

Construction Slightly Behind Schedule But

Elstree Still Within Budget

Construction of the new factory at Blood Products Laboratory at Dagger Lane, Elstree has fallen slightly behind schedule, but the project is still within the original £35,000,000 budget.

'It's not the building that is causing the problems', explains Product Services Manager Norman Pettet. 'It is more a case of equipment not becoming available on schedule.'

'It only takes one supplier to fall behind on a delivery date and the entire programme is affected as machinery has to be installed in a specific order, and the slightest delay on delivery of just one item can throw our plans off course and installation of other equipment gets held up.'

Members of the Society's executive committee visited the Laboratories in February to review progress. The Laboratory first opened in 1954, and it has an associated unit at Oxford.

Norman Pettet was host for the visit, and Dr. James Smith came over from the Plasma Fractionation Laboratory at Oxford to talk to the Group.

THE AIM

'The aim of the Elstree laboratory is to prepare from human blood certain fractions which are used for the prevention and treatment of disease', according to Mr. Pettet. 'It also carries out tests which help diagnose disease in patients, and research and development on components of blood and on methods of purification, and when appropriate new products are investigated and developed.'

Blood, given voluntarily and without charge by donors of the National Blood Transfusion Service, is taken to 14 regional centres in England and Wales.



It was a cold and chilly day when the Society party toured Elstree. In the centre of the photograph is George Kirman, and from left to right, the others are: Peggy Britten, Rev. Alan Tanner (Chairman), John Prothero, Keith Colthorpe, Norman Pettet (Product Services Manager, Elstree), Clive Knight and Ken Milne.

Health Service, the Public Health Laboratory Service, and the armed forces.

A second source of plasma is the small proportion of blood donations which have not been used before they fall out of date in hospital blood banks or Transfusion Centres.

This time-expired plasma is pooled into plastic bags which hold five litres. The plasma is then frozen and sent to Elstree.

Plasma is a rich source of proteins, some of which are separated at the BPL and prepared for medical use. Fresh plasma contains protein frac-

tions necessary for the correct clotting of blood, and both Factor VIII and Factor IX are prepared at Elstree in a form easily absorbed by patients either in their homes or at hospital.

30% OF THE NEEDS

In 1985 the laboratory supplied about 30% of the needs for heat-treated Factor VIII in England and Wales, while the remainder was imported at considerable cost to the NHS.



Some parts of the new building were looking very smart and functional...

'By 1988 we expect to see the Laboratory putting out all the heat-treated requirements for England and Wales', says Norman Pettet.

Fresh plasma and time-expired plasma are also important sources of other protein fractions, for example immunoglobulin and albumin.

Immunoglobulins are antibodies the body needs for defence against infections and other diseases. Immunoglobulins are prepared at Elstree for wide use by the medical services in the prevention of measles, mumps and hepatitis, as examples.

Some antibodies are not often present in routine blood donations and these have to be collected from specially selected donors at Blood Transfusion Centres by a process known as plasmapheresis. In this instance plasma is collected from the donor and the red cells returned to the donor at the time of donation. In this way plasma with antibodies against tetanus, chickenpox, rabies and the rhesus factor, which is used in the prevention of rhesus disease in babies, is sent to Elstree for further processing.

ALBUMIN SOLUTIONS

Albumin solutions are used to maintain fluid levels in the blood of patients with severe burns, after bad accidents, and during major surgery.



... Other parts of the building were still in the middle stages of construction.

Albumin is usually known as Human Albumin Solution, (HAS) and in 1985 over 240,000 bottles of it were issued for use in the NHS and this amount of albumin derived from nearly one million blood donations.

Between 1975 and 1985 production of Human Albumin Solution has exceeded 1½ million bottles, which would have

cost the NHS about £50,000,000 if bought today from commercial sources.

Research and development also plays an important role in the understanding of the production processes and in the development of new and safer blood products.

The main emphasis is in improving Factor VIII and Factor IX concentrates to reduce some

risks to patients where those risks still exist in these products.

In 1976 BPL received 47,000 litres of fresh plasma. Today the figure is 260,000 litres per annum. During the intervening period the amount of time-expired plasma has remained at about 50,000 litres p.a., reflecting the best use which has been maintained of the whole blood collected.

Between 1976 and now the annual output of blood products has risen to the maximum which can be produced at the present premises at Elstree. For example, Factor VIII issues each year have risen from 6.5 million units to 30 million units. HAS production has more than doubled from 100,000 to 240,000 containers p.a.

NEW PREMISES

'So you can see why we need new premises,' comments Norman Pettet. 'Things are well under way and the new factory should be commissioned in late 1986.'

'It will require an annual input of 450,000 litres of fresh plasma, which is three times today's production capacity at Elstree, just to meet the required output for Factor VIII and albumin solutions; besides all other products.'

IAN LUCAS

Professor Jim Smith Describes an Exciting Development

Factor VIII 8Y— from lab bench to national product in one year

Sometimes the national plasma fractionators are thought to be slow in responding to the challenge of commercial competition. If you want the best and safest Factor VIII and Factor IX, you might expect to have to wait a little longer.

Last year, Blood Products Laboratory (BPL) pulled out all the stops and leapfrogged the competition with two entirely new heat-treated concentrates of Factor VIII and Factor IX, developed from the lab bench to national products in under a year.

BPL cannot risk experimentation with 1,200 litre batches of plasma, worth over £50,000 as finished products. New fractionation methods especially for coagulation factors, are worked out in its 'pilot plant', the Plasma Fractionation Laboratory (PFL) in Oxford—just next to the Haemophilia Centre.

In 1983, the Director of BPL and PFL, Dr. Richard Lane, gave PFL the job of making all our products safer from the risk of transmitting virus diseases. He was especially concerned about the high rate of non-A non-B hepatitis (NANBH) in haemophiliacs.

Painstaking work, especially at Oxford Haemophilia Centre and Royal Free Haemophilia Centre, was showing the world just how serious the problem might be.

Hepatitis B is less worrying nowadays because there are good tests to screen out infective blood donations and there are vaccines for people like haemophiliacs who are exposed to a lot of blood products, but there are no blood screening tests or vaccines for NANBH.

In fact, no-one is sure what the virus looks like, how to grow it or detect it, or even whether there is more than one virus. From frequent prospective testing of blood samples, it is quite hard even to be

sure whether a haemophiliac has been infected with NANBH by a concentrate.

CLOSING IN

With the help of advances being made at Protein Fractionation Centre, Edinburgh, PFL scientists were closing in on several promising methods for killing viruses by heat treatment when the AIDS 'epidemic' struck haemophiliacs in the United States in 1983.

By the spring of 1984, when most people accepted that AIDS was carried in blood by the virus called LAV or HTLV III, PFL had shown that the national Factor VIII concentrates HL and BCRV could be heated at 60° or 70° with an acceptable loss of Factor VIII and solubility.

But, at this stage, most of the doctors looking after haemophiliacs did not think there was enough evidence that heating NHS products was necessary or that it would kill the AIDS virus.

Meanwhile, PFL scientists began to believe that to be sure of killing all viruses they might have to 'bake' Factor VIII hotter and longer than the current concentrates could stand without becoming insoluble and losing too much Factor VIII activity.

AN IDEA

Lowell Winkelman and Neil Owen had the idea that Factor VIII itself was quite stable to heat, but that its solubility was spoiled by two other proteins, fibrinogen and fibronectin, also present in the crude concentrate. They found a way of removing these other proteins and by September 1984 they had got Factor VIII to a very high concentration and purity.

With the help of Mike Haddon and Helen Evans organising and interpreting hundreds of clotting assays, they showed that the new Factor VIII concentrate (by now labelled 8Y) could indeed be heated in the final vial for at least three days at 80°. That is so hot that you need insulated gloves to handle the vials.



Prof. Jim Smith

Just as Dr. Lane took the final decision to develop these laboratory findings towards the next national product, the first confirmation came from Atlanta that the AIDS virus was sensitive to dry heating.

Although it was December before the Haemophilia Centre Directors agreed that they should be aiming at the use of heat-treated Factor VIII concentrate, PFL and BPL had anticipated that decision with a co-ordinated plan.

First, a stopgap effort to provide a heated version of the intermediate purity concentrates—the entire national product had to go through PFL's little 'research' oven. This had been developed by PFL's Vince

Stone with Pickstone Engineering at Thetford, and the successful design had to be greatly scaled up to provide BPL with production ovens by April 1985.

At the same time, equipment was specified and ordered so that BPL could start making the new concentrate, 8Y. PFL's pilot plant under David Evans helped to push Lowell's 5 litre experiments to the 300 litre batch scale within a month, working out most of the details for BPL's 1200 litre batches. By January 1985, Lowell and David had introduced the new processes to BPL's Coagulation Factors Production Department.

SCALING UP

Then began the real task of scaling up to 2-3 tonnes of plasma every week, in the face of great difficulties. Peter Prince and John Williams had to marshal their limited resources of staff, equipment and processing areas to take on completely new processes, at a time when planning for the new 450 tonne manufacturing plant was preoccupying everyone's attention.

By February 1985, they had scaled up 8Y to full production batches of 1200 litres and started to accumulate stock towards the autumn release of the new concentrate.

Meanwhile, the advance batches of PFL's pilot production went to clinical trial, to prove that 8Y was safe and effective in haemophiliacs, even after its very severe heat treatment. Armed with hard data from Dr. Rizza, Dr. Kernoff and Dr. Jones of the Oxford, Royal Free and Newcastle Haemophilia Centres, we could extend the clinical trial to answer the crucial question—does the heat treatment really prevent transmission of AIDS and hepatitis?

All the laboratory and clinical reports suggest that we have many thousand-fold 'overkill' of the AIDS virus and none of the susceptible first-treatment haemophiliacs in the trial have shown any signs of hepatitis so far.

But we need the continued enthusiastic co-operation of the Haemophilia Centres and the brave haemophiliacs who

MONEY FROM MARATHONERS

As though running in a marathon was not enough, 54-year-old John Thorne of Dinas Powis ran to raise money for the Haemophilia Society on the basis that sponsors paid up only if he beat his previous best time!

But he did it! He clocked 3hr 17 minutes, knocking 11 minutes off his previous best... and raised £467.54p in the process.

John has a haemophiliac son who had just completed his course at University.

Another runner in the race was Kevin Murphy, a friend of South Wales Group's Gareth Lewis. Kevin raised £72 for the Society.



In the centre of this picture is David Edgar who carried the Haemophilia Society colours in the Glasgow marathon last year. David raised almost £3,000 for the Society.



Mrs. C. Gillespie organised several events in Dumbarton last year and is seen here handing over £691.64 as a result of her efforts, to Scottish Group chairman Andy Cowe.

Pictured at the national Society draw, held at Newcastle, in November, are (left to right): Sharon Hart, Society treasurer John Prothero, Sister Maureen Fearn, Lorna Reynolds (chairman of the Northern Group), George Sanderson and Pauline Sanderson (secretary of the Northern Group).

Among the many attending the national draw were (from left to right): Margaret Walton, Francis Stockdale, Joyce Jefferson, Jenny Wilson, Bryan Collins, Pat Collins, Peter Reynolds and Mr and Mrs Alan Oxley.



NATIONAL SOCIETY DRAW

South Wales Group's 'Oude Tyme Music Hall' at the NALGO Club in Cwmbran in October raised £275. It was run by the Everyman Theatre Ensemble.

South Wales Group's Janet Smith is proud of her two boys Darren and Patrick. Unknown to her they raised £26 with a disco at their junior school, held raffles, and staged a Jumble Sale one very wet Saturday when they even made cakes themselves, and raised £40!

SOUTH WALES GROUP GETS THINGS DONE

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SKYDIVE COLLABORATORS STAYED 'MUM'

There are not many 'mums' who would jump out of aeroplanes (with a parachute, of course). But Margaret Wheeler did, raising £1,000 for the Society at the same time.

Margaret lives in Surrey, and has a haemophilic son, Philip (5). Her twin sister Janet, a member of our South Wales Group, has a haemophilic son Colin (3).

If Margaret had done as her mother told her, the Society would only have got £600, but as it turned out we benefitted by £1,600!

You see, like all good daughters Margaret told her mum that she was going to do a sponsored parachute jump. But mum, Rita Eyre, said 'No'.

Now you may have noticed that daughters do tend to have wills of their own—and Margaret proved no exception, continuing on with her hair-raising plans without her mother knowing.

Meanwhile... Mum was organising the family into fund raising. She appreciated what Margaret was trying to do so got the family involved in jumble sales, raffles, sponsored walks and sponsored slimming. They raised £600.

But as their charity income was rising, Margaret was gently falling... on the end of silken cords as her parachute glided down on an organised drop at Pangbourne. Margaret got blown off course a little and a fence collided with her as she landed... but the Society was richer by £1,000.

Mum's remarks to her daughter when she found out have not been recorded!

In this picture a proud Philip Wheeler (5) waves the cheque handed over to the Society's treasurer John Prothero by his 'mum', Margaret. Gathered round are family and friends who swam, raffled, jumble-saled, walked their way to £600, and more importantly, didn't let on to Margaret's mum that she was still planning to do her jump.

Consultant haematologist D.I.K. Evans from the Royal Manchester Children's Hospital has written to point out that he does not work at Alder Hay. In the caption to the picture showing the massed group of cyclists about to set out on the fund-raising race, reproduced in our last issue, we had D.I.K. Evans down as coming from Alder Hay. 'Furthermore', he adds 'the other individual shown in the picture is my colleague Dr. R.F. Stevens, who actually took part in the bike ride, whereas I only started it off'. Apologies all round.

HOLIDAYS IN WALES

Two special holiday weeks are being organised this year instead of the usual one.

These 'adventure' holidays have proved so popular that there will be a July and an August week.

Holidays offer pony trekking, canoeing, sailing, rock climbing, abseiling—and several other active pursuits, all supervised by qualified staff, haematologists and nurses.

The first holiday starts on Saturday July 12, and the second on Saturday August 9.

Get in touch with Carol Holliday as soon as possible if you want to book. Her address is 54 Bastion Gardens, Prestatyn, Clwyd. LL19 7LU.

NORTHERN HELP LINE

LITERATURE FROM STOCK

Just a reminder to members that copies of our new book 'Introduction to Haemophilia' are available free of charge from Head Office. This publication replaces all the former 'Notes for...' series, except 'Notes for Parents' which remains in print. The new 'Introduction to Haemophilia' is especially suitable for teachers and careers advisers.

Also available from head Office is the Hemofact Special Edition—'Advice on Safer Sex'. This publication, which will be of particular interest to members who are HTLV III antibody positive is available free of charge. Write or telephone for your free copy.

Books by Dr. Peter Jones are still available too. They include: 'Living With Haemophilia', 2nd edition, £9.49 inc P & P to Society members; 'Aids and the Blood', £50 plus 50p P & P; 'Haemophilia Home Therapy', £8 per copy, including P & P.

The Northern Group has started an experimental telephone information service for haemophiliacs.

It is something like the telephone advice service operated by the Samaritans, and this important group were of great assistance when they set out to set up the new advice service.

The service is available one night each week, and enquiries phone in to a specific number where they can talk to people well versed in the problems of haemophilia. Sharing problems is always a good thing and it is hoped that people using the service will then be prepared to refer back to the Haemophilia Centre in Newcastle if they need further advice.



The Bulletin

Patron, H.R.H. The Duchess of Kent

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AIDS OR PSEUDO-AIDS?

"The only thing we have to fear is fear itself"

These words of Franklin D. Roosevelt may be appropriate as a thought-for-the-day for people with haemophilia as they consider their own position with regard to AIDS. A year or so ago, a heavy atmosphere of gloom descended whenever AIDS was discussed by them or their families but now we are able to study the subject with greater understanding and with more information about the risks involved. We have come to see that in some other groups one of the most dangerous features now is in the development of Pseudo-AIDS, anxiety about the condition which often arises through unfounded fears based on inaccurate information.

People with haemophilia have the advantage over these other groups in the community in coming to terms with the realities of the present situation.

To begin with, they are familiar with the atmosphere of hospitals, and are used to doctors and nurses examining them and administering treatment. They are acquainted with the language of medicine and generally are philosophical in receiving bad news.

EARLY DAYS

From their early days, they have had to accept interruptions in their schooling, their work and their social occasions, due to bleeding episodes.

In recent years, while enjoying the advantages of the improved life style brought about by the introduction of concentrates, they have also developed their own way of coping with difficulties from unexpected complications such as Hepatitis B.

All in all, people with haemophilia seem to have an in-built survival-factor which

enables them to accept and rise above new hazards as they occur.

So, of all people likely to be affected by AIDS, they have the strongest inner resources for coping with the problems created by this new feature in their lives.

However, we still have the major responsibility for ensuring that all concerned are providing adequate support for them as they negotiate this hurdle and we have come to see that much more attention must be given to counselling people with haemophilia, their families and their friends.

For instance, we have heard some distressing accounts of the insensitive way in which people have been told the result of their HTLVIII tests. It should now be firmly established practice for this information to be given only after proper preparation and with the opportunity for individual counselling to follow, when the information has been assimilated.

At the same time, opportunities must be found for members of the family and sexual partners to be given accurate information



CARNIVAL CHEQUE

about the nature of AIDS and the way in which it may be transmitted.

We know, and must help others to understand, that there is no risk in the normal day-to-day contacts which we have with each other and that there are now well-defined guidelines to be followed in sexual activity.

COUNSELLING

However, the transmission of information is not in itself sufficient, for people vary in the way in which they accept it. The counselling facility is of vital importance in allowing each person to express his own reaction and articulate his own anxieties, so that he may see how far his own life-style should be adjusted.

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Honorary chairman of Northampton & District Group Bob Emery is seen here accepting a cheque for £450 from Duston Carnival Queen. The money was the proceeds of Duston Carnival held on one of those rare sunny days last year—September 7. Duston is a small village near Northampton and the carnival was run in conjunction with a fête held at the local community centre, where Bob Emery ran a stall for the day.

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Opinions expressed in the Bulletin do not necessarily reflect those of the Haemophilia Society.