIVING ANAESTHETICS, INSTEAD OF SUPERVISING THE RESUSCITATION AND RECOVERY. ON SEVERAL OCCASIONS ANAESTHETICS WERE GIVEN BY NEW ZEALAND NURSES.

NO SPINAL, CAUDAL, OR REGIONAL ANAESTHESIA WAS USED. LOCAL ANAESTHESIA WAS USED ON MINOR INJURIES, AND 1 - 2% LIGNOCAINE WAS THE AGENT USED. (I DO NOT LIKE USING SOLUTIONS AS STRONG AS THIS, PREFERRING $\frac{1}{4}$ - $\frac{1}{2}$%, AND ALWAYS DILUTED THE STOCK PREPARATION PRIOR TO USE). THE OTHER SURGEONS USED THE UNDILUTED STRENGTHS. WHERE LOCAL ANAESTHESIA WAS USED TO SUPPLEMENT GENERAL ANAESTHESIA IN SOME ARRANGED SURGERY, AS WITH THYREOIDECTOMY AND VAGINAL REPAIR, A SOLUTION OF $\frac{1}{4}$% LIGNOCAINE WITH 1/200,000 ADRENALIN WAS USED. WHEN HALOTHANE (FLOUTHANE) BECAME AVAILABLE, THE ANAESTHETIST WAS ALWAYS WARNED OF THE INTENTION TO USE ADRENALIN.

FOR MINOR SURGERY REQUIRING GENERAL ANAESTHESIA IN CHILDREN, ETHYL CHLORIDE AND ETHER ON AN OPEN MASK WAS USED, AND IN ADULTS, PENTOTHAL WITH OR WITHOUT ETHER, USING A MACHINE.

THE ANAESTHETIC MACHINES USED ARE THE EMO ETHER-AIR UNIT, (THE EPSTEIN-MACINTOSH-OXFORD MACHINE WITH CONCERTINA BELLOWS).

FEW ANAESTHETISTS IN A HIGHLY DEVELOPED WESTERN COUNTRY ARE FAMILIAR WITH OR HAVE USED THE EMO MACHINE, BUT IT IS THE MOST SUITABLE IN A COUNTRY LIKE VIET-NAM. IT IS STURDY, ALMOST FOOL-PROOF, AND EASILY SERVICED. THE ANAESTHETIST IN THE 1967-68 TEAM WAS IN ENGLAND AT THE TIME OF VOLUNTEERING, AND VISITED THE MANUFACTURERS IN OXFORD, AND WAS ABLE TO KEEP THE MACHINES IN FIRST CLASS RUNNING ORDER.

THE MACHINE DELIVERS AN AIR-ETHER MIXTURE, WHICH IS OF CONTROLLED CONCENTRATION, AND CAN BE MODIFIED FOR HALOTHANE, AND OXYGEN. DURING THE GREATER PART OF THE YEAR, HALOTHANE WAS NOT AVAILABLE, AND OXYGEN WAS VERY LIMITED. THE MACHINES WERE FITTED WITH RUBEN VALVES, AND THE DELIVERY TUBING COULD BE ALTERED TO ELIMINATE DEAD SPACE WHEN SMALL CHILDREN WERE ANAESTHETISED. USING THE ETHER-AIR MIXTURE, DIATHERMY COULD STILL BE USED, A VERY IMPORTANT CONSIDERATION, WHEN SPEED AND LIMITED BLOOD LOSS WERE IMPORTANT.

OXYGEN WAS USED IN A LIMITED NUMBER OF PATIENTS, MAINLY SMALL CHILDREN, AND IN THESE, DIATHERMY COULD NOT OF COURSE BE USED.

TWO TYPES OF HALOTHANE FITTINGS WERE USED; ONE WHICH VAPOURISED 3 ML ONLY OF HALOTHANE, AND WAS USED BY THE VIETNAMESE FOR INDUCTION; THE OTHER A MORE ELABORATE FITTING WHICH COULD GIVE A CONTINUOUS ANAESTHETIC WITH A MAXIMUM STRENGTH OF 5%, AND THIS WAS USED ONLY BY THE NEW ZEALAND ANAESTHETIST. IT WAS NOT CONSIDERED THAT THE VIETNAMESE HAD SUFFICIENT KNOWLEDGE YET TO USE HALOTHANE FOR LONG CASES. THE USE OF THIS WAS LIMITED BY THE VERY INADEQUATE SUPPLY OF BOTH OXYGEN AND HALOTHANE.

NO FORMAL PREMEDICATION WAS GIVEN PRIOR TO THE PATIENTS INDUCTION EXCEPT IN A SMALL NUMBER OF ARRANGED OPERATIONS IN SMALL CHILDREN. IN MANY CASES, MORPHIA OR PETHIDINE HAD BEEN GIVEN DURING RESUSCITATION, BUT ATROPINE WAS NOT GIVEN ROUTINELY BEFORE OPERATION. THE MAIN REASONS FOR THIS WERE THE IMPOSSIBILITY OF PLANNING THE ORDER OF CASES, AND THE DANGER OF HEAT STROKE POST-OPERATIVELY. WITH A LARGE NUMBER OF CASUALTIES, PATIENTS WOULD BE DONE IN THE ORDER IN WHICH THEY BECAME FIT TO DO, HAVING REGARD TO THE SEVERITY OF THE INJURY, AND THE COMPLETION OF ONE OPERATION WOULD SEE THE SELECTION OF THE NEXT PATIENT.

HEAT STROKE WAS A VERY REAL DANGER; TWO PATIENTS WERE KNOWN TO HAVE DIED FROM THIS COMPLICATION, WHICH OCCURS EASILY IN THE HOT CONDITIONS PREVAILING DURING THE SUMMER MONTHS, AND ALTHOUGH THE OPERATING ROOMS AND RECOVERY ROOM HAVE AIR CONDITIONERS, THESE DO NOT WORK, AND ICE AND FANS ARE LIMITED. IN JULY 1967 THE AVERAGE TEMPERATURE, DAY AND NIGHT, WAS 105°F.

SCOLINE (SUCCINYLCHOLINE) WAS USED FOR INTUBATION, AND IN ADDITIONAL FRACTIONAL DOSES FOR RELAXATION. NO LONG-ACTING AGENTS WERE USED. THIS POLICY WAS DECIDED ON FOR TWO REASONS; FIRSTLY BECAUSE IT WAS FELT THAT THE VIETNAMESE NURSE/ANAESTHETISTS DID NOT HAVE SUFFICIENT KNOWLEDGE OF THE ACTION TO UNDERSTAND THE DANGERS, AND SECONDLY, THE DANGER OF GIVING ATROPINE PRIOR TO THEIR DEACTIVATION WITH PROSTIGMINE, WITH REGARD TO HEAT STROKE.

THE AVOIDANCE OF PREMEDICATION DID NOT SEEM TO AFFECT THE ANAESTHETIC. ALSO IT WAS NOT POSSIBLE TO AVOID THE GIVING OF FLUIDS OR EVEN FOOD, PRIOR TO OPERATION, ALTHOUGH ATTEMPTS WERE MADE TO PREVENT RELATIVES DOING THIS. AGAIN, THIS DID NOT SEEM TO MATTER. I CAN RECALL ONLY ONE PATIENT WHO VOMITED AND INHALED RICE AT THE END OF OPERATION, BUT PROMPT BRONCHOSCOPY PREVENTED A CATASTROPHY. MOST OF THE WAR CASUALTIES HAD NOT IN FACT HAD ANYTHING SINCE BEING WOUNDED.

PREPARATION FOR OPERATION AND ANAESTHESIA WAS MINIMAL APART FROM RESUSCITATION, AND AGAIN THIS WAS THE RESULT OF LACK OF TIME, STAFF AND FACILITIES. PATIENTS AWAITING OPERATION WOULD BE LYING ON STRETCHERS, OR SITTING AROUND IN WHAT CLOTHES THEY WERE WEARING, STILL COVERED WITH BLOOD AND GRIME. THE REMOVAL OF CLOTHING AND WASHING OF PATIENTS WAS DONE IN THE OPERATING ROOMS IMMEDIATELY BEFORE OR AFTER INDUCTION OF THE ANAESTHETIC. IN MANY PATIENTS, WASHING WAS LIMITED TO THE AREA OF OPERATION, BUT IN ALL CASES LIBERAL USE OF WATER AND SOAP, WITH pHisoHex, EVEN THE USE OF A HOSE, WAS RAPID AND EFFECTIVE. ONLY IN THE OPERATING ROOMS IS THERE THE SPACE TO MOVE AROUND THE PATIENT AND WASH PROPERLY. ELSEWHERE THE CROWDING WOULD MAKE IT INADEQUATE.

(iii) <u>SURGERY</u>

THE SURGERY CAN BE DIVIDED INTO 12 GROUPS:

1. MINOR WOUNDS, CLEAN
2. MINOR WOUNDS, CONTAMINATED
3. WOUNDS OF THE HEAD
4. WOUNDS OF THE FACE
5. WOUNDS OF THE CHEST
6. WOUNDS OF THE ABDOMEN
7. WOUNDS OF THE BLADDER AND URETHRA
8. COMPOUND FRACTURES
9. MAJOR DESTRUCTION OF LIMBS
10. VASCULAR INJURIES
11. BURNS (PHOSPHORUS, PETROL AND NAPALM)
12. MISCELLANEOUS (GAS).

THE MAIN CATEGORIES OF CHEST, HEAD, ABDOMEN, UPPER AND LOWER LIMB CAN BE BROKEN DOWN INTO MAJOR AND MINOR, WITH AN INTERESTING DIFFERENCE IN FREQUENCY.

IN MAJOR WOUNDS, THE ABDOMINAL WOUNDS ACCOUNT FOR 37% OF THE TOTAL
THE LOWER LIMB WOUNDS ACCOUNT FOR 30% OF THE TOTAL
THE UPPER LIMB WOUNDS ACCOUNT FOR 14% OF THE TOTAL
THE HEAD AND FACE WOUNDS ACCOUNT FOR 10% OF THE TOTAL
AND THE CHEST WOUNDS ACCOUNT FOR 9% OF THE TOTAL

WHEREAS IN THE MINOR WOUNDS,

THE LOWER LIMB ACCOUNT FOR 48% OF THE TOTAL
THE UPPER LIMB ACCOUNT FOR 27% OF THE TOTAL
THE ABDOMEN ACCOUNT FOR 10% OF THE TOTAL
THE HEAD AND FACE ACCOUNT FOR 9% OF THE TOTAL
AND THE CHEST ACCOUNT FOR 6% OF THE TOTAL

THESE ARE THE DOMINANT WOUNDS. MANY CASES PRESENT WITH MULTIPLE WOUNDS.

OPERATIONS

MINOR

| MONTH | WAR CASUALTIES | NON-WAR CASES | OPERATIONS BY VIETNAMESE DOCTORS | OPERATIONS BY NEW ZEALAND DOCTORS |
|---|---|---|---|---|
| MARCH 1967 | 209 | 156 | 56 | 309 |
| APRIL | 148 | 183 | 53 | 278 |
| MAY | 185 | 148 | 76 | 257 |
| JUNE | 164 | 202 | 58 | 308 |
| JULY | 131 | 255 | 43 | 343 |
| AUGUST | 161 | 217 | 37 | 341 |
| SEPTEMBER | 143 | 234 | 31 | 346 |
| OCTOBER | 147 | 220 | 28 | 339 |
| NOVEMBER | 122 | 209 | 37 | 294 |
| DECEMBER | 194 | 246 | 69 | 371 |
| JANUARY 1968 | 210 | 190 | 38 | 362 |
| FEBRUARY (3 WEEKS) | 228 | 115 | 32 | 311 |
| TOTALS: | 2042 | 2375 | 558 | 3859 |

MAJOR

| | | | | |
|---|---|---|---|---|
| MARCH 1967 | 88 | 66 | 41 | 113 |
| APRIL | 80 | 44 | 44 | 80 |
| MAY | 63 | 47 | 27 | 83 |
| JUNE | 47 | 48 | 20 | 75 |
| JULY | 44 | 49 | 24 | 69 |
| AUGUST | 48 | 52 | 18 | 82 |
| SEPTEMBER | 42 | 47 | 20 | 69 |
| OCTOBER | 58 | 47 | 24 | 81 |
| NOVEMBER | 34 | 54 | 19 | 69 |
| DECEMBER | 82 | 33 | 26 | 89 |
| JANUARY 1968 | 98 | 39 | 14 | 123 |
| FEBRUARY (3 WEEKS) | 101 | 26 | 26 | 101 |
| TOTALS: | 785 | 552 | 303 | 1034 |

TOTALS OF MAJOR AND MINOR:

| | |
|---|---|
| WAR CASUALTIES | 2827 |
| NON-WAR CASES | 2927 |
| OPERATIONS BY VIETNAMESE DOCTORS | 861 |
| OPERATIONS BY NEW ZEALAND DOCTORS | 4893 |

TOTAL OPERATIONS - 5754

SURGICAL DEATHS

ALL CATEGORIES OF PATIENTS

| | |
|---|---|
| MARCH 1967 | 11 |
| APRIL | 13 |
| MAY | 12 |
| JUNE | 17 |
| JULY | 9 |
| AUGUST | 17 |
| SEPTEMBER | 10 |
| OCTOBER | 12 |
| NOVEMBER | 10 |
| DECEMBER | 13 |
| JANUARY 1968 | 10 |
| FEBRUARY | 11 |
| TOTAL: | 145 |

OF THESE 26 WERE CASUALTIES WITH INJURIES SO SEVERE THAT THEY COULD NOT BE RESUSCITATED, AND 21 WERE EITHER INOPERABLE MALIGNANCIES OR TRANSFERS. THE POST-OPERATIVE DEATHS TOTAL 98, WHICH IS A RATE OF 1.7%.

THE DISTINCTION BETWEEN MAJOR AND MINOR IS VERY FLUID, AND WHILST MANY OF THE OPERATIONS CLASSIFIED AS MINOR WERE, IN FACT, MINOR OPERATIONS, THE CATEGORY DOES EXTEND TO COMPOUND FRACTURES OF THE FEMUR, AND MOST SIMPLE AMPUTATIONS. THERE WAS A TENDENCY FOR THE NEW ZEALANDERS TO RESTRICT THE MAJOR CLASSIFICATION TO THE LAPAROTOMY, THORACOTOMY, CRANIOTOMY AND MAJOR LIMB INJURIES. THE VIETNAMESE ON THE OTHER HAND USED A MORE LIBERAL INTERPRETATION. ON MANY OCCASIONS, BECAUSE OF LACK OF TIME AND PRESSURE OF WORK, AN OPERATION WOULD BE ENTERED IN WHICHEVER OF THE TWO BOOKS WAS AVAILABLE AT THE TIME.

(1) TREATMENT OF CLEAN MINOR WOUNDS

MINOR WOUNDS OF RECENT ORIGIN WHICH COULD BE SUTURED AFTER EXCISION HEALED WELL, AND WHERE POSSIBLE IN THESE, THE METALLIC FOREIGN BODIES WERE REMOVED. A VERY LARGE PROPORTION OF THESE WOUNDS COULD BE SUTURED, AND IN THOSE WHERE IT WAS NOT POSSIBLE, DRESSING WITH FURACIN GAUZE RESULTED IN RAPID HEALING. A SMALL NUMBER REQUIRED SKIN GRAFTING TO ACCELERATE HEALING.

SKIN GRAFTING WAS MADE VERY EASY BY HAVING A PADGETT ELECTRIC DERMATOME, WHICH ALLOWED GRAFTS OF ANY SIZE AND THICKNESS TO BE CUT

WITH EASE BY EVEN THE MOST AMATEUR SKIN-GRAFTER. THE PRINCIPAL USE WAS WITH BURN CASES, BUT IN ANY PATIENT IT WAS MOST IMPORTANT TO PREVENT THE VIETNAMESE NURSES REMOVING THE DRESSING THE FOLLOWING DAY AND EVERY DAY. DRESSINGS WHICH WERE NOT TO BE TOUCHED HAD TO BE VERY FIRMLY FIXED, AND VERY CLEARLY LABELLED IN VIETNAMESE, TO INDICATE THAT THEY WERE NOT TO BE TOUCHED.

(2) <u>TREATMENT OF CONTAMINATED MINOR WOUNDS</u>

THESE WERE EXCISED, AND DRESSED WITH FURACIN GAUZE. EXTENSIVE CONTAMINATED WOUNDS OF LIMBS SOMETIMES LENT THEMSELVES TO CLOSED PLASTER TREATMENT, AND DID WELL. FEW OF THESE WOUNDS EVEN CLEANED UP ENOUGH FOR GRAFTING, ALTHOUGH THE RATE OF HEALING WAS RAPID. THE VIETNAMESE ARE GREAT BELIEVERS IN THE CURATIVE POWERS OF MERCUROCHROME, AND IT WAS CUSTOMARY FOR THEM TO REDRESS EVERY WOUND EVERY DAY, SWABBING WITH MERCUROCHROME. IT WAS VERY DIFFICULT TO GET A WOUND LEFT ALONE FOR SEVERAL DAYS.

THOSE WHICH CLEANED ENOUGH FOR GRAFTING WERE GRAFTED, ALTHOUGH THE AVAILABILITY OF THE DERMATOME WAS LIMITED. IT WAS A FORMALIN-STERILISED INSTRUMENT, AND COULD BE USED ONLY TWICE DAILY. SMALL GRAFTS WERE CUT BY HAND WITH A HUMBY KNIFE, ALTHOUGH IT WAS DIFFICULT TO GET THE BLADES.

(3) <u>WOUNDS OF THE HEAD</u>

WAR WOUNDS OF THE HEAD ARE COMPOUND FRACTURES OF THE SKULL WITH RETAINED FOREIGN BODIES. MOST OF THESE ARE BOMB, MORTAR OR SHELL FRAGMENTS, AND ONLY VERY FEW BULLET WOUNDS. THE PROGRESS OF THESE IS SO UNPREDICTABLE, THAT IT WAS THE PRACTICE TO OPERATE ON ALL, EVEN THOSE WHICH APPEARED HOPELESS.

THE EXTENT OF SCALP AND BONE INJURY WAS VERY VARIABLE, AS WAS THE SIZE AND NUMBER OF FOREIGN BODIES. SURGERY CONSISTED IN DEBRIDEMENT OF THE WOUND, WITH REMOVAL OF ALL SUPERFICIAL BONE FRAGMENTS AND ANY ACCESSIBLE FOREIGN BODIES, TO REMOVE THE DAMAGED BRAIN BY GENTLE SUCTION, OBTAIN HAEMOSTASIS WHERE POSSIBLE, AND TO CLOSE THE DURAL DEFECT WITH FASCIA, AND THE SCALP DEFECT BY SOME FORM OF ROTATION FLAP.

THE RESULTS WERE VERY VARIABLE. SOME MORIBUND PATIENTS MADE A COMPLETE RECOVERY, OTHERS WITH LESSER INJURY, APPARENTLY, WOULD FAIL TO SURVIVE.

NONE OF THE THREE SURGEONS OF THE TEAM WERE MORE THAN EXPERIENCED GENERAL SURGEONS. WE HAD NEITHER THE TRAINING NOR FACILITIES FOR MORE ELABORATE TREATMENT. THIS MEANT THAT SEVERE HEAD INJURIES DID NOT SURVIVE, BUT IT ALSO MEANT THAT THESE PATIENTS WERE NOT LEFT AS LIVING, BUT PARALYSED, INCONTINENT SEMI-COMATOSE DERELICTS, SOME OF WHICH WERE RECEIVED FROM THE NEURO-SURGICAL UNITS OF THE EVACUATION HOSPITALS.

(4) <u>WOUNDS OF THE FACE</u>

MUTILATING WOUNDS OF THE FACE ARE SEEN FREQUENTLY, AND ARE PARTICULARLY DISTRESSING IN YOUNG CHILDREN. MANY OF THESE WOUNDS COULD BE REPAIRED BY PRIMARY SUTURE, WITH MINIMAL SCARRING. WHERE

TISSUE LOSS IS PRESENT, THE PRIMARY DEBRIDEMENT WAS FOLLOWED BY A LATER PLASTIC PROCEDURE. WITH THESE PATIENTS, AN ASSESSMENT OF THE DEFECT TO BE CLOSED LATER SHOULD BE MADE AT THE TIME OF PRIMARY SURGERY, AND IF POSSIBLE THE FIRST STAGE OF THE PLASTIC PROCEDURE DONE AT THAT TIME. IF IT IS CLEAR, FOR EXAMPLE, THAT SOME FORM OF TUBE PEDICLE GRAFTING IS TO BE DONE, THEN THE TUBE SHOULD BE MADE AT THE TIME, UNLESS MANY OTHER CASUALTIES ARE AWAITING TREATMENT. IN THIS WAY THE LENGTH OF TIME IN HOSPITAL CAN BE SHORTENED, AND THE RISKS OF THE PATIENT GOING HOME BEFORE TREATMENT IS COMPLETED CAN BE REDUCED.

LOSS OF THE NOSE WAS TREATED BY A FOREHEAD FLAP, AND CARTILAGE GRAFT, THE LIPS AND CHEEK BY TUBE GRAFTS, WITH REASONABLE RESULTS.

IN THOSE PATIENTS RETURNING WITH SCARRING FROM PREVIOUS WOUNDS, SIMPLE PLASTIC PROCEDURES, SUCH AS Z-PLASTY, ADVANCEMENT FLAPS, EXCISION AND GRAFTING COULD BE USED TO IMPROVE THE COSMETIC APPEARANCE.

WOUNDS OF THE EYE RARELY OCCURRED AS AN ISOLATED INJURY, AND THE MAJORITY OF THESE WERE PERFORATED OR RUPTURED GLOBES. THEY WERE USUALLY ASSOCIATED WITH A FACIAL OR A COMPOUND SKULL WOUND. MOST OF THESE HAD THE EYE REMOVED, AND ENUCLEATION RATHER THAN EVISCERATION WAS DONE. I WAS ABLE TO FIND ONLY ONE MAN IN VIET-NAM WHO MADE ARTIFICIAL EYES, A VIETNAMESE ARMY DENTIST IN DA NANG, WHO MADE EYES IN HIS SPARE TIME. IT WAS BEING ARRANGED TO SEND CHILDREN AND YOUNG PATIENTS TO HIM BUT RECENT INCREASE IN MILITARY ACTIVITY HAD DELAYED THE ARRANGEMENT.

IT IS CLEARLY DESIRABLE FOR THE SURGEONS ON THE TEAM TO HAVE HAD SOME EXPERIENCE IN THE DISCIPLINE OF PLASTIC SURGERY SO THAT THE QUALITY OF THE FACIAL REPAIR WORK IS AS HIGH AS POSSIBLE. IT WAS NOTABLE THAT OUR RESULTS WERE AS GOOD AS THOSE SENT TO THE GERMAN HOSPITAL SHIP, HELIGOLAND, STATIONED IN THE SAIGON RIVER, WHO WERE SUPPOSED TO HAVE A PLASTIC SURGEON ON BOARD.

(5) <u>WOUNDS OF THE CHEST</u>

ALTHOUGH THESE FORMED ONLY 9% OF MAJOR WOUNDS AND 6% OF MINOR WOUNDS, IT BECAME CLEAR DURING THE YEAR, THAT MANY MORE MUST HAVE BEEN SUSTAINED, BUT THE PATIENTS DYING BEFORE THEY COULD BE GOT TO HOSPITAL. WHEN FIGHTING WAS TAKING PLACE IN QUI NHON ITSELF, WITHIN A FEW MINUTES OF THE HOSPITAL, A MUCH HIGHER PERCENTAGE OF CHEST WOUNDS WERE RECEIVED.

THESE ARE MOSTLY BULLET OR FRAGMENT WOUNDS, AND IN THE MAJORITY, THE FRAGMENT PASSES THROUGH THE CHEST. OF THE BULLET WOUNDS, THE .45 CALIBRE IS THE COMMONLY RETAINED FOREIGN BODY, PRESUMABLY BECAUSE OF ITS LESSER VELOCITY.

SEVERAL OF THE CHEST WOUNDS WERE ASSOCIATED WITH CONCOMITANT ABDOMINAL INJURY, AND MANY WERE PART OF MULTIPLE WOUNDS.

THE ENTRANCE WOUNDS OFTEN HAVE JAGGED SPIKES OF FRACTURED RIB PROTRUDING INTO THE CHEST, AND SOME EXIT WOUNDS WERE LARGE. FLAIL CHEST IS NOT COMMON, BUT SUCKING WOUNDS ARE VERY COMMON WITH THESE

INJURIES. BLOOD LOSS BOTH INTO THE CHEST AND EXTERNALLY WAS HEAVY, BUT FEW PATIENTS WERE SEEN WITH ASSOCIATED INJURY TO MAJOR VESSELS. THEY WERE SHOCKED AND DYSPNOEIC ON ARRIVAL AND REQUIRED URGENT RESUSCITATION AND OPERATION.

IT HAD BEEN FOUND BY PREVIOUS TEAMS, AND WAS CONFIRMED BY THIS TEAM, THAT THESE PATIENTS DID BETTER WITH A THORACOTOMY, THAN WITH A SIMPLE DRAINAGE PROCEDURE. THE REMOVAL OF CLOTS AND BLOOD FROM THE CHEST, THE SUTURE OR RESECTION OF THE DAMAGED PORTION OF LUNG, ON OCCASIONS TO THE EXTENT OF LOBECTOMY, AND THE REMOVAL OF THE JAGGED RIB FRAGMENTS, FOLLOWED BY CLOSURE WITH A WATER-SEAL DRAIN, PRODUCED EXCELLENT RESULTS. NO PATIENT WITH AN ISOLATED CHEST WOUND WAS LOST BY THIS PROCEDURE, ALTHOUGH WHERE THERE WAS ASSOCIATED ABDOMINAL INJURY, OR PARAPLEGIA, THE RESULTS WERE NOT AS SATISFACTORY. IN SOME PATIENTS OLD PULMONARY DISEASE RESULTING IN ADHERENCE OF THE LUNG TO THE CHEST WALL PRODUCED A VERY EXPLOSIVE INJURY TO THE LUNG, WITH MASSIVE HAEMORRHAGE.

IT WAS A REFLECTION ON THE SKILL OF THE VIETNAMESE NURSE ANAESTHETISTS THAT THESE PATIENTS DID SO WELL. ON ONE OCCASION TEN THORACOTOMIES WERE DONE IN TWO DAYS, AMONGST 68 OTHER INJURED PATIENTS, THE ANAESTHETICS BEING GIVEN BY A GIRL WITH THREE MONTHS EXPERIENCE, WITHOUT A DEATH.

THE COMBINED ABDOMINAL AND CHEST WOUNDS INVOLVED LIVER, STOMACH, SPLEEN, KIDNEY, COLON AND ILIUM. THESE WERE EXPLORED THROUGH A COMBINED THORACO-ABDOMINAL INCISION, AND SOME OF THESE DID NOT SURVIVE, THE DAMAGE BEING EXTENSIVE.

WITH THE UNCOMPLICATED CHEST WOUNDS, HEALING WAS RAPID, AND THE TUBES WERE REMOVED BETWEEN THE 7 - 10TH DAY, AND SUTURES ON THE 10 - 12TH DAY. ALL WERE CHECKED BY X-RAY DURING THIS PERIOD, BUT NO FOLLOW-UP WAS POSSIBLE IN THE GREAT MAJORITY OF CASES.

IN CHEST WOUNDS CLASSIFIED AS MINOR, WHERE THE PENETRATING WOUND WAS TINY, AND HAEMORRHAGE AND DYSPNOEA NOT MARKED, TREATMENT WAS WITH SIMPLE UNDER-WATER SEAL DRAINAGE.

AMONG THE CIVILIANS, NO CARDIAC WOUNDS WERE SEEN, NOR ANY WOUNDS OF THE MAJOR VESSELS. CLEARLY, THESE DIED BEFORE ADMISSION. SUCH INJURIES ARE SEEN AND TREATED SUCCESSFULLY AT THE AMERICAN EVACUATION HOSPITALS, BUT ONLY AMONGST THE AMERICAN SERVICEMEN.

## (6) WOUNDS OF THE ABDOMEN

ABDOMINAL WOUNDS FORM THE LARGEST SINGLE GROUP OF THE MAJOR WAR WOUNDS, 37%, AND THE EXTENT OF INTESTINAL DAMAGE CAUSED BY TINY HIGH VELOCITY FRAGMENTS AND FRAGMENTING BULLETS WAS IMPRESSIVE. IN CHILDREN, PARTICULARLY, THE PRESENCE OF ASCARIS WAS ALMOST CONSTANT.

ISOLATED WOUNDS OF THE LIVER, AND AS THE SOLE ABDOMINAL INJURY ASSOCIATED WITH A CHEST WOUND WERE NOT UNCOMMON. IN THESE EXTENSIVE HAEMORRHAGE REQUIRING URGENT TRANSFUSION, AND EARLY OPERATION IS THE PRINCIPAL FEATURE. NO LIVER RESECTIONS WERE DONE, THE TREATMENT BEING SUTURE, USUALLY WITH THE ADDITION OF GELFOAM, AND THE RESULTS ARE GOOD. THOSE PATIENTS IN WHOM THE LIVER INJURY WAS ASSOCIATED

WITH A COLON WOUND, FAILED TO DO WELL, BUT THE ASSOCIATION WITH OTHER INTESTINAL INJURY DID NOT HAVE THE SAME POOR RESULTS.

WOUNDS OF THE ILIUM AND JEJUNUM WERE TREATED BY SUTURE OR RESECTION, DEPENDING ON THE EXTENT OF THE DAMAGE, AND WOUNDS OF THE COLON WERE TREATED SIMILARLY. ONLY VERY RARELY WAS A COLOSTOMY MADE. IN CHILDREN, AND THOSE ADULTS WITH MANY ASCARIS PRESENT, IT WAS WISE TO REMOVE THOSE EASILY ACCESSIBLE BEFORE CLOSING THE INTESTINE, AND IN NO CASE DID ASCARIS APPEAR THROUGH THE ABDOMINAL WOUND AT A LATER DATE. IN THESE PATIENTS, AN ANTHELMINTIC, PIPERAZINE, SHOULD BE GIVEN PRIOR TO DISCHARGE FROM HOSPITAL.

THE LAPAROTOMY WOUNDS WERE CLOSED IN LAYERS, WITH CATGUT AND MERSILENE, WITH PENROSE OR CORRUGATED RUBBED DRAINS THROUGH SEPARATE STAB WOUNDS. THE MISSILE WOUNDS WERE EXCISED AND SUTURED. IN ALL INTESTINAL WOUNDS A GASTRIC TUBE WAS INSERTED, FOR DECOMPRESSION. THE TREATMENT OF PARALYTIC ILIUS WAS DIFFICULT BECAUSE OF THE TENDENCY OF THE VIETNAMESE PATIENTS, OR THEIR RELATIVES, TO REMOVE THE TUBE, AND THE VIETNAMESE NURSES WOULD RARELY RE-INSERT THEM. WHERE IT WAS CLEAR THAT DECOMPRESSION WAS VITAL AND LIKELY TO BE OF SEVERAL DAYS DURATION, INSERTION DIRECTLY INTO THE STOMACH, AND THROUGH TO THE DUODENUM, BRINGING THE TUBE OUT THROUGH THE ABDOMINAL WALL, PROVED VERY SATISFACTORY, AND WAS NOT ASSOCIATED WITH ANY COMPLICATIONS. IT WAS CLAMPED OFF WITH THE RETURN OF BOWEL SOUNDS BUT NOT REMOVED FOR 8 DAYS. FLUID BALANCE WAS PRIMITIVE, AND NO LABORATORY ASSESSMENT OF ELECTROLYTES POSSIBLE. ONE HAD TO GUESS THE VOLUME AND COMPOSITION OF THE INTRAVENOUS FLUID NECESSARY. THE CLIMATE, AND ASSOCIATED SWEATING REQUIRED MORE SALINE THAN IS CUSTOMARY IN THE TEMPERATE CLIMATES, AND MORE TOTAL FLUID. THE ADDITION OF POTASSIUM CHLORIDE WAS DONE BY ESTIMATION RATHER THAN CALCULATION.

IN SPITE OF THESE DIFFICULTIES, IT WAS VERY NOTICEABLE HOW RAPIDLY THE PARALYTIC ILIUS PASSED OFF. IN THESE PATIENTS THERE WAS NEVER ANY CONCERN THAT UNSUITABLE FOOD WOULD BE GIVEN, RATHER THE OPPOSITE; IT WAS VERY DIFFICULT TO GET THEM TO TAKE ANY SOLID FOOD FOR DAYS. THE PATIENTS AND RELATIVES WOULD LIMIT THE ORAL INTAKE TO 'RICE SOUP' A WATERY INOCUOUS FLUID, FOR 8 - 10 DAYS POST-OPERATIVELY, AND NO ENCOURAGEMENT WOULD GET THEM TO INCREASE THIS TO A MORE SOLID DIET. IN THESE, AS IN NEARLY ALL OTHER PATIENTS, IT WAS VERY NOTICEABLE THAT IN SPITE OF NO BREATHING OR COUGHING EXERCISES, NO LEG AND FOOT EXERCISE, AND NO EARLY AMBULATION, THAT THERE WAS NO DEEP VEIN THROMBOSIS, AND NO ATELACTASIS. No PULMONARY EMBOLISM WAS SEEN. THESE ABDOMINAL WOUND PATIENTS WOULD LIE LIKE LOGS FOR MANY DAYS, AND YET NONE OF THE EXPECTED COMPLICATIONS DEVELOPED. ONLY WHEN THE WOUND WAS HEALED, AND THESE WOUNDS HEALED WELL AND WITHOUT INFECTION, WOULD THEY BEGIN TO EAT PROPERLY, AND WOULD THEN GET UP AND WALK ABOUT.

WOUNDS OF THE RECTUM WERE USUALLY ASSOCIATED WITH MASSIVE BONE AND MUSCLE INJURY IF THE ENTRANCE WOUND WAS POSTERIOR, OR WITH BLADDER OR INTESTINAL INJURY IF ANTERIOR. RECTAL WOUNDS WERE SUTURED AND IN THESE, A TEMPORARY COLOSTOMY WAS ALWAYS MADE. TINY PENETRATING WOUNDS OF THE PERINEUM WERE DANGEROUS, SINCE THEY COULD

EASILY BE OVERLOOKED, WITH ASSOCIATED MULTIPLE WOUNDS, AND THEN REVEAL THEMSELVES AS A PERITONITIS, EXTRA-PERITONEAL OR PERINEAL ABSCESS AT A LATER DATE.

ALTHOUGH MESENTERIC DAMAGE OCCURRED TO A LIMITED DEGREE WITH MANY INTESTINAL WOUNDS, AN OCCASIONAL PATIENT WAS SEEN WITH MESENTERIC LACERATION NOT ASSOCIATED WITH A MAJOR BOWEL WOUND. THESE CAUSE SEVERE HAEMORRHAGE, AND HERE AGAIN THE EXPERIENCE AT THE AMERICAN EVACUATION HOSPITALS DIFFERS FROM OURS, IN THAT THE MORE RAPID EVACUATION TO HOSPITAL, WITH RESUSCITATION DURING THE TRANSFER, OF THE AMERICAN SERVICEMAN, ALLOWS SALVAGE OF THESE INJURIES.

(7) <u>WOUNDS OF THE BLADDER AND URETHRA</u>

THIS WAS AN UNCOMMON INJURY, USUALLY NOT ASSOCIATED WITH INTESTINAL INJURY. BULLETS CAUSED THE GREATER NUMBER OF BLADDER WOUNDS, BUT GRENADE OR MINES CAUSED THE URETHRAL. THE BLADDER WOUNDS DID NOT PRESENT GREAT DIFFICULTY, AND DID WELL WITH SUTURE AND CATHETERISATION. URETHRAL WOUNDS, HOWEVER, CAUSED A LOT OF CONCERN, NOT BECAUSE OF DIFFICULTY IN REPAIR, BUT IN FOLLOW-UP. IT PROVED IMPOSSIBLE TO GET THE VIETNAMESE PATIENT TO UNDERSTAND THAT HE MUST RETURN FOR URETHRAL DILATATION, AND SEVERAL PATIENTS DID RETURN WITH IMPASSABLE STRICTURES, AND RETENTION. ONE CASE WAS RECEIVED IN A YOUNG WOMAN WHERE AN EXPLOSION HAD COMPLETELY DESTROYED THE BASE OF THE BLADDER, URETHRA AND VAGINA. PRELIMINARY DEBRIDEMENT WAS FOLLOWED BY TRANSPLANT OF THE URETERS TO THE SIGMOID, AND HYSTERECTOMY, A DRASTIC BUT UNAVOIDABLE REPAIR.

(8) <u>THE COMPOUND FRACTURES</u>

THESE FORMED A VERY LARGE SECTION OF THE WAR WOUNDS, AND WERE THE MAIN REASON FOR THE LARGE NUMBER OF WAR CASUALTIES AMONGST THE IN-PATIENTS.

NO FORM OF INTERNAL FIXATION WAS USED IN THE COMPOUND FRACTURES, AND OUR AVERSION TO THIS FORM OF TREATMENT WAS REINFORCED BY THOSE PATIENTS WHO WERE TRANSFERRED TO US WHO HAD HAD INTERNAL FIXATION ELSEWHERE, IN THE FORM OF RUSH PINS OR KUNTCHNER NAILS, IN WHOM OSTEOMYELITIS, SEQUESTRATION AND NON-UNION WERE SEEN. THESE COMPLICATIONS WERE ALSO SEEN IN PATIENTS WHO HAD INTERNAL FIXATION AT A LATER DATE, FOR POOR INITIAL RESULTS OF MORE CONSERVATIVE TREATMENT. IT WAS FELT, STRONGLY, THAT THERE WAS NO PLACE FOR THE INTRODUCTION OF METALLIC FOREIGN BODIES INTO COMPOUND FRACTURES SUSTAINED AS A RESULT OF A WAR INJURY, ESPECIALLY IN HOSPITALS OF THE STANDARD OF THE VIETNAMESE CIVIL HOSPITALS.

COMPOUND FRACTURES OF THE FEMUR, RESULTING COMMONLY FROM BULLET WOUNDS, OR LARGE FRAGMENTS OF GRENADE OR BOMB, WERE ALWAYS COMMINUTED. IF THE FRAGMENT HAD PERFORATED THE THIGH, THEN THE EXIT WOUND WAS LARGE. THE TREATMENT WAS A THOROUGH BUT NOT EXCESSIVE DEBRIDEMENT, WITH PARTIAL SUTURE, FOLLOWED BY THE INSERTION OF A STEINMAN PIN THROUGH THE TIBIA, REDUCTION AND IMMOBILISATION ON A THOMAS SPLINT. THE SPLINTS AVAILABLE WERE THE HALF-RING TYPE, ADJUSTABLE FOR LENGTH. THERE WAS SOME DIFFERENCE OF OPINION WHETHER THE HALF-RING WAS BETTER ANTERIOR OR POSTERIOR, BUT WHICHEVER WAY WAS USED THE IMMOBILISATION

SEEMED SATISFACTORY. WITH A SMALL CHILD WITH LARGE WOUNDS, SKIN TRACTION WAS NOT POSSIBLE, AND THESE WERE SLUNG IN GALLOWS TRACTION USING A SMALL STEINMAN PIN ON THE INJURED SIDE. ONE WAS NEVER VERY HAPPY ABOUT USING THIS TREATMENT, BUT IT DID NOT SEEM TO GIVE ANY TROUBLE.

THE COMMINUTION OF THE BONE, WITH ASSOCIATED MUSCLE LOSS MADE REDUCTION EASY, AND IT WAS IMPORTANT NOT TO APPLY TOO MUCH TRACTION, AND THEREBY SEPARATE THE FRAGMENTS. SOME SHORTENING WAS INEVITABLE, BUT IF THE BONE LOSS WAS SMALL, UNION WAS GOOD. I PREFERRED TO USE FIXED TRACTION, WITH PLENTY OF SUPPORT BENEATH THE FRACTURE. WEIGHT TRACTION WAS USED BY MOST OTHER SURGEONS, BUT WITHOUT CONSTANT SUPERVISION, THIS WAS NOT ENTIRELY SATISFACTORY, SINCE THE WEIGHT WOULD BE RELEASED OR SUPPORTED BY RELATIVES.

THE BIGGEST PROBLEM WITH THESE PATIENTS WAS THE TENDENCY FOR THE VIETNAMESE NURSES TO REMOVE THE SUPPORTING PADDING WHEN DRESSING THE WOUNDS, AND THEN NOT REPLACING IT. THIS WAS ONLY OVERCOME WHEN A NEW ZEALAND NURSE WAS ABLE TO SUPERVISE THESE PATIENTS, WHEN THE DAILY CHECKING AND ATTENTION TO THE SPLINTS WAS GOOD. ALL THESE PATIENTS RECEIVED ANTI-BIOTICS FOR SEVERAL WEEKS, USUALLY PENICILLIN AND STREPTOMYCIN, AND INFECTION WAS MINIMAL. SEQUESTRATION DID OCCUR IN SOME COMMINUTED FRAGMENTS, NECESSITATING LATER REMOVAL, AND IN THOSE PATIENTS WITH BONE LOSS SOME FORM OF BONE GRAFT WAS NECESSARY.

IN THOSE PATIENTS WITH COMPOUND FRACTURES OF THE TIBIA, HUMERUS, RADIUS AND ULNA, CAREFUL ASSESSMENT OF THE TOTAL INJURY WAS ESSENTIAL, ESPECIALLY FOR VASCULAR DAMAGE, AND WITH SEVERE MUTILATION AMPUTATION WAS THE BETTER TREATMENT, THAN ATTEMPTED SALVAGE. THE AIM, WHERE POSSIBLE, WAS TO PRESERVE THE LIMB, AND TREATMENT WAS DEBRIDEMENT, REDUCTION, AND PLASTER OF PARIS. SOME OF THESE CAME TO AMPUTATION LATER, BUT THE GREAT MAJORITY HEALED, NOT WITHOUT DEFORMITY IN SOME INSTANCES.

THE PLASTER OF PARIS SUPPLIED BY USAID, OF AMERICAN ORIGIN, WAS VERY INFERIOR TO THAT USED IN NEW ZEALAND, AND WE OBTAINED OUR SUPPLIES FROM THERE. THE BRAND RECEIVED WAS 'CELLONA', AND IT PROVED EXCELLENT. A LIGHT CAST, WITH A SHORT SETTING TIME WAS EASILY OBTAINED, AND IT WAS AVAILABLE IN 3, 4, 6 AND 8 INCH SIZES. 'GYPSONA' WAS USED IN VERY SMALL QUANTITIES, AND ALTHOUGH THE PREFERRED PLASTER IN NEW ZEALAND, WAS NOT AS GOOD IN THE CLIMATE OF VIET-NAM, WHERE THE SLIGHTLY SLOWER SETTING CELLONA WAS BETTER. THE AMERICAN PLASTER WAS VERY SLOW SETTING, SOMETIMES TAKING 20 - 30 MINUTES TO HARDEN, TIME WHICH COULD NOT BE SPARED. IT COULD BE MADE TO SET QUICKER BY USING HOT WATER AND SALT, BUT HOT WATER IS NOT AVAILABLE IN THE OPERATING ROOMS IN QUI NHON IN ADEQUATE QUANTITIES.

ANTI-BIOTICS WERE GIVEN TO ALL COMPOUND FRACTURES, FOR AT LEAST TWO WEEKS. NO PROBLEMS WITH RESISTANCE WERE ENCOUNTERED ALTHOUGH THE LABORATORY WAS NOT ABLE TO CHECK THIS.

TWO DISTINCT METHODS OF PLASTER CARE FOR COMPOUND FRACTURES WERE USED AT THE HOSPITAL. I MAINTAINED A STRICT CLOSED PLASTER TECHNIQUE, BUT ALL OTHER SURGEONS WOULD WINDOW THE PLASTERS OVER THE WOUNDS FOR DAILY DRESSING OF THE WOUNDS. UNFORTUNATELY NO COMPARISON FIGURES

WERE KEPT, THERE WAS SIMPLY NOT THE TIME, BUT I BELIEVE THAT THE CLOSED METHOD PRODUCED THE BETTER AND QUICKER RESULT. ONE HAD TO BE AWARE OF THE VIETNAMESE PREFERENCE OF THE WINDOW METHOD, BOTH PATIENTS AND STAFF, AND CONSTANT REASSURANCE THAT THE STAINED AND SMELLY PLASTER WAS SATISFACTORY WAS NECESSARY. FURTHER, PLASTER CHANGES HAD TO BE DONE MORE FREQUENTLY THAN WERE STRICTLY NECESSARY, TO KEEP THE PATIENTS HAPPY, AND TO MAKE SURE THAT THEY REMAINED IN HOSPITAL.

A GREAT PROBLEM WITH PLASTERS WAS THE TENDENCY OF THE VIETNAMESE PATIENTS TO TRIM THE PLASTERS DOWN TO WHAT THEY CONSIDERED ADEQUATE. A FULL-LEG PLASTER WOULD RAPIDLY LOSE MOST OF THE THIGH AND FOOT IF NOT WATCHED. DAILY REASSURANCE PREVENTED MOST OF THIS, AND A SMILE DID MORE THAN SCOLDING. UNFORTUNATELY THE NEW ZEALANDERS HAD NO AUTHORITY TO CORRECT DEFICIENT PLASTERS IN THE VIETNAMESE DOCTORS PATIENTS, WHO WOULD OFTEN BE LEFT IN INADEQUATE PLASTERS FOR LONG PERIODS. THE NEW ZEALAND TREATED PATIENTS HAD THEIR PLASTERS REPAIRED BY THE NEW ZEALAND NURSE SUPERVISING THEM.

## (9) MAJOR DESTRUCTION OF THE LIMBS. THE AMPUTATIONS

AMPUTATIONS WERE VERY COMMONLY NECESSARY AMONGST THE CIVILIAN WAR CASUALTIES, MAINLY FOR MAJOR DESTRUCTIVE WOUNDS, BUT ALSO IN A SMALLER NUMBER OF CASES BECAUSE OF VASCULAR DAMAGE AND SUBSEQUENT GANGRENE.

WHERE THE ARM WAS INVOLVED, AMPUTATIONS WERE DONE AT ALL LEVELS, LEAVING AS LONG A STUMP AS POSSIBLE, BUT IN NO CASE WAS A PROSTHESIS FITTED.

IN THE LOWER LIMB, THE OCCASIONAL SYME AND HAY AMPUTATION COULD BE DONE, GIVING A STUMP WHICH COULD BE WALKED UPON, AND AVOIDING THE NECESSITY FOR A PROSTHESIS.

BELOW KNEE AMPUTATIONS COULD BE FITTED WITH A LIMB IF THERE WAS 2 INCHES OF TIBIA, ALTHOUGH A LONGER STUMP WAS PREFERRED, BUT NOT LONGER THAN MID-TIBIA.

THE GRITTI-STOKES WAS NOT LIKED BY THE LIMB-FITTERS, AND WAS ONLY DONE ONCE. CERTAINLY THE RESULT WAS EXCELLENT, BUT WITH THIS AMPUTATION, THE ARTIFICIAL KNEE IS LOWER IN THE LEG THAN THE KNEE OF THE UNINJURED LEG, AND GIVES AN UNEVEN GAIT.

ABOVE THE KNEE, A MID-THIGH AMPUTATION WAS PREFERRED, NOT LONGER, BUT A LIMB COULD BE FITTED WITH STUMPS MUCH SHORTER. IN THE VERY HIGH AMPUTATIONS, AND DISARTICULATION OF THE HIP, THE PELVIC BUCKET OF THE PROSTHESIS COULD AND WAS MADE, BUT IN THAT CLIMATE IS HOT AND UNCOMFORTABLE AND NOT OFTEN USED. IN FACT, NO PATIENT WITH AN AMPUTATION REQUIRING THIS TYPE OF PROSTHESIS WAS SENT FOR FITTING.

WHERE THE INJURY CALLED FOR AMPUTATION, WE PERFORMED A PRIMARY DEFINITIVE AMPUTATION, WITH SUTURE OF FASCIA AND SKIN OVER A PENROSE OR CORRUGATED DRAIN. HEALING WAS EXCELLENT, THE VAST MAJORITY HEALING WITHOUT ANY INFECTION. IN A FEW CASES MINIMAL INFECTION OCCURRED, AND ONLY ONCE WAS SLOUGHING SUFFICIENT TO NECESSITATE REAMPUTATION.

I THINK THIS IS A VERY IMPORTANT FEATURE OF THE WAR CASUALTY TREATMENT. IT WAS NOT NECESSARY TO LEAVE THE AMPUTATIONS OPEN, OR TO STAGE TREATMENT. THE PRIMARY AMPUTATION WAS THE TREATMENT OF CHOICE. IN NO CASE DID GAS GANGRENE DEVELOP. IT HAS BEEN THE PRACTICE IN SOME EARLIER CONFLICTS TO LEAVE THE AMPUTATIONS OPEN, AND IT IS STILL THE PRACTICE WITH THE AMERICANS. IT IS WRONG. CERTAINLY THE QUI NHON PATIENTS HAD A CONTINUITY OF SUPERVISION BY THE SAME SURGEON THROUGHOUT THE TREATMENT, AND WERE NOT MOVED, AFTER AMPUTATION, TO OTHER HOSPITALS.

HEALING WAS RAPID. DRAINS WERE REMOVED ON THE SECOND DAY AND SUTURES ON THE 10TH. SOME INITIAL DIFFICULTIES WITH CORRECT BANDAGING WERE OVERCOME BY PERSISTENT ADVICE AND ENCOURAGEMENT, AND SOME ABUSE. PATIENTS WERE ENCOURAGED TO BE AMBULANT AS SOON AS POSSIBLE, AND IN MOST CASES CRUTCHES WERE AVAILABLE THROUGH USAID AND THE ASIAN CHRISTIAN SERVICE PEOPLE. CHILDREN WERE NOT OFTEN FITTED WITH CRUTCHES, BUT THIS DID NOT PREVENT THEM HOPPING ABOUT AS SOON AS THE STUMP WAS HEALED.

AFTER THE FIRST FEW MONTHS, POST-OPERATIVE CARE OF AMPUTEES WAS GOOD. ALL OF MINE WERE TREATED IN ONE OF TWO WARDS, SO THAT THE SAME VIETNAMESE NURSE WAS IN CHARGE OF THEM THROUGHOUT THE YEAR.

ALL PATIENTS IN QUI NHON WHO REQUIRED A PROSTHESIS WERE REFERRED TO THE NATIONAL RAHABILITATION CENTRE IN SAIGON. THIS IS A VIETNAMESE ESTABLISHMENT, ALTHOUGH THE HOSTEL, IN WHICH THE PATIENTS LIVE DURING FITTING AND TRAINING, IS RUN BY THE RED CROSS.

THE LIMBS ARE MADE AT THE CENTRE, BY VIETNAMESE TECHNICIANS UNDER THE SUPERVISION OF THE VIETNAMESE DIRECTOR, ASSISTED BY A FRENCH DOCTOR. A MOULD IS TAKEN FROM THE STUMP, AND A CAST MADE FROM THIS. THE SOCKET OF THE LIMB IS THEN MADE BY FITTING A COARSE NYLON MESH STOCKING OVER THE CAST, AND IMPREGNATING THIS WITH A MIXTURE OF RESIN AND PLASTIC, WHICH SETS IN A FEW MINUTES. THE LIMB IS COMPLETED, IN STAGES, IN WOOD, RUBBER AND PLASTIC. IN THE BELOW KNEE PROSTHESIS THERE IS NO METAL AT ALL, NOR ANY BREAK IN THE SMOOTH SURFACE. THERE IS NO HINGE AT THE ANKLE, BUT THE FOOT IS MADE OF RIGID AND FLEXIBLE SECTIONS GIVING AN ALMOST NORMAL ANKLE AND FOOT MOVEMENT. SOME FEET ARE IMPORTED FROM GERMANY, OTHERS MADE IN SAIGON. THE BELOW-KNEE PROSTHESIS WEIGHT BEARS ON THE PATELLA TENDON, AND EXPANDED PLATEAU OF THE TIBIA.

A FULL-LEG PROSTHESIS WEIGHT BEARS ON THE ISCHIUM, AND HAS A METAL HINGE AT THE KNEE. THE HINGE IS OF GERMAN MANUFACTURE. SUCTION-RETAINED LIMBS ARE NOT FAVOURED BECAUSE OF THE CLIMATE, BUT ONLY A MINIMUM OF WEBBING STRAPPING IS USED.

THE LIMBS IMPRESS ONE BY THEIR QUALITY, DURABILITY, PLEASANT COSMETIC APPEARANCE, AND CHEAPNESS. ONE SHOULD NOT BE SURPRISED BY THIS, AS THE VIETNAMESE ARE A DEXTROUS AND ARTISTIC PEOPLE.

IT IS PLANNED TO BUILD A REHABILITATION CENTRE IN QUI NHON. THIS IS A CANADIAN PROJECT, AND WILL REMOVE THE PROBLEM OF TRANSPORT TO AND FROM SAIGON, BUT IT MUST TRAIN VIETNAMESE SO THAT EVENTUALLY THEY CAN RUN IT THEMSELVES. THERE ARE ALREADY CENTRES AT DA NANG AND CAN THO, AND THE RELIEF OF PRESSURE ON THE SAIGON INSTITUTE WAS

NOTICEABLE IN QUI NHON, WHERE MOST AMPUTEES WAITED ONLY TWO MONTHS.

THE INSTITUTE MAKES AND SUPPLIES PROSTHESES FOR THE UPPER LIMB, THE SPRUNG DOUBLE-HOOK BEING THE STANDARD FITTING, BUT THIS IS AESTHETICALLY OFFENSIVE TO THE VIETNAMESE AND NONE OF OUR PATIENTS WAS WILLING TO HAVE ONE.

MANY OF THE AMPUTEES ARE CHILDREN, AND WHILST ALL OF THESE WERE FITTED OR WERE ON THE WAITING LIST, AND ALL LEARN TO USE THE LIMBS EASILY, FACILITIES FOR FOLLOW UP ARE NOT GOOD. THE REHABILITATION CENTRE WILL RECEIVE THEM AT ANY TIME FOR ADJUSTMENTS AND RE-FITTING, BUT IN A HUGE RURAL COMMUNITY LIKE BINH DINH, WITH ITS INSECURITY AND DIFFICULTY OF ACCESS TO SAIGON, ONE WONDERS HOW THESE CHILDREN WILL FARE AS THEY GROW.

(10) <u>VASCULAR INJURIES</u>

IN THE CIVILIAN WAR CASUALTIES TREATED BY THE NEW ZEALAND TEAM, ISOLATED VASCULAR INJURIES ARE UNCOMMON, AND IT IS PROBABLE THAT THEY DIE BEFORE THEY CAN BE TRANSPORTED TO HOSPITAL. BRACHIAL, FEMORAL AND POPLITEAL ARTERIES WERE SUTURED IN A FEW CASES, BUT SO OFTEN THE ASSOCIATED MUTILATION NECESSITATED AMPUTATION RATHER THAN REPAIR. IN THOSE PATIENTS WHERE REPAIR EITHER BY DIRECT END TO END SUTURE, OR THE USE OF A SAPHENOUS VEIN GRAFT WAS POSSIBLE, RESULTS WERE GOOD, AND IN TWO ONLY, ONE BRACHIAL AND ONE POPLITEAL, DID GANGRENE SUPERVENE AND NECESSITATE AMPUTATION. SUTURE WAS WITH 00000 ARTERIAL SILK, AND NO ANTICOAGULANT WAS USED.

AN EQUAL NUMBER OF PATIENTS WERE RECEIVED IN WHOM A TINY WOUND HAD GONE UN-NOTICED UNTIL THE DEVELOPMENT OF AN ARTERIO-VENOUS OR A TRAUMATIC ANEURYSM. WHERE SMALL VESSELS WERE INVOLVED IT WAS NOT POSSIBLE TO REPAIR THE DAMAGE AND LIGATION WAS DONE, WITH EXCISION OF THE DAMAGED SEGMENT. IN THE LARGER VESSELS, AND THE FEMORAL WAS THE COMMONEST SITE, IT WAS POSSIBLE TO REPAIR THE ARTERY IN MOST CASES, ALTHOUGH ONE MASSIVE ARTERIO-VENOUS ANEURYSM, WITH SKIN ULCERATION ALREADY PRESENT REQUIRED AMPUTATION TO CONTROL BLEEDING, WHEN THE VEIN WAS INADVERTENTLY TORN DURING THE EXPOSURE, ALTHOUGH THE ILIAC AND POPLITEAL VESSELS HAD BEEN EXPOSED AND WERE CONTROLLED.

THE POSSIBILITY OF TRAUMATIC ANEURYSM MUST BE BORNE IN MIND WHEN FACED WITH A HOT, RED, TENDER SWELLING FOLLOWING A SMALL FRAGMENT WOUND. WHAT APPEARS, AT FIRST SIGHT, TO BE AN ABSCESS MAY BE MORE INVOLVED, AND ONE CAN BE CAUGHT UNPREPARED FOR THE GUSH OF BLOOD WHICH APPEARS INSTEAD OF PUS WHEN THE 'ABSCESS' IS INCISED.

(11) <u>BURNS</u>

THE BURNS DIRECTLY ATTRIBUTABLE TO WARFARE ARE THOSE CAUSED BY PHOSPHORUS AND NAPALM, BOTH COMMON AGENTS. PHOSPHORUS IS USED IN ARTILLERY MARKING SHELLS AND BOMBS, AND IN THE COURSE OF A YEAR ONLY THREE PATIENTS WERE RECEIVED, ALL AT THE SAME TIME. PHOSPHORUS CONTINUES TO BURN AS LONG AS IT IS IN CONTACT WITH THE PATIENT, AND TREATMENT WAS THE THOROUGH DEBRIDEMENT OF THE BURNT AREA, WHICH EMITS AN OFFENSIVE SMOKE UNTIL CLEAR. COPPER SULPHATE IS REGARDED AS THE CORRECT TREATMENT, BUT BY THE TIME IT WAS OBTAINED, THE BURNS HAD BEEN CLEANED. THESE WERE LIMITED IN AREA AND NO LIVER DAMAGE RESULTED.

NAPALM, A JELLIED GASOLINE, IS IN FREQUENT USE, AND IS A TERRIFYING WEAPON TO SEE. ALL NAPALM IS DROPPED FROM AIRCRAFT, IN THE FORM OF A LARGE CANISTER, AND ON IMPACT WITH THE GROUND, A HORRIFYING SEA OF FLAME EXPLODES. NO Civilian Napalm burns were SEEN. THE FEATURE OF THE NAPALM BURN IS ITS EXTENT AND DEPTH. THERE HAD BEEN A LOT OF PUBLICITY ABOUT NAPALM BURNED CHILDREN, AND ONE COULD ONLY CONCLUDE THAT A MORE DISCRIMINATIVE USE WAS BEING MADE OF IT, OR THAT NO CIVILIAN SURVIVED THE ATTACKS.

THE TREATMENT OF BURNS IS DISCUSSED IN THE WAR RELATED AND CIVIL ACCIDENTS.

(12) Miscellaneous and Gas

A FEW PATIENTS WERE RECEIVED WHO WERE INJURED BY EXPLODING Tear GAS GRENADES. THESE PATIENTS ALWAYS HAD THE IRRITANT ON THEM, AND BECAUSE OF THE PROLONGED CONTACT, THE CONJUNCTIVITIS TOOK SEVERAL DAYS TO SETTLE. BEFORE THE WOUNDS COULD BE TREATED, THESE PATIENTS HAD TO BE HOSED DOWN OUTSIDE THE OPERATING ROOM, OTHERWISE SURGEON, ANAESTHETIST AND NURSE WOULD BE UNABLE TO CONTINUE THEIR WORK. THE GAS IS PERSISTENT WHEN IMPREGNATED INTO THE CLOTHES.

ONE PATIENT ONLY WAS RECEIVED HAVING BEEN INJURED BY 'CS GAS'. WE WERE UNABLE TO GET ANY INFORMATION ON THIS AGENT, BUT THE PATIENT, A WELL BUILT YOUNG MAN, SUSPECT Viet Cong, WAS LITTLE MORE THAN A VEGETABLE, AND REMAINED SO. IF THIS WAS THE RESULT OF 'NERVE GAS', IT IS NOT THE HARMLESS AGENT IT IS SUPPOSED TO BE. SINCE NO INFORMATION COULD BE OBTAINED ABOUT THIS MAN, NO DETAIL OF THE DURATION OF CONTACT OR CONCENTRATION OF THE GAS WAS KNOWN, AND IT IS JUST POSSIBLE, BUT IMPROBABLE IN AN ACTIVE Viet Cong, THAT HE WAS DEFECTIVE PRIOR TO INJURY.

(iv) Post-Operative Care

PATIENTS WERE REMOVED FROM THE OPERATING ROOMS ON THE SAME STRETCHER THAT BROUGHT THEM IN, AND THEY REMAINED ON THIS AT LEAST UNTIL THEY HAD RECOVERED CONSCIOUSNESS. DURING THIS PERIOD THEY WERE TILTED HEAD DOWN, BY PUTTING A BOX, OR A MINIATURE CARPENTERS HORSE UNDER THE FOOT END. SINCE ETHER WAS THE COMMON ANAESTHETIC AGENT RECOVERY WAS SLOWER THAN IS USUAL AT HOME. POST-OPERATIVE VOMITING WAS UNCOMMON.

ALL WAR CASUALTIES RECEIVED ANTIBIOTICS POST-OPERATIVELY. THE USUAL PREPARATION WAS PENICILLIN OR A PENICILLIN/STREPTOMYCIN MIXTURE.

PENICILLIN DOSAGE VARIED BETWEEN 0.5 - 5 MU 8 HOURLY DEPENDING ON THE SEVERITY OF INJURY, AND STREPTOMYCIN FROM 1.5 - 3 G DAILY. TETROCYCLIN WAS USED IN LIVER AND ABDOMINAL INUURIES, ORALLY OR IV, AND SULPHONAMIDES (GANTRISIN) IN BLADDER WOUNDS. THE COURSES OF ANTIBIOTICS WERE COMMONLY ORDERED FOR 4 DAYS AND THEN REVIEWED AND RE-CHARTED.

IN VIET-NAM THE RESPONSE TO ADEQUATE DOSES OF PENICILLIN IS GOOD, PRESUMABLY RESISTANT ORGANISMS HAVE NOT YET DEVELOPED, AND THE POSITION WAS VERY SIMILAR TO THE WAR CASUALTIES TREATED IN BIRMINGHAM IN 1944.

WHEN CONSCIOUS, PATIENTS WERE TRANSFERRED TO A BED IF ONE WAS AVAILABLE, OTHERWISE THEY REMAINED ON THE STRETCHERS. SOME OF THE MINOR CASES WENT TO THE WARDS AS SOON AS CONSCIOUS, BUT NO UNCONSCIOUS PATIENT WAS EVER SENT TO A WARD. THOSE PATIENTS WHO WERE DETAINED IN THE RECOVERY ROOM, FOR A VARIABLE TIME HAD A SIMPLE SYSTEM OF PRIORITIES. CHEST WOUNDS HAD FIRST CALL ON AVAILABLE BEDS, MAINLY TO ALLOW THEM TO SIT, AND FOR THE WATER SEAL DRAINAGE TO BE BELOW THE LEVEL OF THE PATIENT. IF A BED WAS NOT AVAILABLE FOR THESE PATIENTS, THE STRETCHERS WERE RAISED ON TRESTLES. NEXT TO THE CHESTS THE MAJOR ABDOMINAL WOUNDS HAD SECOND PRIORITY, THIS MAINLY TO GET THEM IN A SEMI-SITTING POSITION, AND FOR EASIER ACCESS TO DRIPS AND TUBES. WITH THE AVAILABLE BEDS LIMITED, MANY DESERVING PATIENTS REMAINED ON STRETCHERS FOR THE WHOLE OF THEIR HOSPITALISATION. FOR THIS REASON, WHEN THE NEW MATTRESSES WERE ORDERED FROM THE NEW ZEALAND RED CROSS, FORTY OF THESE WERE MADE FOR USE ON STRETCHERS.

ANALGESIA WAS USED FAR LESS LIBERALLY THAN IS CUSTOMARY AT HOME. PETHIDINE (DEMEROL) WAS THE DRUG OF CHOICE, AND THE VIETNAMESE, BEING SMALLER, RARELY NEEDED MORE THAN 75 MGM DOSE. IT WAS NOTICEABLE THAT THE LESS SEDATED PROVINCIAL HOSPITAL PATIENTS WERE BETTER PHYSICALLY THAN THE MORE HEAVILY SEDATED TRANSFER PATIENTS FROM THE U.S. EVACUATION HOSPITALS, WHERE 4 HOURLY SEDATION WAS THE ACCEPTED RULE. UNDOUBTEDLY THE VIETNAMESE ARE MORE TOLERANT AND STOICAL ABOUT PAIN, BUT IT WAS ALSO CLEAR THAT SEDATION WAS NOT BEING GIVEN BY THE VIETNAMESE STAFF AS OFTEN AS IT WAS REQUIRED.

THE RECOVERY ROOM WAS ONE OF THE PLACES IN THE HOSPITAL WHICH ALWAYS HAD NURSING STAFF ON DUTY, ALTHOUGH THIS WAS OFTEN INADEQUATE. THE DANGEROUS TIME WAS THE MIDDLE OF THE NIGHT AND THE MID-DAY SIESTA. THERE WAS A DEFINITE RISK OF AN UNCONSCIOUS PATIENT INHALING VOMIT DURING THE SIESTA, AND IT WAS DESIRABLE TO HAVE A NEW ZEALANDER AROUND IF POSSIBLE. SUPERVISION IN THIS ROOM BECAME BETTER DURING THE YEAR AND TOWARDS THE END, IT WAS USUAL TO HAVE STAFF ON DUTY ALL THE TIME, AND NOT SLEEPING.

INTRAVENOUS DRIPS WERE WELL CARED FOR, AND IF ANY STOPPAGE OCCURRED, THE NURSE WOULD JUST SET UP ANOTHER. THIS WAS NOT EASY WITH THE NUMBER OF PATIENTS BEING CARED FOR AND THE LIMITED STAFF. SALINE, DEXTROSE-SALINE, AND DEXTROSE WERE THE COMMON POST-OPERATIVE FLUIDS, 3 - 4 LITRES IN 24 HOURS. CONSIDERING THE SMALLER SIZE OF THE VIETNAMESE, THIS IS A LARGE QUANTITY.

MENTION HAS ALREADY BEEN MADE ON THE DIFFICULTIES OF MAINTAINING NASO-GASTRIC DRAINAGE OR ASPIRATION. THESE DID REQUIRE CONSTANT SUPERVISION. IT WOULD HAVE BEEN DESIRABLE TO HAVE A NEW ZEALAND NURSE ON DUTY IN THIS WARD AT NIGHT, BUT THEY WERE SO NECESSARY IN THE HOSPITAL DURING THE DAY WHEN THE BULK OF THE WORK WAS DONE, THAT AT NO TIME DID I THINK IT POSSIBLE TO DIVERT ONE TO NIGHT DUTY. IT WAS CUSTOMARY FOR THE SURGEONS TO VISIT THE HOSPITAL EVERY NIGHT, ESPECIALLY THIS RECOVERY ROOM.

DRESSINGS WERE WELL DONE, ALL WOUNDS BEING SWABBED WITH MERCUROCHROME, AND IN FACT MANY WERE DONE UN-NECESSARILY FREQUENTLY. ONE COULD NOT STOP THE VIETNAMESE HABIT OF DAILY DRESSING ON ALL BUT

THE AMPUTATIONS AND SKIN GRAFTS, WHICH WERE CLEARLY LABELLED TO PREVENT THE DRESSING BEING DISTURBED. IT TOOK A LITTLE TIME TO GET THE AMPUTATION STUMPS DRESSED PROPERLY, BUT EVENTUALLY THIS WAS DONE. VIETNAMESE WERE CRUEL WITH DRESSINGS, AND SEEMED QUITE OBLIVIOUS TO THE CRIES OF SMALL CHILDREN HAVING PAINFUL DRESSINGS DONE.

BECAUSE OF THE PRESSURE OF NEW CASES, FEW PATIENTS STAYED IN THE RECOVERY ROOM FOR MORE THAN 24 - 48 HOURS. ABDOMINAL CASES WENT TO THE WARDS ON THE RETURN OF BOWEL SOUNDS, CHESTS AND MAJOR LIMB INJURIES IN 24 HOURS, HEAD INJURIES WHEN CONSCIOUSNESS WAS RETURNING.

IN ALL PARTS OF THE HOSPITAL, BUT ESPECIALLY IN THE RECOVERY ROOM, LANGUAGE WAS A TERRIBLE BARRIER. AFTER THE INTERPRETERS WERE OFF DUTY, CONVERSATION WITH NURSES AND PATIENTS WAS VERY LIMITED.

TREATMENT HAD TO BE CHARTED WITH GREAT CARE AND CLARITY, AND AS SIMPLY AS POSSIBLE. ALL DRUGS WERE GIVEN IN METRIC DOSES, BUT MANY OF THESE HAD UNFAMILIAR NAMES, AND THE LATIN ABBREVIATIONS OF INSTRUCTIONS WERE NEVER USED. IT WAS QUITE USELESS TO ORDER ANYTHING T.I.D., T.D.S., Q.D., PRN., NOCTE, ETC; ONE HAD TO CONFORM TO THE VIETNAMESE USAGE WHICH WAS 3x, 4x OR THE VIETNAMESE WORD FOR EVERY MORNING ETC.

IT WAS OF LITTLE USE TO CHART DOSAGES FOUR HOURLY, SIX HOURLY ETC. WITHOUT AT THE SAME TIME WRITING IN THE TIMES, AND THESE IN THE 24 HOUR SCALE; 0900, 1500, 2100, 0300 FOR EXAMPLE.

IF A PATIENT WAS SENT TO A WARD UNDER TREATMENT, AND AFTER THE MORNING COLLECTION OF DRUGS BY THAT WARD, THEN TREATMENT MUST BE SENT WITH THE PATIENT.

THERE WAS NO PHYSIOTHERAPY, NO EARLY AMBULATION, NO ELABORATE NURSING CARE, BUT THERE WAS NO DEEP VEIN THROMBOSIS, NO ATELECTASIS, NO PRESSURE SORES, NO PULMONARY EMBOLISM AND RECOVERY WAS EXCELLENT.

RELATIVES NEEDED ONLY TO BE SHOWN WHAT WAS REQUIRED OF THEM TO BE OF CONSIDERABLE ASSISTANCE, AND THE GENERAL NURSING CARE WAS IN THEIR HANDS. MANY PATIENTS WERE ANAEMIC, QUITE APART FROM BLOOD LOSS INADEQUATELY REPLACED, AND LARGE QUANTITIES OF IMFERON OR JECTOFER WERE USED. IN SOME CASES THIS WAS GIVEN IN THE FORM OF AN IV DRIP, 25 ML OF IMFERON TO 1 LITRE OF DEXTROSE SALINE. ALL INJECTABLE IRON WAS OBTAINED FROM NEW ZEALAND, FROM VOLUNTARY DONATIONS.

IT WAS NECESSARY TO BE TOLERANT OF THE USE OF TRADITIONAL METHODS OF TREATMENT ON ONES PATIENTS, PROVIDED THESE DID NO HARM. IT WAS FAR BETTER TO BE GRACEFULLY TOLERANT, THAN TO BECOME ANGRY, FOR THERE WAS THE RISK THAT THE PATIENT WOULD THEN BE TAKEN HOME. IT WAS NOT INFREQUENT TO FIND CUPPING AND ACUPUNCTURE MARKS ON PATIENTS ALREADY IN HOSPITAL. MANY HAD THE MARKS ON THEM WHEN THEY CAME TO HOSPITAL WITH ILLNESS BUT NOT THE CASUALTIES. ON THE WHOLE THE PATIENTS DID EQUALLY WELL. THE ONLY PATIENTS WHO WERE NOT HELPED WERE THE TETANUS PATIENTS WHO WERE THROWN INTO SPASMS BY THE CUPPING.



Foreign bodies removed from patients.



88mm Mortar.



Commonest field gun in use in Vietnam





Foreign bodies removed
from patients.

88mm



Dirty wounds of shoulder and back. Treated by excision and partial suture.



Multiplewounds with considerable loss of tissue. Compound comminuted fracture of radius and ulna. Gross blood lass and severe shock.



Back of same ch: child as above.



GSW face, with destruction of nose and upper lip.
Young man.



Girl aged 14. GSW face. Repaired by pedicle graft later, with reasonable result.



4 yr old girl.
GSW face, loss of eye. Penetrating wound of abdomen.



GSW Head.
Young man.



GSW Head.
Girl.



GSW face, orbit, and compound comminuted fracture of humerus Rt.
Girl aged 12



Thoracotomy for bullet wound of chest. The Nurse/ anaesthetist had had 3 months training in anaesthesia.



GSW femoral vessels Left groin, with associated T&T wound of bladder. Exit wound of bullet was in right buttock. Repair of femoral vessels.



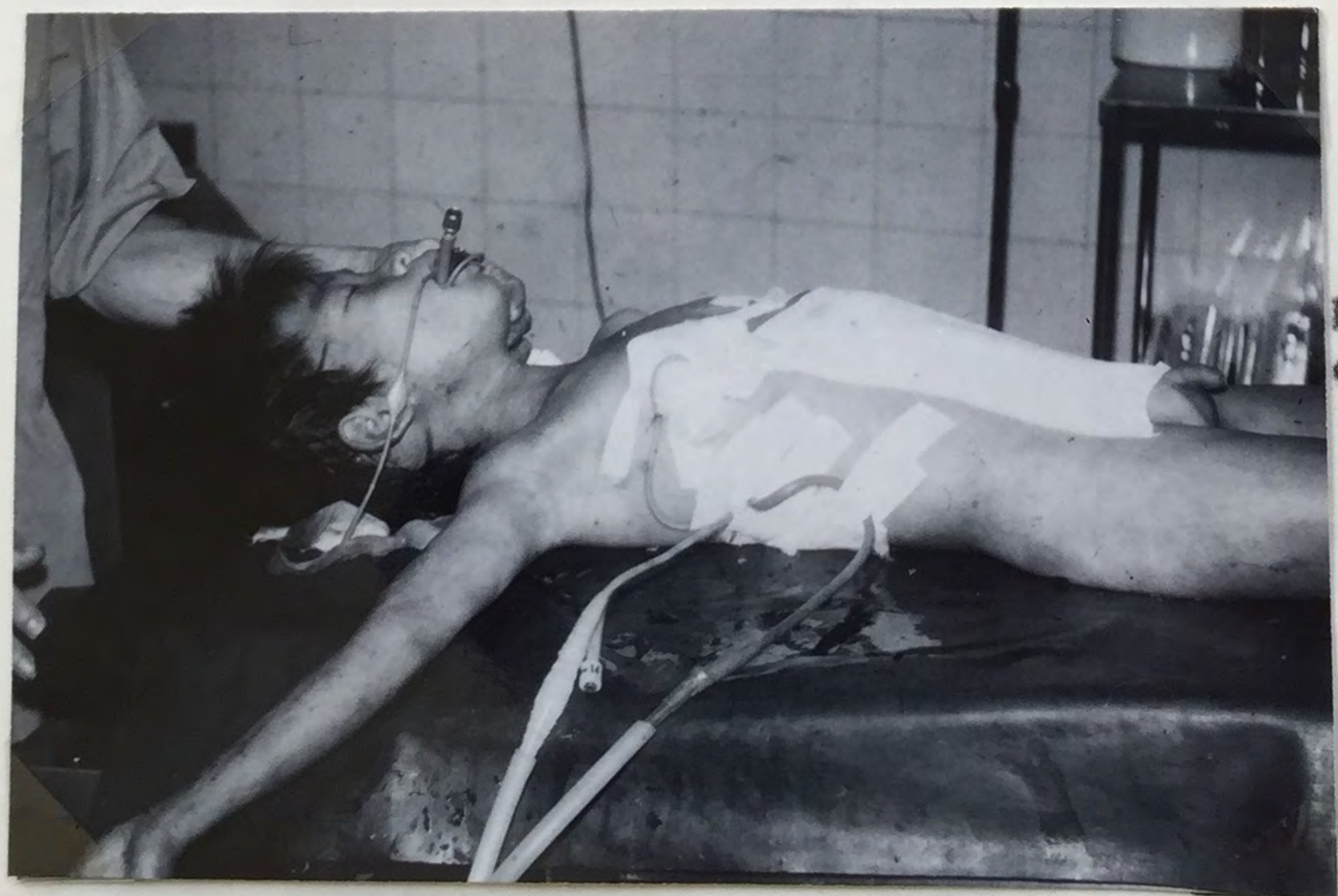
Same patient as above picture. 10th post-operative day.



Multiple wounds, excised and sutured.



Multiple wounds, chest, abdominal and limbs. Child cared for by mother. Died 12 hours after this picture was taken.



Multiple wounds, chest and abdomen



Multiple wounds in young child. Father comforts child, nurse preparing for operation, drips running.



Tiny entrance wound of abdomen
Gross intestinal injury will be present with this type of wound.
Young boy.



GSW Abdomen to show standard procedure. Entrance wound excised and sutured, laparotomy wound closed with drain. NO colostomy.



GSW Liver. Vietnamese boy, aged 13,.



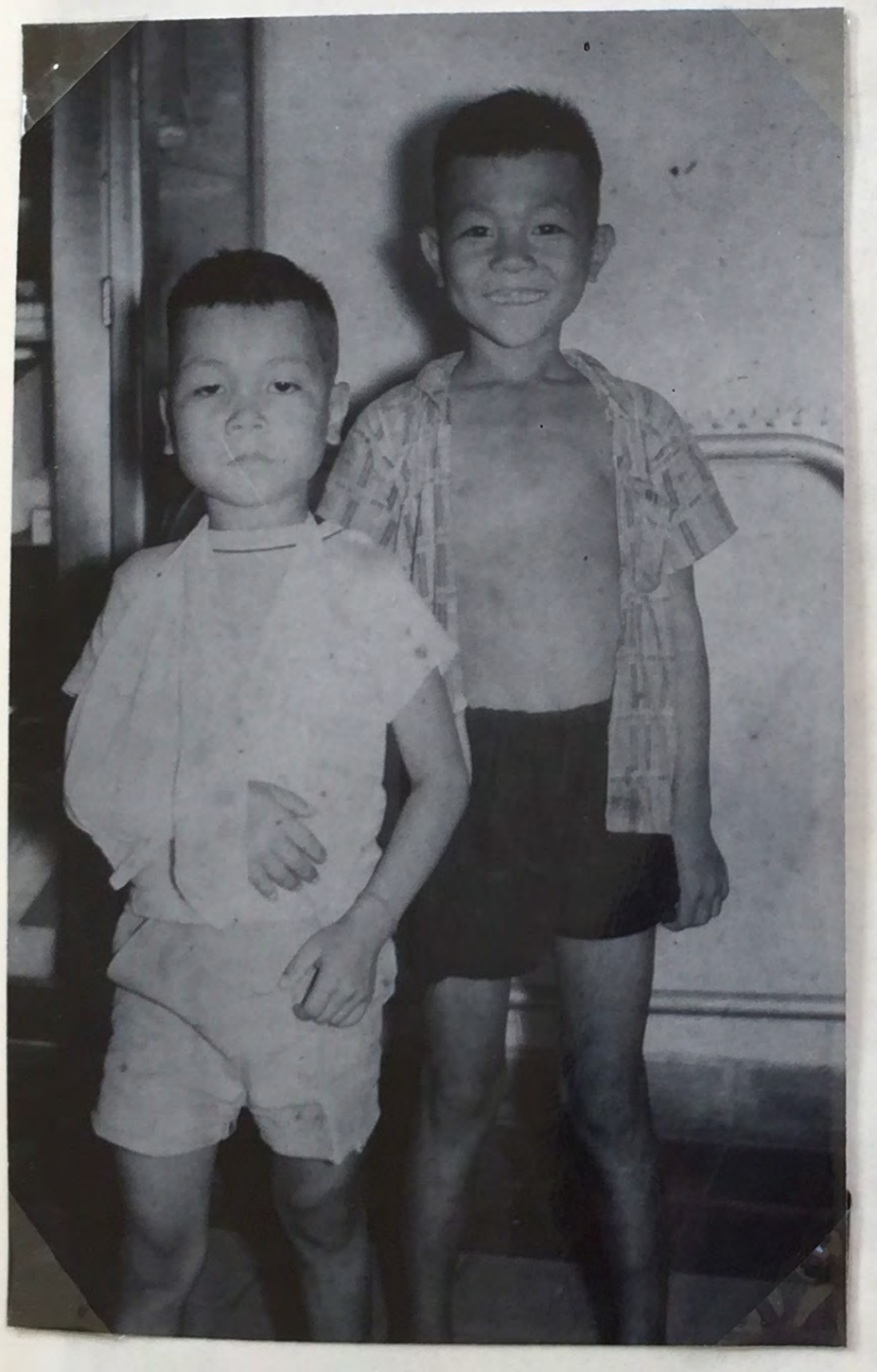
GSW Elbow. Montagnard boy. Note traditional loin cloth and neck ring.



Multiple wounds head, abdomen & limbs.
EMO anaesthetic machine can be seen in background, with 3ml Halothane fitting.



Father nursing injured child.



Older brother looking after injured younger brother.



Viet Cong Patients chained together.

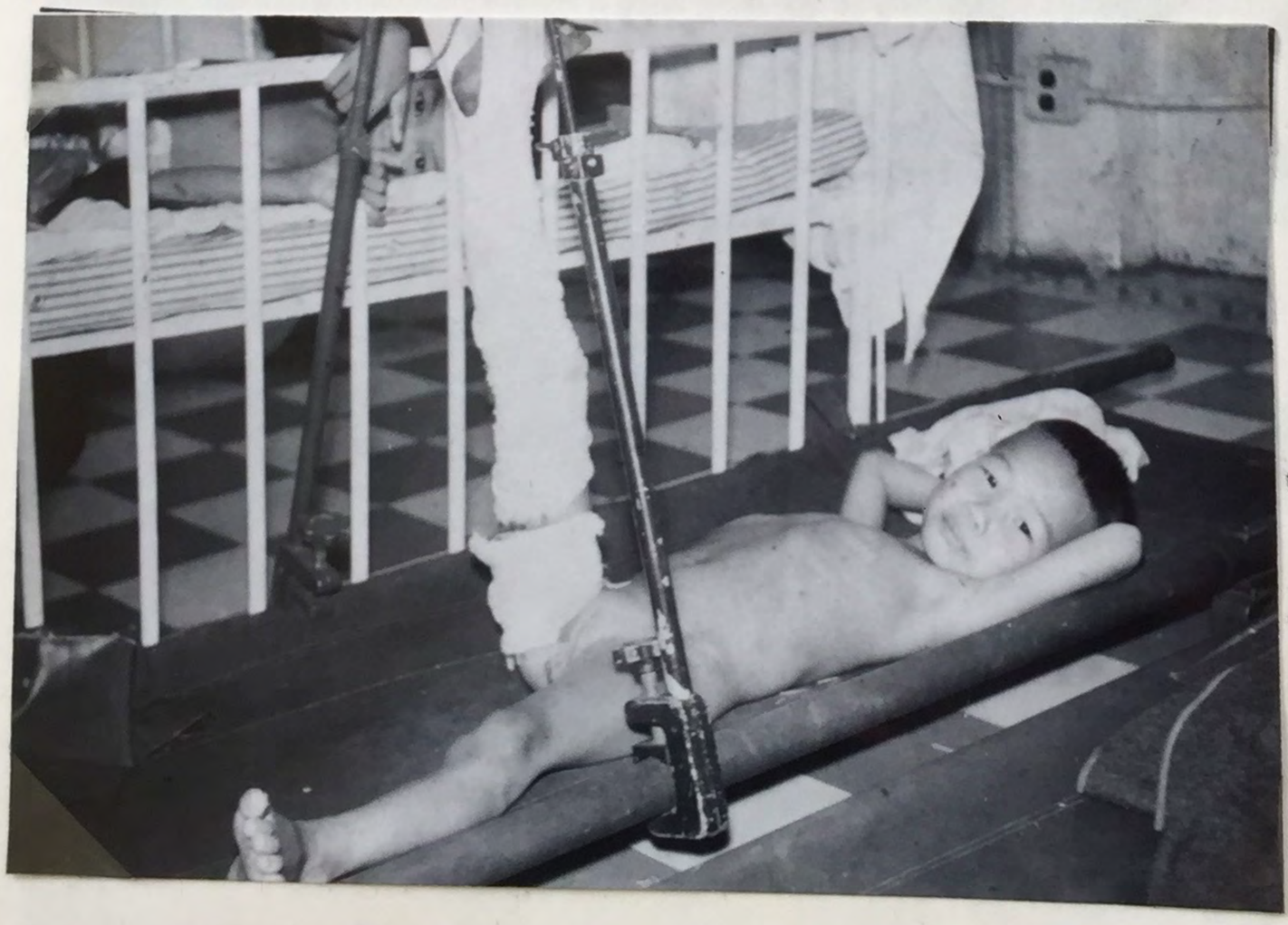
(Dr Dobson's Film)



Boy of 15.
Explosive wound
of perineum.



Fractured femur
in gallows
traction, using
portable
stretcher drip
stands.



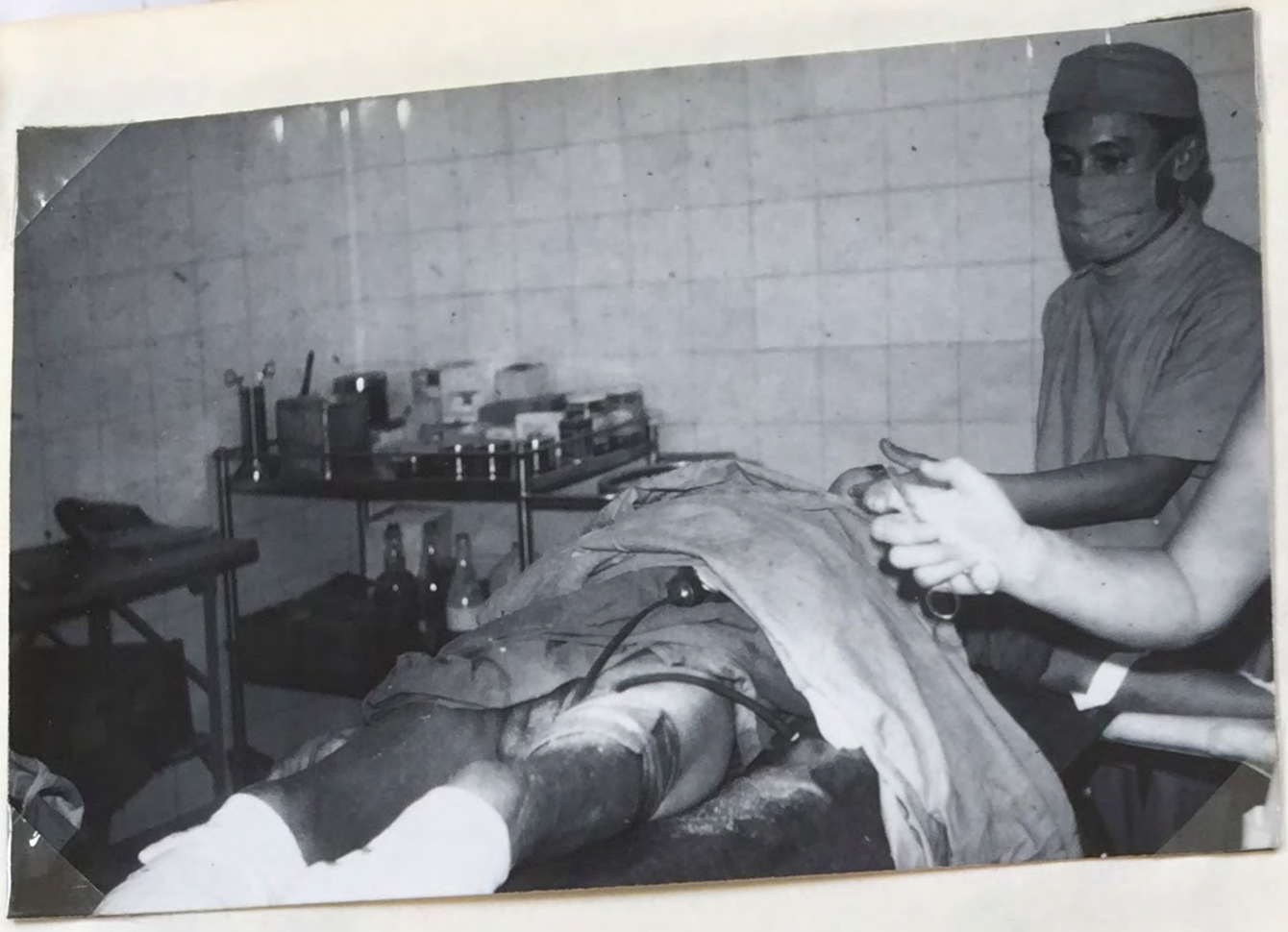
Fractured femu
with large
posterior
wound.
Treated on
stretcher with
drip stands.



Massive compound fracture of right femur, fro high velocity bullet.
Age 3.



Same child . Attempted salvage failed. Limb became gangrenous and was amputated.



Bilateral below knee amputation in young farmer. War Casualty.



Girl of 17, one of 9 young girls injured by the explosion of a Viet Cong land mine. All had multiple compound fractures of both legs. This girl has had a Gritti-Stokes amputation on the right,



Girl of 14. One of same group as preceding picture. Bilateral multiple fractures of Tibia and fibula, compound. Nursed for whole stay on a stretcher no beds being available.



Boy, age 7.
Left foot blown off, toes embedded in calf of Right leg. Multiple wounds of leg. Treated by below knee amputation.



Explosive wound Right foot, and less severe injurie to left foot.
Below knee amputation.



Girl of 17.
Severe injury to feet. Contamination with vegetation.
Below knee on right, Syme on Lt.

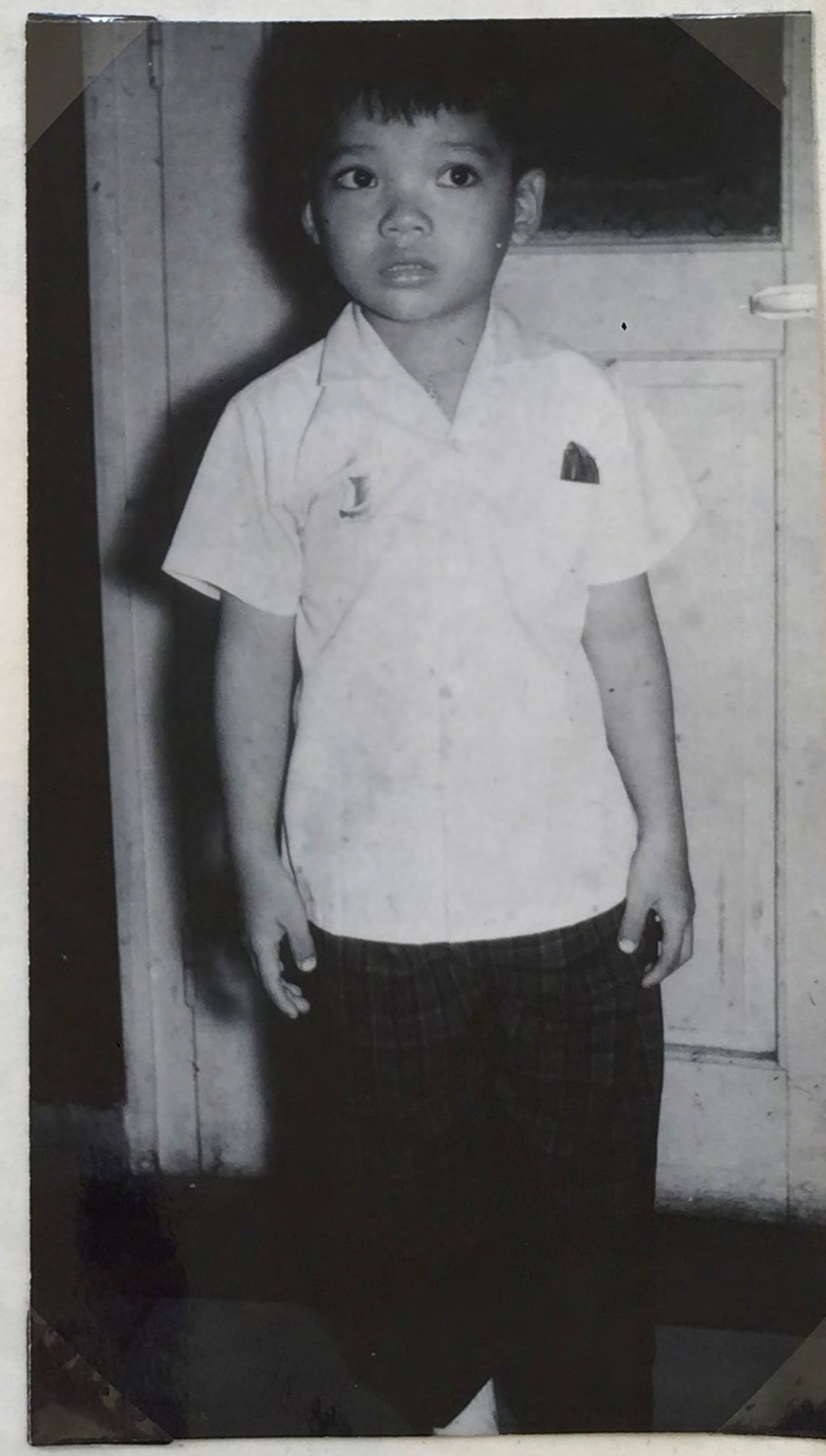


Primary amputation of arm, for gross destructive wound.

11 yr old boy.



Same patient as above, after removal of sutures on 8th day.



Amputee fitted with artificial limb. Mid-thigh amputation Rt.



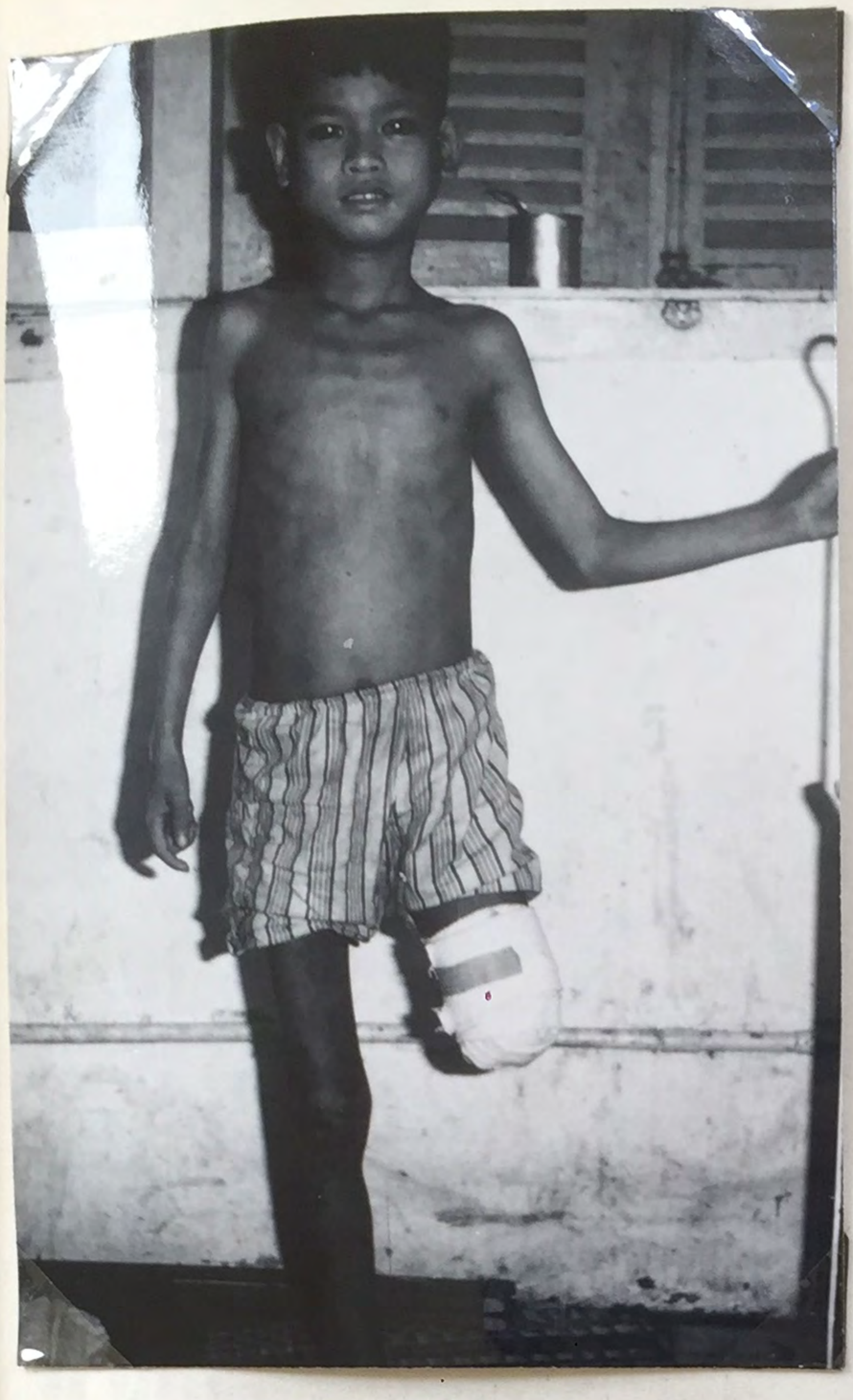
Saigon-made artificial limb, of resin/plastic with German knee hinge.



Destruction of feet by explosive.



Bilateral below-knee amputation. Same patient as picture above.



Child War Casualty.
Mid Thigh amputation



Child War Casualty.
Mid-Thigh Amputation
and loss of left eye.



War Casualty.

Mid-thigh
Amputation,
for gangrene foll-
owing mortar wound
of popliteal fossa
with destriction
of artery and
nerves.

(b) THE TRANSFERS FROM THE AMERICAN HOSPITALS

THE TWO U.S. ARMY EVACUATION HOSPITALS IN QUI NHON THE 67TH AND 85TH, BOTH RECEIVED SOME VIETNAMESE CIVILIAN WAR CASUALTIES, WHO RECEIVED THEIR INITIAL TREATMENT THERE, AND WERE LATER TRANSFERRED TO THE CIVIL HOSPITAL. THERE IS NO DOUBT THAT THEY WERE WASHED, NURSED, FED AND CLOTHED IN A MANNER FAR SUPERIOR TO THE PATIENTS AT THE CIVIL HOSPITAL, AND THE STANDARD OF WOUND DRESSING WAS VERY HIGH. THE ACTUAL SURGERY, HOWEVER, WAS FAR INFERIOR. THIS WAS MOST CLEARLY SEEN IN THREE CATEGORIES OF CASES, THE AMPUTATIONS, THE ABDOMINAL WOUNDS AND THE SUPERFICIAL WOUNDS.

(1) AMPUTATIONS

THE AMERICAN AMPUTATION WAS ALWAYS LEFT OPEN. IN SOME PATIENTS AN EFFORT TO MAKE FLAPS WHICH COULD BE SUTURED LATER HAD BEEN MADE, BUT THE MAJORITY WERE EITHER GUILLOTINE OR JUST RAGGED STUMPS. MOST REQUIRED TRIMMING, SOME EVEN RE-AMPUTATION, AND ALL TOOK LONGER TO OPERATE ON OR TO HEAL, THAN THE INITIAL SURGERY WOULD HAVE TAKEN, IF THEY HAD HAD A PRIMARY DEFINITIVE OPERATION. OUR CASES WERE JUST ABOUT HEALED ON OR ABOUT THE 7TH DAY, WHICH WAS THE USUAL DAY OF ARRIVAL OF THE TRANSFERS, SO THAT THESE PATIENTS WERE MANY DAYS BEHIND OURS. THE INITIAL AMERICAN SURGERY SAVED US NEITHER TIME NOR BED OCCUPANCY. REPEATED DISCUSSION WITH THE AMERICAN DOCTORS HAD LITTLE EFFECT. ONE GOT THE FEELING THAT AMERICAN MILITARY SURGERY WAS LAID DOWN 'IN THE BOOK' AND COULD NOT BE VARIED. I BELIEVE THAT FOR THE AMERICAN SERVICEMAN, WHO WILL BE TRANSFERRED BY AIR IN A FEW DAYS, IT COULD BE UNWISE TO CLOSE AN AMPUTATION, BUT THIS DID NOT APPLY TO THE VIETNAMESE CIVILIAN, WHO WAS A VERY DIFFERENT PATIENT.

WITH THE MODERN FACILITIES OF A BASE HOSPITAL, ASEPSIS, ANTIBIOTICS, AND GOOD SURGERY, IT SHOULD BE POSSIBLE TO DO A PRIMARY AMPUTATION IN THIS TYPE OF CASE.

(2) ABDOMINAL WOUNDS

THE ABDOMINAL WOUNDS DIFFERED FROM OUR TECHNIQUE IN TWO MAIN RESPECTS; THE METHOD OF SUTURE AND THE PRESENCE OF COLOSTOMIES.

THE VIETNAMESE ARE SMALL AND THIN, AND WITH GOOD ANAESTHESIA THE ABDOMEN CAN BE EXPLORED AND ANY DAMAGE ATTENDED TO THROUGH A REASONABLY SIZED INCISION. THE WOUNDS CAN BE CLOSED IN LAYERS WITH NORMAL NEAT SUTURING. THERE WAS NO NEED TO HAVE HUGE-CALIBRE DEEP TENSION SUTURES, NOR WAS THE INSERTION OF WIRE INTO THE FASCIAL LAYERS WISE. THE WIRE HAS TO BE REMOVED LATER BECAUSE THERE IS NO FAT TO PROTECT IT FROM PROTRUDING UNDER OR THROUGH THE SKIN, AND THE INCISIONS WERE UNNECESSARILY LARGE.

THE COLOSTOMY PATIENTS WERE A GREAT PROBLEM. IT SEEMS THAT ANY COLON WOUND HAD EITHER A DEFUNCTIONING COLOSTOMY, OR EXTERIORISATION OF THE DAMAGED COLON, CONVERTED INTO A COLOSTOMY. IN THE FIRST PLACE, THE COMMON PLASTIC DISPOSABLE COLOSTOMY APPLIANCES USED AT HOME ARE NOT AVAILABLE, NOR ANY ALTERNATIVE. PLASTIC BAGS WERE USED BUT THESE WERE ORDINARY PLASTIC BAGS MODIFIED AND STUCK ON WITH ADHESIVE PLASTER. MANY OF THESE COLOSTOMIES WERE POORLY CONSTRUCTED, AND VERY DIFFICULT TO CLOSE.

OUR OWN CASES SHOWED THAT THE COLOSTOMY WAS NOT NECESSARY, AND HERE AGAIN ONE FELT THAT THE FAR SUPERIOR FACILITIES OF THE EVACUATION HOSPITALS SHOULD HAVE ELIMINATED THE NEED IN THEIR CASES.

(3) DEBRIDEMENT

EXCISION OF THE WOUND, SKIN, FASCIA AND MUSCLE, WAS DONE IN A FAR MORE DRASTIC MANNER BY THE AMERICANS THAN BY US, AND IN SOME PATIENTS BORDERED ON THE INCREDIBLE, SO EXTENSIVE HAD BEEN THE EXCISION. MANY REQUIRED SKIN GRAFTING, SOME EVEN AMPUTATION. LIMITED EXCISION IS ADEQUATE, PROVIDED IT CLEARS THE DAMAGED TISSUE. WE HAD NO GAS GANGRENE OR TETANUS NOR ANY SEVERE INFECTIONS WITH OUR LIMITED EXCISIONS, EVEN WHEN SUTURED.

THE ONLY OTHER MAJOR DIFFERENCE IN TREATMENT WAS THAT OF THE COMPOUND FRACTURED FEMURS, WHICH THE AMERICANS PUT INTO PLASTER OF PARIS HIP SPICAS. VIETNAMESE DO NOT TOLERATE THESE AT ALL WELL, AND THESE WERE ALWAYS REMOVED AND PUT INTO A THOMAS SPLINT. THE SPICA IS PROBABLY PREFERABLE FOR THE AMERICAN CASUALTY BEING FLOWN HOME.

IT SEEMED VERY OBVIOUS THAT THE CARE OF CIVILIANS WAS BETTER DONE BY CIVILIAN SURGEONS, NOT BY MILITARY, PROVIDED THE SURGEON HAD HAD PREVIOUS EXPERIENCE WITH CASUALTIES AND TROPICAL CONDITIONS.

(c) THE WAR-RELATED, DOMESTIC AND CIVIL ACCIDENTS

THE TERM 'WAR-RELATED' IS USED FOR THOSE ACCIDENTS WHICH OCCUR BECAUSE OF THE WAR BUT ARE NOT A DIRECT RESULT OF FIGHTING, SUCH AS INJURY CAUSED BY A COLLAPSING BUILDING, BY FIRE CAUSED BY BOMBING, BY MILITARY VEHICLES, AND BY A FALL WHILST TRYING TO ESCAPE FROM A FIGHT, CAUSING SPRAINS, FRACTURES AND LACERATIONS FROM BARBED WIRE.

DOMESTIC AND CIVIL ACCIDENTS ARE NOT VERY DIFFERENT FROM THOSE OCCURRING AT HOME, EXCEPT FOR THE PREDOMINENCE OF BURNS AND ROAD ACCIDENTS. A FEW EXOTIC CASES ARE SEEN WITH INJURIES CAUSED BY BUFFALOES, WITH SNAKE BITE, AND THE VERY COMMON BAR GIRL WHOSE COMPLAINT IS THAT SHE HAS BEEN 'HIT BY A G.I.'

(1) ROAD ACCIDENTS

WITH THE INCREASE IN MILITARY ESTABLISHMENTS IN AND AROUND QUI NHON, THERE HAS BEEN A TREMENDOUS INCREASE IN THE AMOUNT OF HEAVY TRAFFIC ON THE ROADS. THERE ARE FEW PRIVATE CARS, BUT A VERY LARGE NUMBER OF MOTOR SCOOTERS, SMALL MOTOR CYCLES, SMALL PASSENGER HIRE VEHICLES, AND PEDESTRIANS. MOST OF THESE SMALL VEHICLES CARRY SEVERAL PEOPLE. THE COMMON ACCIDENT IS THE COLLISION BETWEEN A HEAVY VEHICLE AND ONE OF THESE SMALLER ONES, IN CONTRAST TO THE MUCH COMMONER TWO PRIVATE CAR COLLISION IN NEW ZEALAND, AND DRUNKEN DRIVERS ARE UNCOMMON.

ONE DOES NOT SEE THE DASH-BOARD, WINDSCREEN AND STEERING WHEEL INJURIES SO COMMON AT HOME, BUT, RATHER, CLOSED FRACTURES OF THE SKULL, FRACTURES OF THE LOWER LIMBS, AND EXTENSIVE ABRASIONS FILLED WITH DIRT. RUPTURED SPLEEN IS MORE COMMON, BUT THE SPLEEN IS NOT NORMALLY ENLARGED, INDICATING THAT IT IS THE INJURY RATHER THAN THE

PRESENCE OF A DISEASED SPLEEN WHICH ACCOUNTS FOR THE INCREASE.

FRACTURES IN THIS GROUP DIFFER IN NO WAY FROM SIMILAR FRACTURES AT HOME AND TREATMENT IS THE SAME. IN SOME OF THESE INTERNAL FIXATION IS REQUIRED. THE PRESSURE OF WORK IN THE OPERATING ROOM TENDS TO MAKE CLOSED TREATMENT PREFERABLE, BUT WITH AN INCREASE IN STAFF, AND THE PROVISION OF AN ORTHOPAEDIC OPERATION ROOM, MORE WOULD BE OPENED.

THE YOUNGER AGE OF THE PEOPLE MAKES FRACTURED NECK OF THE FEMUR A RARE INJURY. THE LACK OF TIME AND ADEQUATE X-RAY FACILITIES MAKE THE NAILING OF THESE A VERY LONG OPERATION. INTER-TROCHANTERIC AND PER TROCHANTERIC FRACTURES WERE TREATED IN PLASTER HIP SPICAS OR IN A SIMPLE FORM OF ROGER ANDERSON WELL LEG TRACTION.

(2) BURNS

BURNS WERE VERY COMMON, AND IN THE GREAT MAJORITY OF PATIENTS WERE CAUSED BY PETROL (GASOLINE). MOST VIETNAMESE HOMES ARE LIT BY LAMPS, SOME DESIGNED TO USE PETROL, OTHERS KEROSENE. BURNS OCCURRED WITH BOTH TYPES, AND IT WAS CLEAR THAT THE USERS DID NOT APPRECIATE THE DANGERS OF PETROL. THE TRADITIONAL COOKING STOVE IN VIET-NAM IS A PORTABLE EARTHENWARE CHARCOAL-BURNING STRUCTURE, BUT SEVERAL TYPES OF KEROSENE COOKERS ARE AVAILABLE, WHICH ARE DANGEROUS IF FUELLED WITH PETROL. PETROL IS READILY AVAILABLE FROM LEGITIMATE SOURCES AND OTHERWISE, AND THE AMERICANS HAVE CONSTRUCTED A PIPE-LINE FROM QUI NHON EXTENDING ABOUT 70 MILES INLAND. THE LINE CONVEYS AVIATION SPIRIT, PETROL, KEROSENE AND DIESEL OIL, AND IS FREQUENTLY DAMAGED BY THE VIET CONG OR TAPPED BY THE RESIDENTS. FIRES ARE COMMON AND ACCOMPANIED BY BURNS.

WITH MOST BURNS, IT WAS COMMON TO GET SEVERAL MEMBERS OF THE FAMILY BURNT AT THE SAME TIME, NOT UNEXPECTEDLY WITH THE EXPLOSIONS OF COOKING OR LIGHTING EQUIPMENT, WITH A HIGHER PROPORTION OF CHILDREN. MANY BURNS WERE EXTENSIVE AND SOME SEVERE.

A SECOND MAIN CAUSE OF BURNS WERE THOSE CAUSED BY THE WRECKING OF A VEHICLE BY A LAND MINE, WHEN THE VEHICLE IS OFTEN BURNT, AND BY BURNING BUILDINGS CAUSED BY BOMBING OR FIGHTING.

THE LIMITED SUPPLY OF ALBUMIN WAS LARGELY RESERVED FOR THE BURN PATIENTS, WITH THE ADDITION OF PLASMANATE, PLASMA SUBSTITUTES AND SALINE. FLUID REPLACEMENT WAS LARGELY BY ESTIMATION, AND URINE OUTPUT, BUT IT WAS ALWAYS VERY DIFFICULT TO CHECK THE LATTER BECAUSE THE RELATIVES ATTENDED TO THIS PART OF THE PATIENT'S CARE AND THE URINE WOULD BE THROWN AWAY UNMEASURED.

INITIAL TREATMENT CONSISTED OF FLUID REPLACEMENT, ANTIBIOTICS, AND THE SURGICAL TOILET OF THE BURN. IN MOST PATIENTS THE BURN WAS DIRTY ON ARRIVAL, SOME BEING PLASTERED WITH A TRADITIONAL MEDICATION, A WHITE PASTE, WHICH HARDENED INTO VERY ADHERENT LUMPS AND WAS VERY DIFFICULT TO CLEAN OFF.

THE BURNS WERE TREATED OPEN, EXCEPT FOR SOME HANDS IN THE EARLY STAGES OF TREATMENT, AND THE CLIMATE IS IDEAL FOR THIS. AS IT BECAME POSSIBLE TO USE LINEN, WITH THE OPENING OF THE NEW LAUNDRY, AND THE

ARRIVAL OF THE LINEN FROM NEW ZEALAND, PATIENTS COULD BE LAID ON CLEAN LINEN, AND COVERED WITH A HOME-MADE CRADLE, THIS BEING COVERED WITH A SHEET. VIGILANCE WAS NECESSARY TO PREVENT RELATIVES WRAPPING THE PATIENT IN FILTHY OLD BLANKETS OR CLOTHING UNDER THE CRADLE, AND APPLYING MEDICINAL LEAVES TO THE BURN. THE LEAVES WERE PREFERABLE TO THE BLANKETS.

ALL BURNS WERE TREATED WITH MERCUROCHROME, IF POSSIBLE TWO TO THREE APPLICATIONS DAILY. MERCUROCHROME IS NO LONGER USED IN NEW ZEALAND, BEING REGARDED AS UNRELIABLE AND UNSAFE, BUT FOR THE BURNS IN VIET-NAM, IT WAS VERY SATISFACTORY. SUPERFICIAL BURNS DID WELL, EVEN WHEN EXTENSIVE. DEEP BURNS HOWEVER, REMAINED A PROBLEM. IT WAS COMMON FOR THESE TO BECOME INFECTED, AND THERE WAS SO LITTLE TIME TO DEVOTE TO THE TREATMENT. SKIN GRAFTING WAS DONE WHENEVER POSSIBLE, BUT THE DEVELOPMENT OF A BURN UNIT IN THE HOSPITAL WAS NECESSARY. THE TIME AND STAFF ARE NOT YET AVAILABLE.

SOME OLD, INFECTED AND CONTRACTED BURNS WERE RECEIVED, SOME VERY GROSS, REQUIRING LONG TREATMENT TO CLEAN UP, CORRECT DEFORMITIES AND SKIN GRAFT, AND HERE ONE WAS UP AGAINST THE VIETNAMESE RELUCTANCE TO STAY IN HOSPITAL LONG ENOUGH TO BE CURED. IT WAS VERY IRRITATING TO SPEND WEEKS CLEANING UP ONE OF THESE PATIENTS, CORRECTING THE DEFORMITY, AND JUST WHEN THEY WERE READY FOR SKIN GRAFTING, TO FIND THAT THEY HAD BEEN TAKEN HOME, KNOWING THAT THE CONTRACTURES AND INFECTION WOULD RETURN.

A FEW PATIENTS WERE TRANSFERRED TO US WHO HAD BEEN TREATED WITH SILVER NITRATE. THESE DID NOT SEEM TO BE ANY BETTER THAN THE MERCUROCHROME TREATED PATIENTS, IN FACT THE ESCHAR WAS THICKER IN SOME.

(d) <u>ACUTE AND EMERGENCY SURGERY</u>

THE IMPORTANT FACT ABOUT THIS GROUP IS THE STRIKING ABSENCE OR RARITY OF SO MANY OF THE COMMON ACUTE CONDITIONS SEEN IN NEW ZEALAND. THERE IS VERY LITTLE CHOLECYSTITIS, BILIARY COLIC, ACUTE PANCREATITIS, PERFORATION AND HAEMORRHAGE FROM PEPTIC ULCERS, APPENDICITIS, DIVERTICULITIS, RETENTION OF URINE FROM ENLARGED PROSTATE, AND ABORTION.

THE COMMON ACUTE CONDITIONS WERE RUPTURED ECTOPIC PREGNANCY, MUSCLE ABSCESSES, PELVIC CELLULITIS, AMOEBIC ABSCESS OF THE LIVER, AND COLONIC AMOEBOMA, RETENTION OF URINE CAUSED BY STRICTURE OR STONE, RENAL COLIC, PYELITIS, ACUTE FLARE-UP OF CHRONIC OSTEOMYELITIS, EMPYEMA, AND TYPHOID PERFORATION AND HAEMORRHAGE.

THE NUMBER OF ECTOPIC PREGNANCIES IS CERTAINLY RELATED TO THE AMOUNT OF GONORRHOEA AMONGST THE BAR GIRLS AND PROSTITUTES, AND IT WAS THIS GROUP WHICH PROVIDED THE PELVIC CELLULITIS. UNFORTUNATELY THERE IS NO V.D. CLINIC IN QUI NHON, NOR ANY SUPERVISION OF THE BROTHELS. THE GIRLS ARE TREATED BY THE LOCAL PRIVATE DOCTORS, WITHOUT ADEQUATE LABORATORY FACILITIES, AND THE DEVELOPMENT OF RESISTANT STRAINS MUST BE PROCEEDING RAPIDLY. IN SPITE OF THIS MOST CASES RESPONDED TO LARGE DOSES OF PENICILLIN, ALTHOUGH SOME REQUIRED SURGICAL DRAINAGE OF PELVIC OR TUBAL ABSCESSES.

MUSCLE ABSCESSES ARE COMMONEST IN THE THIGH AND CALF. UNLESS RECOGNISED AND DRAINED EARLY, CONTRACTURE WILL DEVELOP, ESPECIALLY IN

THE CALF. THESE ARE PROBABLY HELMINTHIC IN ORIGIN, BUT NO EXACT DIAGNOSIS WAS MADE.

AMOEBIC LIVER DISEASE PRESENTED IN TWO FORMS, THE FIRST BEING THE VERY SICK, CACHECTIC FEBRILE PATIENT WITH A LARGE LIVER, BROUGHT TO HOSPITAL BECAUSE OF 'TIREDNESS'. 'TIRED' WAS THE TERM USED FOR A VERY SICK PATIENT, AND IF THEY WERE '<u>VERY</u> TIRED', IT USUALLY MEANT THAT THE PATIENT WAS ON THE POINT OF DEATH OR ALREADY DEAD. IN THESE THERE WAS ALWAYS A LARGE ABSCESS CAVITY. THE SECOND WOULD BE A REASONABLY FIT PATIENT WITH ACUTE UPPER ABDOMINAL PAIN, CENTRED OVER THE LIVER, WITH FEVER, AND WAS MORE OF AN AMOEBIC HEPATITIS THAN AN ABSCESS. THESE CLOSELY RESEMBLED AN ACUTE CHOLECYSTITIS, AND IF NOT GIVEN ANTI-AMOEBIC TREATMENT, DEVELOPED FULMINATING ABSCESSES. THE TREATMENT WAS WITH EMETINE MGM 60 DAILY FOR TEN DAYS, PLUS TETRACYCLINE MGM 250 6 HOURLY FOR TEN DAYS. THE ABSCESSES WERE ASPIRATED, AND TETRACYCLINE (MGM 250 IN 10 ML SALINE) INJECTED DIRECT INTO THE EVACUATED CAVITY. MANY REQUIRE REPEATED ASPIRATION, BUT THEY SHOULD NEVER BE OPENED AND DRAINED. SOME OF THE ACUTE HEPATITIS CASES PROGRESSED TO ABSCESS REQUIRING ASPIRATION.

COLONIC AMOEBOMA WAS COMMONLY SEEN IN THE RIGHT ILIAC FOSSA, CLOSELY RESEMBLING AN APPENDIX ABSCESS, IN FACT SEVERAL WERE PROBABLY APPENDICEAL IN ORIGIN ALTHOUGH AMOEBIC. THESE RESPONDED TO EMETINE AND TETRACYCLINE, WITH RAPID RESOLUTION, AND IN THESE DRAINAGE WAS NOT REQUIRED NOR DESIRED, AND INTERVAL APPENDICECTOMY NOT NEEDED.

RETENTION OF URINE IS SEEN, BUT PROSTATIC ENLARGEMENT IS RARE. THIS MAY BE BECAUSE OF THE YOUNGER AGE PATTERN OF THE PEOPLE, AND RETENTION WAS CAUSED BY STRICTURE AND URETHRAL STONE, ALMOST EXCLUSIVELY IN MALES, AND ALTHOUGH THE STRICTURES WERE COMMONEST IN OLDER MEN, THE WAR WOUNDS DID PRODUCE STRICTURES IN YOUNG BOYS. URETHRAL CALCULUS WAS COMMONER IN YOUNG MEN AND BOYS, AND WAS USUALLY EASY TO REMOVE PER URETHRAM. THE STRICTURES WERE A GREAT PROBLEM. SOME OF THESE HAD EXTRAVASATION OF URINE, AND MULTIPLE PERINEAL SINUSES.

OCCASIONALLY A LARGE BLADDER CALCULUS WOULD BE SEEN WITH ACUTE CYSTITIS, GIVING RISE TO VERY GREAT DISTRESS AND DYSURIA AMOUNTING TO RETENTION. IN THESE IMMEDIATE SURGERY WAS DONE WITH GOOD RESULTS.

PERFORATION OF THE ILIUM IN TYPHOID OCCURRED IN SEVERAL PATIENTS DURING TREATMENT. THESE WERE ALWAYS TREATED CONSERVATIVELY, WITH NASO-GASTRIC TUBE, AND INTRAVENOUS FLUIDS. THE CHLORAMPHENICOL WAS ADDED TO THE I.V. FLUID. IF THESE PATIENTS HAD GOT TO THE STAGE OF ORAL TREATMENT. TYPHOID HAEMORRHAGE WAS ALSO TREATED CONSERVATIVELY. THERE IS A RISK OF SURGEONS UNFAMILIAR WITH TYPHOID BEING TEMPTED TO OPERATE ON THESE PATIENTS, WITH DISASTROUS RESULTS. TWO PATIENTS WERE RECEIVED ON WHOM SURGERY HAD BEEN PERFORMED, AND IN BOTH PATIENTS THERE WAS DEHISCENCE OF THE ABDOMINAL WALL, WITH SEVERAL PERFORATIONS IN THE EXPOSED ILIUM. BOTH DIED.

(E) <u>THE ARRANGED AND NON-ACUTE SURGERY</u>

THE DIFFICULTIES IN ARRANGING OPERATING LISTS OF NON-URGENT CASES HAS BEEN DISCUSSED, AND MOST CASES WERE OPERATED ON WITHIN A

FEW HOURS OF ARRIVAL. THERE WERE NO WAITING LISTS, AND IN THE PRESENT STATE OF VIET-NAM, THESE WOULD NOT FUNCTION. WHERE DESIRABLE, PATIENTS WERE ADMITTED FOR PREPARATION OR TO AWAIT A MORE SUITABLE TIME. MANY OF THESE CAME FROM GREAT DISTANCES AND COULD NOT BE TURNED AWAY.

THE TREATMENT OF MALIGNANT DISEASE WAS VERY UNSATISFACTORY, IN THAT MOST CASES WERE IN AN ADVANCED STAGE OF DISEASE WHEN FIRST SEEN. THIS WAS PARTICULARLY NOTICEABLE IN THE CARCINOMAS OF THE BREAST, CERVIX, AND STOMACH. SOME PALLIATIVE SURGERY WAS POSSIBLE WITH THE BREASTS AND STOMACHS.

CARCINOMA OF THE PENIS IS MUCH COMMONER THAN IN NEW ZEALAND, RELATED TO THE UNCIRCUMCISED CONDITION OF THE VIETNAMESE MALE. THESE WERE TREATED SURGICALLY, BY PARTIAL OR TOTAL AMPUTATION, BUT WITHOUT BLOCK DISSECTION OF THE INGUINAL GLANDS.

IN SAIGON, THERE IS A RADIOTHERAPY UNIT, BUT FOR MOST OF THE YEAR SOME MACHINERY WAS OUT OF COMMISSION. COMMUNICATION AND TRAVEL IS DIFFICULT, AND FOLLOW-UP IMPOSSIBLE. SOME CASES OF LIP, TONGUE, AND PAROTID GLAND TUMOURS WERE SENT, BUT ONE WAS NEVER ABLE TO FIND OUT IF THEY ARRIVED, WERE TREATED AND WHAT SORT OF RESULT HAD BEEN OBTAINED. THERE WAS NO PLACE FOR PALLIATION OF THE LARGER TUMOURS, AS THE PROBLEMS OF GETTING TREATMENT OUTWEIGHED ANY BENEFIT.

ONE DOES NOT SEE THE LARGE NUMBERS OF SKIN MALIGNANCIES WHICH FORM THE SINGLE LARGEST GROUP IN NEW ZEALAND, BUT THE OCCASIONAL HUGE RODENT ULCER WAS ENCOUNTERED, REQUIRING DRASTIC SURGERY TO REMOVE. EPITHELIOMA IS SEEN IN CHRONIC ULCERS, IN THE SINUSES OF CHRONIC OSTEOMYELITIS, AND IN OLD BURN SCARS. THESE ARE MOSTLY IN THE LOWER TIBIAL REGION, AND ARE BEST TREATED BY AMPUTATION.

HARE-LIP APPEARS TO BE COMMON, BUT MOST CASES ARE BETWEEN 5 - 12 YEARS OF AGE, AND THE HOSPITAL DRAWS FROM A POPULATION OF ABOUT 1½ MILLION. THE RATE IS PROBABLY NOT HIGHER THAN AT HOME. MOST OF THE PATIENTS RECEIVED AT THE HOSPITAL ARE CLEFTS OF THE LIP, ABOUT 20% HAVE A PALATE DEFECT, AND THEY WERE BROUGHT FOR LIP, NOT PALATE REPAIR. ALTHOUGH THE INSTRUMENTS WERE AVAILABLE FOR PALATE REPAIR, NO PATIENT ACCEPTED OPERATION, AND IT IS DOUBTFUL IF ANY REAL ADVANTAGE WOULD HAVE BEEN OBTAINED AT THAT AGE.

THE LIPS WERE MOSTLY UNILATERAL AND COMPLETE, WITH VARYING NASAL DEFORMITY. ALTHOUGH PERFECT RESULTS WERE NOT POSSIBLE, ESPECIALLY WITH THE NASAL DEFORMITY, CONSIDERABLE IMPROVEMENT WAS OBTAINED AND ONE SUCCESSFUL CASE FROM A VILLAGE WILL RESULT IN SEVERAL OTHERS COMING IN, EVEN ADULTS.

ALL CHILD HARE-LIP REPAIRS WERE SENT TO THE SAVE THE CHILDREN HOME FOR THEIR POST-OPERATIVE CARE, SINCE THE WOUND TOILET WAS NOT DONE ADEQUATELY AT THE PROVINCE HOSPITAL.

VESICAL CALCULUS WAS COMMON AT ALL AGES AND BOTH SEXES. ANY URINARY SYMPTOMS MERITED AN X-RAY TO EXCLUDE CALCULUS. MOST PRESENTED WITH A LONG HISTORY OF DYSURIA AND FREQUENCY, BUT IN THE YOUNG A VARIETY OF SYMPTOMS OFTEN PRESENTED, SUCH AS CONSTIPATION, FEVER, VOMITING, TIREDNESS. SOME ARRIVED WITH VERY SEVERE SYMPTOMS

AS DESCRIBED IN THE 'ACUTE CASES'. ALL WERE TREATED BY SUPRAPUBIC CYSTOTOMY, REMOVAL OF THE STONE, CLOSURE OF THE BLADDER, AND DRAINAGE WITH A URETHRAL FOLEY CATHETER FOR 8 DAYS. THE YOUNGEST PATIENT WAS 3 YEARS OLD, THE OLDEST 90.

BURN AND OLD WOUND SCARS WITH CONTRACTURES WERE IMPROVED BY SIMPLE PLASTIC SURGERY; SKIN GRAFTING AND Z-PLASTY BEING THE COMMONEST PROCEDURES.

ALTHOUGH PULMONARY TUBERCULOSIS WAS COMMON, LITTLE GENITO-URINARY, ABDOMINAL, OR BONE AND JOINT TB WAS SEEN EXCEPT FOR TB SPINE IN THE YOUNG. THESE WERE VERY DIFFICULT TO TREAT BECAUSE THEY NEVER STAYED IN HOSPITAL LONG ENOUGH. ONLY ONE CHILD STAYED IN FOR 3 MONTHS, UNDER CONTINUOUS TREATMENT, MOST WENT HOME WITHIN 3 WEEKS. I DOUBT IF ANY LESION CAN BE MADE QUIESCENT ENOUGH FOR ANY SURGICAL FIXATION OF THE SPINE IN THAT TIME.

IN GREAT CONTRAST TO NEW ZEALAND, NO VARICOSE VEINS, NO GALL STONES, NO PEPTIC ULCERS, FEW HAEMORRHOIDS WERE SEEN, AND HYDATID CYST WAS UNKNOWN.

## (f) Obstetrics and Gynaecology

### (1) Obstetrics

IN VIET-NAM DELIVERY IS DONE BY THE MIDWIFE, AND IN MOST CASES A DOCTOR IS NOT INVOLVED AT ANY STAGE. WHERE THE OBSTETRICS ARE NORMAL AND THE MIDWIFE GOOD, AS IN THE PROVINCIAL HOSPITAL AND AT SOME RURAL MATERNITY CLINICS, CHILD-BIRTH IS WITHOUT INCIDENT.

IN THE PROVINCIAL HOSPITAL, ASSISTANCE, USUALLY FROM THE NEW ZEALANDERS, IS SOUGHT WHEN THE MIDWIFE CONSIDERS THAT PROGRESS IS NOT SATISFACTORY. THE COMMONEST CALLS ARE FOR OBSTRUCTED LABOUR, FROM MALPOSITION OR DISPROPORTION AND FOR ANTEPARTUM HAEMORRHAGE.

ABOUT 200 DELIVERIES ARE CONDUCTED EACH MONTH, OF WHICH 10 - 12 ARE BY CAESARIAN SECTION. WHERE THE 'OBSTETRICIAN' IS A GENERAL SURGEON, CAESARIAN SECTION IS A SAFER OPERATION THAN SOME COMPLICATED VAGINAL EXERCISE. CLEARLY SOME CAESARIAN SECTIONS ARE DONE WHICH MIGHT HAVE BEEN AVOIDED WITH MORE SKILLED OBSTETRICIANS, ESPECIALLY IN THE ANTEPARTUM HAEMORRHAGE PATIENTS. ASSISTANCE WAS SOUGHT EARLY AND NO ADVANCED COMPLICATIONS OCCURRED WITH THOSE PATIENTS WHO CAME INTO THE HOSPITAL IN EARLY LABOUR.

LOWER SEGMENT SECTION WAS THE USUAL PRACTICE, ALTHOUGH SOME VIETNAMESE SURGEONS STILL DID THE CLASSICAL OPERATION. THE CO-OPERATION WHICH NOW EXISTS BETWEEN THE NEW ZEALAND TEAM AND VIETNAMESE MIDWIVES IS QUITE NEW. THE EARLY TEAMS HAD NO EASY ACCESS TO THE MATERNITY WARD, AND EVEN ONE YEAR AGO IT WAS NOT UNCOMMON TO LOSE EITHER THE MOTHER OR THE BABY. CONTINUED ENCOURAGEMENT DURING THE YEAR BY ALL THE TEAM MEMBERS NOW RESULTS IN BOTH MOTHER AND CHILD ALIVE AT THE END OF OPERATION, AND THIS REGARDED AS THE NORMAL. THERE WAS DIFFICULTY IN MAKING THE VIETNAMESE AWARE THAT THE BABY REQUIRED ATTENTION ON DELIVERY, AND THAT SUCTION, OXYGEN AND STIMULANTS SUCH AS VANDID, COULD BE NEEDED. SO OFTEN, THE PATIENT WAS ACCOMPANIED TO THE OPERATING

ROOM BY A VERY JUNIOR STUDENT-MIDWIFE, WHO WAS QUITE UNTRAINED IN THE CARE OF THE BABY.

MOST CAESARIAN BABIES GO HOME WITHIN A DAY OR TWO, CARED FOR BY AN AUNT OR GRANDMOTHER, UNTIL THE MOTHER IS DISCHARGED ON OR ABOUT THE 12TH DAY. CAESARIAN WOUNDS HEAL WELL, BUT NEED CLOSE SUPERVISION TO PREVENT REMOVAL OF SUTURES TOO SOON.

PATIENTS ARE RECEIVED FROM RURAL CLINICS WITH ADVANCED COMPLICATIONS OF LABOUR, AND IN POOR CONDITION FROM THE LABOUR AND THE LONG JOURNEY. RUPTURED UTERUS WAS SEEN ON 6 OCCASIONS, AND ONE HYDROCEPHALIC AFTER-COMING HEAD HAD TO BE CRUSHED TO COMPLETE THE DELIVERY WHICH HAD BEEN IN PROGRESS FOR TWO DAYS.

(2) GYNAECOLOGY

VESICO-VAGINAL FISTULA WAS SEEN FROM RURAL AREAS, NOT VERY FREQUENTLY, ABOUT 6 DURING THE YEAR. 5 OF THESE WERE REPAIRED BY THE VAGINAL ROUTE, ONE REQUIRING TWO OPERATIONS. THE REMAINING PATIENT HAD NO URETHRA AND NO BLADDER BASE REMAINING, AND WAS TREATED BY URETERIC TRANSPLANT TO THE SIGMOID, AFTER A PRELIMINARY OPERATION TO REPAIR THE ANAL SPHYNCTER.

PROLAPSE IS NOT COMMONLY SEEN, BUT ONE GETS THE IMPRESSION THAT THERE ARE IN FACT MANY WHO COULD BENEFIT. IT IS NOTABLE THAT MOST PATIENTS PRESENTING FOR REPAIR ARE FROM THE BETTER EDUCATED CLASSES, FEW ARE PEASANTS. THE DEGREE OF PROLAPSE VARIES BUT THEY WERE COMPARABLE WITH NEW ZEALAND EXPERIENCE. THE MANCHESTER TYPE OF OPERATION WAS THE OPERATION DONE, AND NONE HAD A VAGINAL HYSTERECTOMY.

OVARIAN CYSTS ARE LARGE, MALIGNANT CYSTS FORMING ABOUT ONE THIRD OF CASES PRESENTING. FIBROIDS WERE UNCOMMON, AND WHILST MENSTRUAL IRREGULARITIES OCCURRED, THE UNRAVELLING OF THE HISTORY WAS ALMOST IMPOSSIBLE. OFTEN THE YOUTHFUL, MALE INTERPRETER DID NOT UNDERSTAND WHAT YOU WERE TRYING TO DETERMINE, AND THE INTERPRETED REPLIES BORE NO RELATION TO THE QUESTION POSED. RELIANCE WAS PLACED ON EXAMINATION, AND EUA/D & C, BUT THIS WAS NOT ALWAYS RELIABLE.

THERE IS NO DOUBT AT ALL THAT THERE IS A VAST OPPORTUNITY FOR IMPROVEMENT IN THE OBSTETRIC AND GYNAECOLOGICAL FIELD. ANTENATAL CARE IS ALMOST NON-EXISTANT, AND NEEDS DEVELOPMENT, THE STANDARD AND NUMBER OF THE MIDWIVES IN RURAL AREAS NEEDS RAISING, AND MORE OF ALL GRADES OF NURSES ARE NEEDED.

THERE SEEMS TO BE NO RH INCOMPATIBILITY; AS NOTED EARLIER, ALL PATIENTS TESTED WERE RH+, BUT ECLAMPSIA IS STILL SEEN, AND MANY PATIENTS ARE VERY ANAEMIC.

BIRTH CONTROL, CERVICAL SMEARS, AND BETTER ANTE AND POST-NATAL FOLLOW-UP ARE NEEDED, BUT UNTIL STABILITY AND SECURITY HAVE BEEN ESTABLISHED, THE FUTURE IS NOT VERY HOPEFUL.

(a) THE MEDICAL CASES

THE MEDICAL OFFICERS AND THE PHYSICIAN SPENT A LARGE AMOUNT OF TIME RUNNING CAP CUU, BUT WERE IN CHARGE OF SOME 70 IN-PATIENTS, SCATTERED IN 5 WARDS, ONLY ONE OF WHICH WAS FULLY MEDICAL. OF THE

70 PATIENTS, 40 - 50 WOULD BE IN THE 'NEW' HOSPITAL, OCCUPYING 30 BEDS AND COTS. TWO TO A BED WAS COMMON FOR THE MEDICAL PATIENTS.

AMONGST CHILDREN, CHEST INFECTIONS FORMED A LARGE PROPORTION OF THE PATIENTS, SEVERE LOBAR AND BRONCHO-PNEUMONIA BEING COMMON, AND NOT INFREQUENTLY WITH EMPYEMA NECESSITATING SURGICAL DRAINAGE. THESE WERE DRAINED BY UNDER-WATER SEAL DRAIN FOR 7 - 10 DAYS, THEN THE TUBE WAS CUT SHORT AND OPEN DRAINAGE CONTINUED FOR AN INDEFINITE TIME UNTIL DRY OR CLEAR BY X-RAY. IN SOME, THE DISEASE WAS BILATERAL AND THE CHILDREN MORIBUND. ONE SPONTANEOUS RUPTURE OF AN EMPYEMA WAS ENCOUNTERED, DISCHARGING JUST LATERAL TO THE STERNUM. THIS CHILD SURVIVED, BUT RECOVERY WAS VERY SLOW.

'DYSENTERY' WAS COMMON IN CHILDREN, MOSTLY BACILLARY, AND RESPONDING TO INTRAVENOUS FLUIDS AND SULPHONAMIDES. LACK OF DIAGNOSTIC LABORATORY FACILITIES WAS A SERIOUS DEFICIENCY HERE. SOME AMOEBIC DYSENTERY AND SOME DIARRHOEA FROM INTESTINAL HELMINTHS WAS SEEN.

MALNUTRITION WAS UNCOMMON, BUT SOME CASES WERE SEEN, COMING FROM DISTANT RURAL AREAS, WITH BERI BERI AND KERATOMALACIA. KWASICKHOR WAS NOT SEEN IN QUI NHON.

THE COMMONEST MEDICAL CONDITIONS SEEN WERE TUBERCULOSIS, TYPHOID, ANKYLOSTOMIASIS, PLAGUE, AMOEBIC HEPATITIS AND ASSCESS, ASCITES, NEPHRITIS, ACUTE RHEUMATISM AND ITS SEQUELAE, TETANUS, PNEUMONIA, LEPROSY, DYSENTERY, CHOLERA, MALARIA, SMALL-POX AND ATTEMPTED SUICIDES.

TUBERCULOSIS WAS COMMON AND ADVANCED, WITH MASSIVE CAVITIES, AND POSITIVE SPUTUM. THE PROBLEMS OF TREATMENT ARE ENORMOUS, SINCE PATIENTS WOULD NOT REMAIN IN HOSPITAL FOR ADEQUATE TREATMENT. ALL THE NECESSARY DRUGS ARE AVAILABLE, BUT FEW PATIENTS WOULD STAY FOR MORE THAN A FEW WEEKS. THE TB WARD IN THE 'OLD' HOSPITAL WAS ALWAYS FULL, BUT IT WAS A DISMAL, DIRTY WARD, AND CONDITIONS WERE POOR. OUT-PATIENTS COULD ONLY RECEIVE A VERY LIMITED QUANTITY OF 'FREE' TREATMENT, THEN THEY HAD TO PAY. MANY COULD NOT AFFORD THIS, SMALL THOUGH IT WAS. TUBERCULOSIS FORMS A MASSIVE PUBLIC HEALTH PROBLEM IN VIET-NAM, AND TO DATE THE SINGLE GREATEST PREVENTATIVE MEASURE IS THE BCG IMMUNISATION OF THE NEWBORN.

NO SURGERY WAS PERFORMED FOR TB.

TYPHOID FEVER WAS ADMITTED THROUGHOUT THE YEAR, WITH LITTLE MONTHLY VARIATION. MANY OF THESE CAME FROM A 'SECURITY' CAMP NEAR THE CITY, BUT REPEATED REPORTING OF THE INCIDENCE PRODUCED NO DIMINUTION IN CASES. OTHER CASES CAME FROM ALL PARTS OF THE CITY, AND SURROUNDINGS. ABOUT 150 CASES WERE ADMITTED, WITH 10 KNOWN DEATHS. THE TYPHOID CASES WERE, OF NECESSITY, TREATED IN THE OPEN WARDS, OFTEN SHARING A BED WITH A NON-TYPHOID PATIENT. NO CROSS INFECTION OCCURRED, OR WAS DIAGNOSED.

TREATMENT WAS WITH CHLORAMPHENICOL (CHLOROMYCETIN; PARKE, DAVIS & CO.) 1 G GIVEN IN ONE LITRE OF DEXTROSE SALINE, GIVING THREE GRAMS DAILY. ALTHOUGH ORDERED AS AN 8 HOURLY DRIP, THE CUSTOM WAS TO GIVE THE 3 LITRES DURING THE DAYLIGHT HOURS AND DISMANTLE THE DRIP FOR THE NIGHT. THIS INTRAVENOUS MEDICATION WAS CONTINUED UNTIL THE

PATIENT WAS FIT ENOUGH TO TOLERATE ORAL MEDICATION, WHEN THE CHLORAMPHENICOL WAS CONTINUED AS A 250 MGM DOSE, 6 HOURLY. THE TOTAL DURATION OF TREATMENT, PROVIDED THE PATIENT STAYED IN HOSPITAL WAS TEN DAYS. A KNOWN DEATH RATE OF 6.6% WAS CONSIDERED REASONABLY GOOD, CONSIDERING THE CONDITION OF SOME PATIENTS ON ARRIVAL.

PERFORATION AND HAEMORRHAGE WERE SEEN, AND THE PATIENTS WERE TRANSFERRED TO THE CARE OF THE SURGEONS IF THESE COMPLICATIONS OCCURRED.

ANKYLOSTOMIASIS, TOGETHER WITH ASCARIASIS, IS VERY COMMON IN VIET-NAM. THE FORMER IS THE MORE IMPORTANT BECAUSE OF THE ANAEMIA IT PRODUCES, WHICH IS OFTEN EXTREME. THESE PATIENTS PRESENTED WITH A VARIETY OF SYMPTOMS OF THE ANAEMIA, WITH OEDEMA, PALLOR, FATIGUE, ASCITES, CARDIAC FAILURE, AND DIARRHOEA. THE ANAEMIA WAS OF SUFFICIENT SEVERITY TO REQUIRE TRANSFUSION IN MANY CASES, AND IRON THERAPY IN ALL. IRON WAS COMMONLY GIVEN PARENTERALLY, AS IMFERON OR JECTOFAR, SOMETIMES BEING GIVEN IN THE FORM OF AN I.V. DRIP, 15 .25 ML IN 1 LITRE OF DEXTROSE SALINE, WITH NO REACTIONS. THE STANDARD ANTHELMINTIC USED WAS TETRACHLORETHYLENE.

ASCARIASIS IS PARTICULARLY COMMON IN CHILDREN, BUT RESPONDED WELL TO PIPERAZINE. ALL MEMBERS OF THE TEAM TOOK PIPERAZINE AT 3 MONTHLY INTERVALS, AS MOST OF OUR VEGETABLES CAME FROM THE LOCAL MARKET.

BUBONIC PLAGUE IS ENDEMIC IN BINH DINH, AND IN MANY OTHER PARTS OF VIET-NAM, AND CASES ARE SEEN THROUGHOUT THE YEAR, WITH A SEASONAL INCREASE DURING THE COLDER MONTHS OF DECEMBER, JANUARY AND FEBRUARY. AT ALL TIMES THERE WERE 2 - 3 PATIENTS IN THE PLAGUE WARD, RISING TO 10 - 15 DURING THE SEASON. ALL OF THESE WERE BUBONIC, ALTHOUGH THE BUBOES OCCUR IN THE AXILLARY AND CERVICAL GLANDS AS WELL AS THE INGUINAL. PNEUMONIC CASES OCCUR IN VIET-NAM, BUT WE SAW NONE IN QUI NHON.

ONCE SEEN, THE DIAGNOSIS IS NEVER IN DOUBT. NO OTHER DISEASE CAUSES SUCH EXQUISITELY TENDER GLAND SWELLING, NOR WITH SUCH ACCOMPANYING MALAISE AND COLLAPSE. OFTEN ANOTHER MEMBER OF THE FAMILY HAD ALREADY DIED AT HOME, PROMPTING THE ADMISSION TO HOSPITAL. THE CERVICAL BUBOES OCCASIONALLY CAUSED MASSIVE SLOUGHING OF THE NECK.

TREATMENT WAS TO GIVE INTRAVENOUS FLUIDS, WITH LARGE INITIAL DOSES OF STREPTOMYCIN AND SULPHADIAZINE. PROVIDED THE PATIENT WAS NOT IN EXTREMIS, THE RESULTS OF THIS WERE GOOD, AND TREATMENT AT A REDUCED DOSE CONTINUED FOR 7 - 10 DAYS.

GLAND PUNCTURES FOR DIAGNOSIS WAS DONE OCCASIONALLY, WHEN TIME ALLOWED, BUT THE PATIENTS WERE EITHER DEAD OR RECOVERED BEFORE THE RESULTS RETURNED FROM SAIGON. THE PUBLIC HEALTH AUTHORITIES WISH ALL CASES TO HAVE GLAND PUNCTURE, BUT WILL NOT MAKE ANY EFFORT TO TAKE THE SMEAR THEMSELVES, AND THE SOLE NEW ZEALAND PHYSICIAN DID NOT HAVE THE TIME.

THE PUBLIC HEALTH DIVISION IN QUI NHON HAS AN EXTENSIVE IMMUNISATION PROGRAMME UNDER WAY, USING BOTH LOCALLY MADE AND IMPORTED VACCINE. THAT MADE LOCALLY IN THE PASTEUR INSTITUTES IS

PREFERABLE, AS IT IS A ONE DOSE COURSE.

AT ALL TIMES, AND IN ALL PLACES, THROUGHOUT QUI NHON, RATS CAN BE SEEN SCAVENGING AMONGST THE GARBAGE, AND NO REAL HEADWAY WILL BE MADE WITH PREVENTION UNTIL THE BASIC PROBLEMS OF MUNICIPAL HYGIENE CAN BE SOLVED.

AMOEBIC HEPATITIS AND LIVER ABSCESS WERE SEEN BY BOTH SURGEON AND PHYSICIAN, AND TREATED BY BOTH. ASPIRATION WAS ALWAYS DONE BY THE SURGEONS. ALTHOUGH TREATMENT OF THE LIVER WAS SATISFACTORY, THERE WAS NOT THE PROLONGED SCRUTINY OF THE FAECES AFTERWARDS TO BE SURE THAT THE INTESTINAL DISEASE WAS CLEARED. IN THE COURSE OF A YEAR, NO LIVER ABSCESS PATIENT WAS RE-ADMITTED FOR FURTHER TREATMENT, ALTHOUGH I REALISE THAT IN THIS CONDITION THIS MEANS VERY LITTLE.

ASCITES WAS A COMMON PRESENTING SYMPTOM, AND THIS REQUIRED THE APPOINTMENT OF THE SPECIALIST PHYSICIAN TO DETERMINE THE CAUSE IN MANY PATIENTS. PREVIOUSLY THE MEDICAL OFFICERS WERE RELYING ON PARACENTESIS TO RELIEVE SYMPTOMS. ORDINARY DIURETICS WERE OF LITTLE USE, ALTHOUGH WITH THE INTRODUCTION OF LASIX FAR LESS TAPPING WAS DONE. NOT SURPRISINGLY, THE PATIENTS THOUGHT PARACENTESIS THE BETTER TREATMENT.

SOME CASES WERE CAUSED BY HEPATIC FIBROSIS, MALARIAL IN SOME, WITH PORTAL HYPERTENSION; SOME WERE BERI-BERI; SOME CARDIAC; SOME ANAEMIC; SOME RENAL. THIS CONDITION ALONE COULD OCCUPY ONE PHYSICIAN FULL TIME.

NEPHRITIS, ACUTE AND CHRONIC RHEUMATISM, AND THE CARDIAC SEQUELAE WERE SEEN, DIFFERING LITTLE FROM THOSE CASES SEEN AT HOME, AND A FEW CASES OF POLIOMYELITIS WERE SEEN.

TETANUS WAS A COMMON ADMISSION, THERE WAS ALWAYS AT LEAST ONE PATIENT IN HOSPITAL WITH THIS. THESE COMMONLY RESULTED FROM A MINOR OR UNKNOWN WOUND, VERY RARELY FROM MAJOR WOUNDS. ALTHOUGH ANTI-TETANUS SERUM WAS GIVEN FREELY, THERE WAS NO ACTIVE IMMUNISING DONE IN QUI NHON. TETANUS PATIENTS STARTED OFF IN THE RECOVERY ROOM, AND TREATMENT WAS ANTI-SERUM, PENICILLIN, AND A DRIP OF SALINE OR DEXTROSE SALINE TO WHICH CHLORPROMAZINE (LARGACTIL) WAS ADDED, USUALLY 100 MGM PER LITRE, AND THE RATE OF FLOW ADJUSTED TO THE PATIENTS CONDITION. THIS WAS THE ONE DISEASE WHICH DID NOT DO WELL WITH THE STOPPING OF THE DRIP AT NIGHT, NOR BY THE APPLICATION OF TRADITIONAL MEDICAL TREATMENTS. NO ACCURATE FIGURES WERE KEPT OF SURVIVAL, BUT IT WAS ESTIMATED THAT SOME 60% SURVIVED. IN ONLY ONE CASE WAS TRACHEOSTOMY NECESSARY. THE PATIENTS SEEMED TO BE LESS SEVERELY AFFECTED THAN THE CASES SEEN IN NEW ZEALAND, AND CONSIDERING THE PROBLEMS OF TREATMENT THEY DID WELL. THE PATIENT WHO HAD TO HAVE A TRACHEOSTOMY FOR SURVIVAL, WAS SEEN SOME MONTHS LATER, WORKING IN A VERY LOW CLASS BROTHEL. ONE WONDERED JUST WHAT SHE HAD BEEN SAVED FOR !

LEPROSY, HANSEN'S DISEASE, WAS SEEN, BUT WAS NOT TREATED AT THE PROVINCIAL HOSPITAL. ALL PATIENTS WERE TRANSFERRED TO THE ROMAN CATHOLIC LEPROSARIUM NEARBY.

CHOLERA IS A SEASONAL DISEASE, AND THE TAIL END OF THE PRECEDING EPIDEMIC WAS JUST FINISHING ON MY ARRIVAL. NO NEW CASES OCCURRED DURING THE YEAR. SOME CREDIT FOR THIS MUST GO TO THE PUBLIC HEALTH

DIVISION, WHICH WAS CONDUCTING AN IMMUNISATION PROGRAMME. CHOLERA WAS TREATED IN A SPECIAL ROOM ADJOINING CAP CUU. TREATMENT WAS WITH MASSIVE INTRAVENOUS INFUSION, USING SALINE, AND GIVING UP TO 10 - 12 LITRES IN 24 HOURS. NO DRUG TREATMENT IS NECESSARY. THE PATIENTS LAY ON CANVAS STRETCHER-BEDS, WITH THE BUTTOCKS OVER A HOLE IN THE CANVAS, WITH A BUCKET BENEATH.

THE CONDITION OF THIS ROOM WHEN FULLY OCCUPIED WAS FRIGHTFUL, BUT THE RESPONSE TO THE IV FLUID IS DRAMATIC. THIS ROOM HAD THE UNSAVOURY BUT APPROPRIATE NAME OF THE 'SHIT SHACK'.

MALARIA IS NOT A FREQUENT ADMISSION, EXCEPT FOR THE FEW CASES OF CEREBRAL MALARIA. THESE RESPOND WELL TO IV DRIP WITH CHLOROQUINE (NIVAQUINE) ADDED, 200 MGM PER LITRE, AND UP TO 800 MGM BEING GIVEN IN THE FIRST 24 HOURS.

WOUNDS, AND OPERATIONS WILL PRECIPITATE AN ACUTE ATTACK OF MALARIA IN SOME PATIENTS, AND ONE SHOULD BE AWARE OF THIS SO THAT THE APPROPRIATE TREATMENT CAN BE GIVEN. ALTHOUGH THERE WAS SAID TO BE NO MALARIA IN QUI NHON, THERE IS PLENTY IN THE PROVINCE, AND ACUTE MALARIA IS A VERY COMMON ADMISSION TO THE AMERICAN MILITARY HOSPITALS, IN SPITE OF SUPPRESSIVE THERAPY. TEAM MEMBERS TOOK CHLOROQUINE 400 MGM ONCE WEEKLY, AND NO ONE DEVELOPED MALARIA.

## SUICIDE

AT LEAST ONE ATTEMPTED SUICIDE BY OVERDOSAGE OF DRUGS WAS RECEIVED WEEKLY, SOMETIMES SEVERAL IN ONE DAY. THE COMMON AGENT WAS A BARBITURATE OR TRANQUILLISER. THESE WERE ALL YOUNG WOMEN FROM THE BARS AND BROTHELS, AND THE TREATMENT WAS GASTRIC LAVAGE, THE RELEVANT ANTIDOTE AND OBSERVATION. VERY OCCASIONALLY INSECTICIDE WAS TAKEN OR WRISTS SLASHED.

WHILST THE ARRIVAL OF THE COMATOSE GIRL, ACCOMPANIED BY THE MADAME AND SEVERAL COMPANIONS, AND NOT INFREQUENTLY AN AMERICAN GI, THE IMMEDIATE ACTIVITY OF THE VIETNAMESE NURSES, WHO DID THE GASTRIC LAVAGE, ACCOMPANIED BY MUCH LAUGHTER WAS NOT WITHOUT ITS LIGHTER SIDE, THE WHOLE EPISODE, REPEATED AS IT WAS SO FREQUENTLY, GAVE A DRAMATIC INSIGHT INTO THIS VERY GRAVE MORAL PROBLEM IN VIET-NAM. MANY OF THESE YOUNG WOMEN ARE DRIVEN TO THIS LIFE TO SUPPORT THEIR FAMILIES. SOME ARE WAR WIDOWS, OTHERS HAVE DAYTIME JOBS, INSUFFICIENT TO SUPPORT THEIR DEPENDENTS. ONE TENDS TO IGNORE THE PROBLEM, BUT THE NUMBER OF ATTEMPTED SUICIDES SHOWED THE STRAIN THESE WRETCHED WOMEN ARE UNDER, AND THE TERRIBLE MORAL DECAY WHICH IS AFFECTING VIET-NAM.

## ORTHODOX VIETNAMESE MEDICINE

SOME MEDICAL PATIENTS WERE UNDER THE CARE OF VIETNAMESE DOCTORS, SOME WERE ADMITTED BY THE VIETNAMESE, BUT THEN TRANSFERRED TO THE CARE OF THE NEW ZEALAND PHYSICIAN.

ORTHODOX WESTERN MEDICINE WAS PRACTICED VERY DIFFERENTLY BY THE VIETNAMESE COMPARED WITH OUR STANDARDS, AND THERE WAS A TENDENCY TO TREAT SYMPTOMS RATHER THAN CAUSES. ALMOST EVERY PATIENT UNDER VIETNAMESE CARE, WHETHER MEDICAL OR SURGICAL WOULD RECEIVE CAMPHOR AND NIKETHAMIDE BY INJECTION DAILY. THEY HAVE TREMENDOUS FAITH IN

THE VALUE OF THE CAMPHOR. MEDICAL PATIENTS WOULD BE GIVEN SEVERAL ANTIBIOTICS AT THE SAME TIME, OFTEN AS MANY AS FIVE, COMMONLY PENICILLIN, STREPTOMYCIN, TETRACYCLINE, CHLORAMPHENICOL, AND ERYTHROMYCIN, SUPPLEMENTED BY PREDNISONE, CHLOROQUINE, AND PHENERGAN. NOT ONLY WAS THIS EXTRAVAGANT, BUT UNNECESSARY AND DANGEROUS. AN UNDIAGNOSED TYPHOID FOR EXAMPLE DID NOT BENEFIT BY PREDNISONE, NOR BY MULTIPLE ANTIBIOTICS. IN ONE INSTANCE A PATIENT WAS REFERRED FOR OPINION, WHO WAS RECEIVING ALL 10 OF THESE DRUGS, FOR MUMPS.

THE TRADITIONAL CUPPING, ACUPUNCTURE, APPLICATION OF MEDICINAL LEAVES, AND PRAYER PAPERS, AND THE BURNING OF JOSS STICKS ALL ADDED TO THE ARMAMENTARIUM. ONE ADMIRED THE POWERS OF RECOVERY OF THE VIETNAMESE PATIENTS WHO SURVIVED THEIR TREATMENT.

THE MORTALITY RATE WAS MUCH HIGHER IN THE MEDICAL PATIENTS THAN IN THE SURGICAL; SO MANY OF THE SURGICAL WERE FIT YOUNG PATIENTS WITH INJURIES, COMPARED WITH THE VERY POOR GENERAL CONDITION OF MANY MEDICAL CASES.

MEDICAL DEATHS

| | |
|---|---|
| MARCH | 16 |
| APRIL | 13 |
| MAY | 9 |
| JUNE | 3 |
| JULY | 9 |
| AUGUST | 9 |
| SEPTEMBER | 9 |
| OCTOBER | 12 |
| NOVEMBER | 10 |
| DECEMBER | 12 |
| JANUARY | 10 |
| FEBRUARY | 9 |
| TOTAL: | 121 |

AS WITH THE SURGICAL DEATHS, SOME OF THESE WERE BEYOND RESUSCITATION ON ARRIVAL, BUT TO SOME EXTENT THESE ARE BALANCED BY THOSE PATIENTS TAKEN HOME AND RECORDED AS DISCHARGES WHEN IN FACT THEY SHOULD BE DEATHS.



American Transfer. Open amputation.



American Transfer Excised wound of leg, and what was referred to as an 'open Syme's Amputation



American Transfer

GSW Abdomen , showing usual form of suture, and colostomy.

The leg wounds have a continuous wire suture.



Severe burns from mined vehicle.



Petrol burns.



Petrol Burns.



Bilateral compound fractures tibiae. War-related injury. House collapsed during fighting.




The Pasteur Institute at Nha Trang. Source of much of the vaccine and sera used in Qui Nhon.




Horsedrawn vehicles, and Lambretta.



Scooter with 3 passengers




Road in Qui Nhon. Lambretta hire vehicle.




Road in Qui Nhon. Lambretta hire vehicle.



Taxis and 'Cyclos'



Father and children on motor bike. Commonly, the mother is also present.



Motor trishaw, cyclo, and motor cycles.



Bus. There appears to be no limit to the number of passengers.




Lambretta hire-vehicle.



Passengers in Lambretta.



the number
of passengers.




Lambretta
hire-vehicle.





Armoured personnel carriers.



Ovarian Cyst.



Skin Grafting to old War wound scar of face.



Skin grafting of burnt face, showing Padgett electric dermatome, and anaesthetic arrangement for small children.





3

Final result.

1 On arrival at Hospital.
Bilateral empyema, tube drains inserted.



2

After drainage of empyemata and 2 months in the Save the Children Fund Hospital. The anaesthetic machine can be seen behind her.



Mother with child awaiting hare lip repair.



Same child after operat=ion, accompani by helper from SCF home.



Repair of hare lip, at end of operatio n showing anaesthetic arrangement.



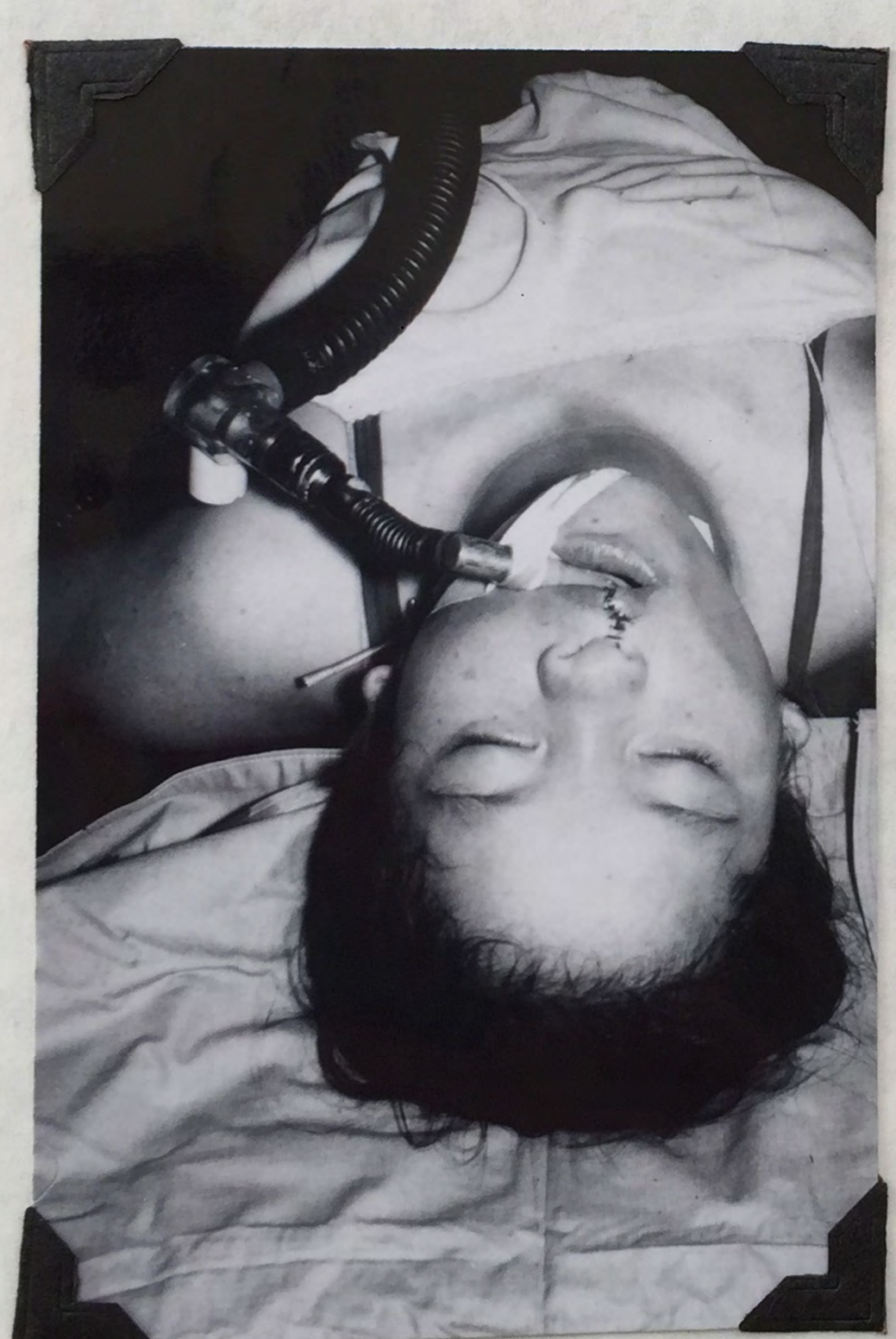
A single
and
a double
hare lip.



Hare lip
repair.



Even adults
came for repair.



At complation
of operation.



Cap Cuu.
The window
is the X@Ray
viewing
box.

Dr Dobson's Film



Ascites
being tapped
in Cap Cuu.

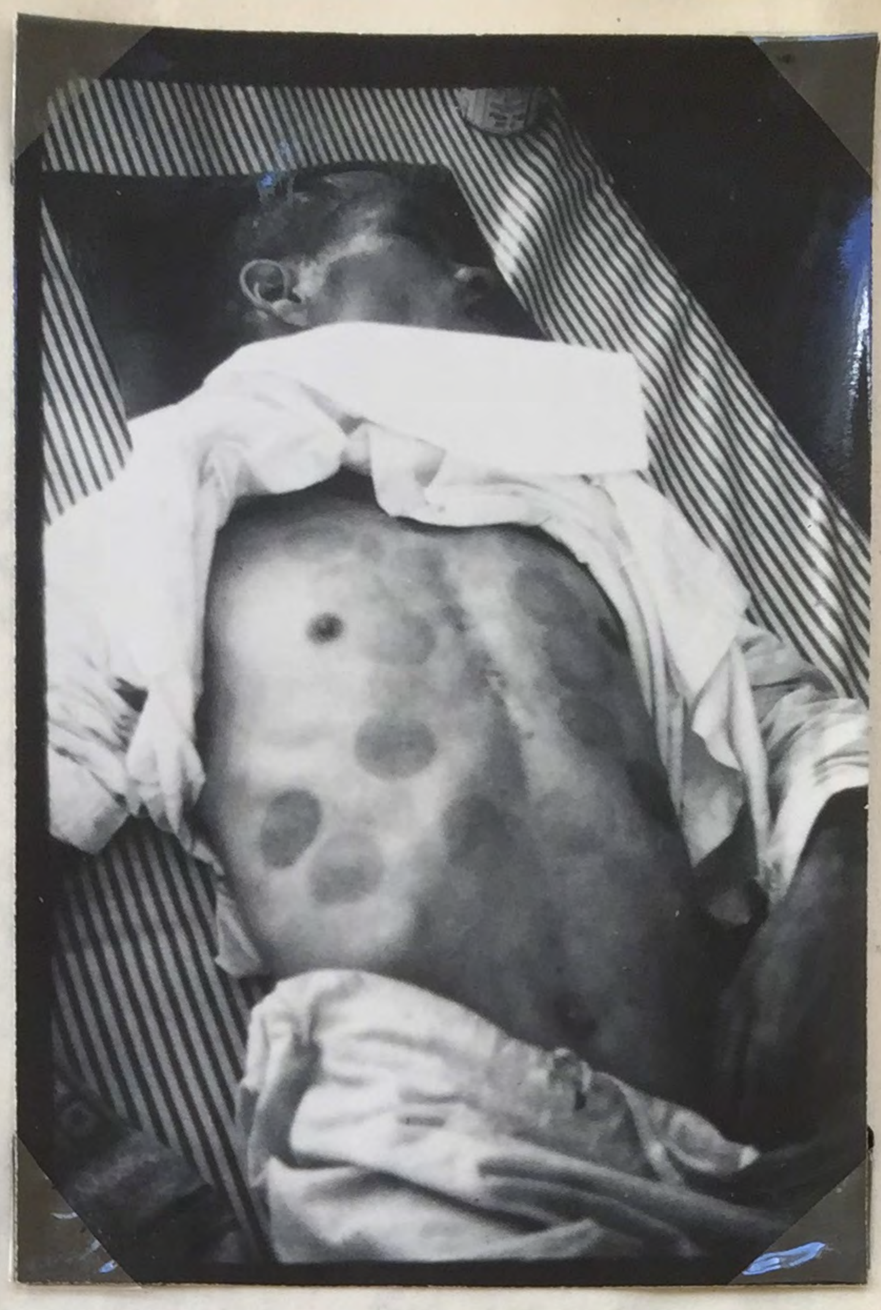
Dr Dobson's Film



Fibro-sarc@l
oma of leg.
Girl of 10.



Gastric lavage of attampted suicide by a bar girl.
(Dr Dobson's Film)



Cupping marks on patient.
(Dr Dobson's Film)



Empyema.

## 11. Conclusions.

One year is a short time to spend anywhere, but one cannot spend this time in a Provincial Hospital in Viet-Nam without being profoundly affected. In this time the people begin to be known, and the complexity of the situation and the problems understood. The ability and intelligence of the Vietnamese is appreciated, but the effect of twenty years of warfare can be seen in their approach to daily problems.

The Americans are seen as individuals, not as a mass, and their friendliness and generosity is notable. Many of them are dedicated to their task, military and civilian alike, and one sees both the career officer for whom Viet-Nam is just a step in the ladder, alongside the man who feels a real call to help the Vietnamese. They combine an impenetrable bureaucracy with an open generosity that is confusing.

The Vietnamese Ministry of Health is aware of the Health problems confronting Viet-Nam, the inadequacy of the hospitals, Public Health services, preventative Medicine, municipal hygiene, and the indifference of many of the Vietnamese. The able men and women in this Ministry need a tremendous increase in the numbers of health workers in all categories to implement their excellent planning. Many more doctors are required, beyond the capacity of the University of Saigon without a very substantial increase in all facilities, and the same applies to the training of nurses. Further, there must be some means of getting trained personnel to those less attractive parts of the country, and only the instillation of the right spirit will do this. Compulsion is of no value.

Until the number of War Casualties decreases, the Public Hospitals cannot begin to realise their main task, that of treating the sick. At present most Hospitals carry a heavy load of casualties, and the opportunity of improving the service for non-urgent illness is not available.

In the treatment of War Casualties, amongst the Vietnamese Civilian population, the importance of resuscitation and primary definitive treatment is stressed. Only in this way can adequate treatment be given to the numbers of cases presenting, and further, it is the correct surgical approach.

The problems of Rehabilitation are yet barely touched. Amputees must be trained and found alternative occupation. Farmers cannot return to productive work on the land, and the urban amputee needs training. Paraplegics are another category requiring rehabilitation. Here again one is up against the resistance of the people, especially the Rural Farming community.

In Viet-Nam there is an almost complete lack of association with the hospital of both Patients and Staff. The Hospital is a Government preserve, and there is not the feeling of belonging which characterises the smaller New Zealand Hospital. There is not yet the same feeling of responsibility to the patient, nor have the

PATIENTS THE SAME ABILITY TO COMPLAIN OF UNSATISFACTORY CARE. AS IMPROVED CONDITIONS OCCUR, THERE MUST BE A MUCH CLOSER FEELING BETWEEN THE STAFF AND PATIENTS TO EACH OTHER AND TO THE HOSPITAL.

THE VIETNAMESE REQUIRE A GREAT DEAL OF ASSISTANCE AT PRESENT AND IT IS VERY IMPORTANT THAT THIS BE GIVEN CORRECTLY. THE AIM MUST BE TO ASSIST THEM TO HELP THEMSELVES. THEIR ABILITY IS UNQUESTIONED, AND THEY MUST HAVE THE OPPORTUNITY OF USING THIS TO THE FULL. AID MUST BE GIVEN IN SUCH A WAY THAT DOES NOT ANTAGONISE THE PEOPLE, OR THEIR CO-OPERATION IS LOST. WHAT IS CORRECT IN NEW ZEALAND, THE UNITED STATES, AUSTRALIA ETC., IS NOT NECESSARILY RIGHT IN VIET-NAM, EITHER IN HOSPITAL MANAGEMENT OR IN ANY OTHER FIELD. I BELIEVE THAT THE NEW ZEALAND METHOD OF WORKING CLOSELY WITH THE VIETNAMESE, AND TEACHING BY EXAMPLE AND DEMONSTRATION, BUT NOT INFRINGING UPON THE AUTHORITY OF THE VIETNAMESE STAFF IS THE CORRECT WAY. BY GIVING ADVICE WITHOUT CAUSING OFFENSE, THE HOSPITAL IS DEVELOPING BY THE EFFORTS OF THE VIETNAMESE THEMSELVES. IT IS USEFUL TO TAKE SENIOR MEMBERS OF THE STAFF TO NEW ZEALAND FOR SHORT PERIODS, FOR SPECIFIC INSTRUCTION, BUT THE BASIC TRAINING OF DOCTORS AND NURSES MUST BE IN VIET-NAM.

PROGRESS IN MEDICINE IN VIET-NAM MUST BE ACCOMPANIED BY PROGRESS IN ALL OTHER FIELDS. AGRICULTURE, ANIMAL HUSBANDRY, INDUSTRIAL DEVELOPMENT, HYDRO-ELECTRIC PROJECTS, LAND REFORM, COMMUNICATIONS MUST ALL MOVE AHEAD TOGETHER. THE LAND IS RICH, AND COULD SUPPORT A LARGER POPULATION AT AN INCREASED STANDARD, ONCE STABILITY RETURNS. THE PROBLEM OF BIRTH CONTROL WILL BECOME IMPORTANT SOON, AND SHOULD BE LOOKED INTO NOW, BUT THIS MUST BE DONE BY THE VIETNAMESE, ADVISED WHERE NECESSARY BY FOREIGNERS, BUT ONE MUST NOT FORGET THE CONSIDERABLE ROMAN CATHOLIC MINORITY.

NEW ZEALAND EXPECTS TO HAVE A SURGICAL TEAM AT QUI NHON FOR MANY YEARS TO COME, AND OUR AIM IS TO PROVIDE THE IMMEDIATE PATIENT SERVICE, BUT TO ASSIST AND PLAN FOR THE DAY WHEN THE VIETNAMESE CAN TAKE OVER THE FULL CONTROL AND STAFFING OF THE HOSPITAL. BOTH THEY AND WE KNOW THIS, AND LOOK FORWARD TO THE DAY WHEN IT CAN BE ACHIEVED.

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