

## Historical Perspective

# Blood transfusion and blood banking in Malta: a historical perspective

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## Abstract

Curiosity and necessity are the main drivers in discoveries and innovations. By researching functions and analysing the human body, man was able to discover important techniques that are still used today in order to minimise pain and prolong life. One of these was the discovery of the composition of blood and its importance in saving lives. This article describes how blood transfusion and blood banking developed throughout the years in Malta.

## Introduction

The history of Maltese blood transfusion and blood banking dates back to the 1930s<sup>1</sup>, not long after blood transfusion was discovered by George Washington Crile in 1905.<sup>2</sup>

The first 3 blood groups recorded were between 1930 and 1931 at the Central Civil Hospital, which was situated at Floriana. By the year 1934, blood grouping was used for blood transfusion in cases of haemorrhage, where standard types of known anti-sera were kept in stock, thus matching of blood was made more quickly. The majority of blood donors were relatives of patients or students attending the hospital for practise.<sup>3</sup>

## Keywords

Malta, history, blood banking/transfusion

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A more organised Blood Transfusion Service (BTS) commenced during 1935.<sup>4</sup> On the 29<sup>th</sup> November 1935, the Government Gazette published a notice, requesting those who were prepared to offer their blood for transfusion in cases of great urgency at the Central Civil Hospital. During 1937, a scheme to make blood available was proposed, but it failed due to lack of donors. Dr. J. Ellul Accoucheur and Gynaecologist stated, "something more practical should be done to have donors at hand in cases of emergency, as obstetric cases are." He commented that "as the 2<sup>nd</sup> highest portion of mortality was due to acute anaemia from severe haemorrhage, immediate blood transfusions would have been really beneficial thus would lower the death rate."<sup>3</sup>

During World War II The Times of Malta of the 1<sup>th</sup> June 1939 reported the setting up of lists of volunteers for blood transfusion to be maintained in all ships where no money payment will be made, but naval donors of blood will be granted 48 hours leave.

On the 28<sup>th</sup> May 1940 a blood bank was established at Bugeja Hospital, previously known as the Bugeja Private Technical Institute situated at Hamrun. During this time, blood transfusions were made of whole blood. Dried plasma, which was brought from England, was used in our hospitals very soon after it was released in Britain and was found useful and effective in suitable cases.<sup>3</sup>

Frequent blood appeals appeared on local newspapers to encourage healthy persons of both genders between the ages of 16 and 45 years to act as blood donors for transfusion. Volunteers used to be tested and registered at the Head Office of the Medical and Health Department, 15 Strada Merchanta, Valletta, so in case of need, each would be asked to donate.<sup>5</sup>

Between 1942-1947, blood transfusions were performed mostly at Bugeja Hospital, which was an emergency establishment that remained the principal casualty and general surgical hospital, by the assistant surgeon Dr C. Podista` who in 1943, was recommended as permanent assistant surgeon at the BTS.<sup>6</sup>

In 1948, BTS was transferred from Bugeja Hospital to St. Luke's Hospital (SLH), G'Mangia. The first blood groups recorded at Victoria Hospital, Gozo were in 1949. Blood transfusion had become standard pre-operative treatment for patients with haemoglobin (Hgb) below 70%, in gynaecology, in 1952.<sup>3</sup>

As the need for blood transfusion grew further, in 1953 it was proposed to send a medical practitioner to the United

Kingdom for a course of training in Blood Transfusion work and administration.<sup>7</sup> Dr. F.T. Pullicino was appointed Blood Transfusion officer, in the Medical and Health Department on the 12<sup>th</sup> November, 1954.<sup>8</sup> Then in 1955, the governor confirmed him as Blood Transfusion Officer.<sup>9</sup>

The first documented records on Rhesus testing done on donated blood was in 1955.<sup>3</sup>

Blood transfusion used to be one of the branches of the pathology department. In order to provide spacious accommodation for all its branches this department was moved to the first floor at the outpatients department at SLH in October 1956.<sup>10</sup>

By the year 1958, dangers of transfusion were minimised. This contributed to satisfying the physicians' and surgeons' demands, which required a constant supply of blood, and that often caused several difficulties. The blood transfusion officer at SLH had a list of blood donors but these were not always available. Very often volunteers and friends came forward to donate blood for some particular patient but on occasions the stocks of blood were exhausted. When this happened, the Army Hospitals used to help with the supply of blood on a reciprocal agreement. During the year, no one was left without blood transfusion even though there were blood shortages.<sup>3</sup>

With effect from 16<sup>th</sup> March 1968, Dr. Roy Schembri Wismayer M.D. was appointed Registrar of Pathology and Blood Transfusion.<sup>3</sup>

On 14<sup>th</sup> June 1968, The Maltese Association of the Sovereign Military Order of Jerusalem, Rhodes and Malta (SMOM) with the cooperation of the Cathedral of Malta officially opened the Blood Bank at the Headquarters of the Order's local Association in St. Ursula Street in Valletta. A tribute was given to His Grace the Archbishop Mgr. M. Gonzi by the Association, for his idea of setting up the blood bank.<sup>11</sup>

A notice published for the Post of Registrar Pathology and Blood Transfusion to work at SLH, in the Maltese Government Gazette, 25<sup>th</sup> June 1971, stated that "the post will be tenable for a period of 3 years. On termination of appointments candidate will not be eligible for any pension, gratuity or retiring allowance. If it will be a female she will be required to resign her appointment on marriage."



**Figure 1:** The number of blood transfusions performed in Malta between 1942-1946<sup>3</sup>

The Times of Malta, 11<sup>th</sup> January, 1971 reported that SMOM declared the 'blood bank almost dry' due to heavy demands from hospitals. However, the report continued that two days later, sailors from the U.S.S. Grand Canyon and several other individuals helped out by donating blood.

On 25<sup>th</sup> September of 1971, The Times of Malta reported that, The Gozo Civic Council was in favour of introducing an ambulatory blood donor bank, on the grounds that the number of Gozitan patients requiring blood transfusions was small and blood plasma could not be stored for long periods.

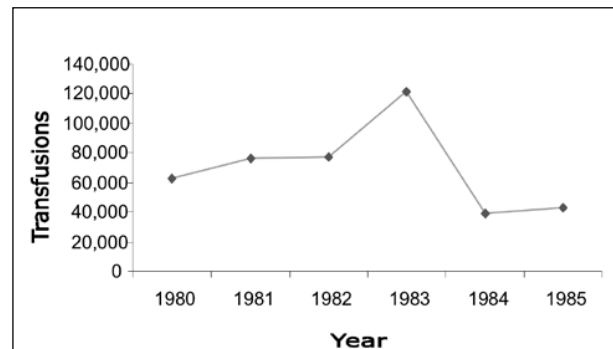
The SMOM blood bank passed completely into the hands of the Grand Magistry of Rome in 1973, and the first director was Dr. Paul Farrugia.<sup>12</sup> Then in 1974, the blood bank was relocated to Floriana.<sup>13</sup>

As a result of events in the health system in the late 1970's, the government employed a number of overseas doctors in the various areas of SLH. These included a Czech transfusionist - Dr Kiri Rondiak - in the Blood Transfusion Unit (BTU) of the Pathology department headed by Professor George Xuereb. Dr Rondiak was very interested in upgrading the unit, which at the time consisted of himself, a nurse and a technician. The unit was sited in two small rooms, one of which was used to collect and store blood, the other to carry out laboratory tests. There were no facilities for confidential donor interviews, component manufacture or other activities associated with transfusion.

A blood donor's Birthday Club was established in 1977, by SMOM on the initiative of the Medical Director Dr. P. Farrugia.<sup>14</sup>

During 1979, the hospital hired a number of University of Malta science graduates as analysts to work in the pathology laboratories. One of these - Dr. Albert Farrugia - was assigned to the BTU. He was trained by Rondiak in immunohaematological techniques, and following this, tube blood grouping, the immunoglobulin test and antibody screening were introduced, as well as full cross-matching.

Dr. Farrugia took an interest in blood products and in 1981 went to the UK to read for a PhD on the manufacture of Factor VIII at the University of Edinburgh. He worked in the BTS based in the Royal Infirmary. During 1981, the blood bank introduced the disposable plastic bags instead of the reusable glass bottles for blood collection, which were totally removed in November of the same year.



**Figure 2:** Number of Blood Transfusions held in Malta between 1980-1985<sup>3</sup>

Upon his return in 1984, Dr. Farrugia was appointed head of the BTU. At this time, AIDS became an issue in Malta and funds were made available for the expansion and development of the unit.

In 1986, the former nuns' quarters at SLH, were totally turned over to the unit and a major program of refurbishment led to the official opening of the new centre on the 26<sup>th</sup> November 1986, by the Minister of Health Dr. Vincent Moran.<sup>15</sup> Blood collection at the centre was expanded, to decrease the dependence on SMOM. During this time, the blood basic components - red cells, plasma, platelets and cryoprecipitate were produced. In addition, safety testing was introduced for HIV and HbsAg by Enzyme Immunoassay; the latter had been screened with an immunoelectrophoresis technique which was less insensitive. The staff was greatly expanded and training programs in all aspects were established.

In 1987, Dr. Farrugia took up a position in Australia and ultimately became an international authority in transfusion. Rondiak worked in Czechoslovakia and was active in the change which saw the emergence of the Czech Republic. Later in the same year, Dr. Roy Schembri Wismayer was appointed again as Blood Transfusion Officer.

The setting up of the Maltese Blood Donors Association (MBDA) took place in 1988. During the same year, the first Malta seminar on Blood Donation and Blood Transfusion was held for the occasion of World Blood Donors Day (WBDD). Modern equipment was installed and brought to the National Blood Transfusion Service (NBTS).<sup>16</sup> The completion and commissioning of a cold room at NBTS took place in 1991.<sup>3</sup>

The Blood transfusion/donation service commenced at Gozo General Hospital in 1992.<sup>17</sup>

The year 1997 saw a new way in collecting blood by using a Blood Mobile Unit that visits various places of work, villages and parishes. On the 3<sup>rd</sup> October 1997, the newspaper L-Orizzont reported that "The unit is 12 metres long and can hold up to 40 persons to donate blood within 5 hours; it was brought in Malta in October 1997 at a cost of around Lm100,000. It had various facilities for donors such as air conditioning, television, comfortable couches etc." The blood donation mobile unit was inaugurated in December 1997.<sup>3</sup> It was believed that by having

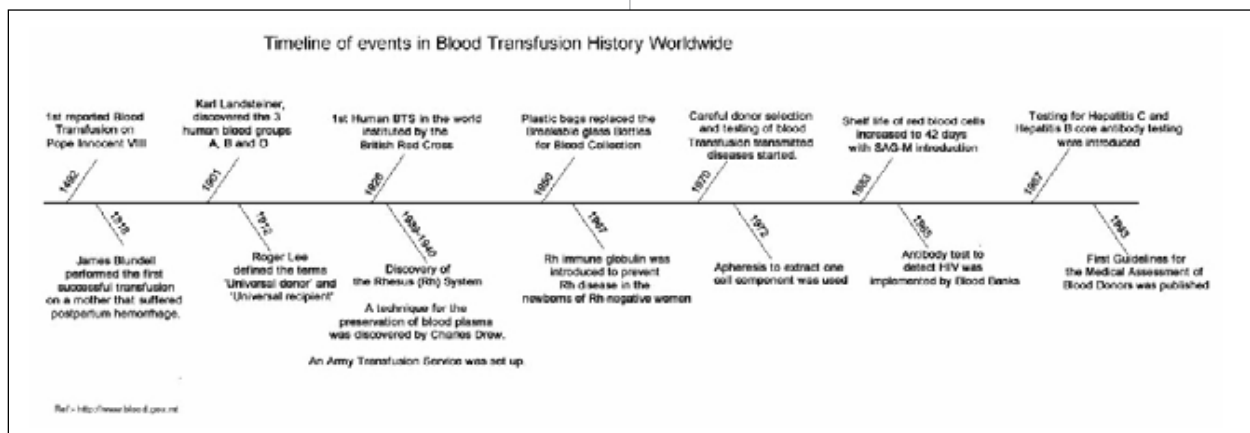
this unit the capability and flexibility of the blood donation service will increase.

Dr. Alex Aquilina was appointed responsible person and Medical Director of the NBTS in 1998. A new documentation system, and Blood Bank database management system were introduced during this year.

In 2002, The MBDA, in collaboration with the International Federation of Blood Donor Organisations (IFBDO), organised an international conference about co-operation by Mediterranean countries for the development of non-remunerated blood donation, in Malta. On May 23 for the occasion of WBDD of the same year, a ceremony was held at the NBTS, where President Prof. Guido de Marco delivered a speech stating that "Donating blood is not just a noble gesture, but something absolutely necessary for people with a severe blood disorder. For those who need to be transfused, life simply depends on the generosity of blood donors." A similar ceremony took place at the SMOM blood bank in Floriana, where Archbishop Mgr. Joseph Mercieca and the main political party secretaries Mr. Joe Saliba and Mr. Jimmy Magro attended.<sup>18</sup> By the end of the same year, SMOM moved to St. Philip Hospital, Santa Venera. The online edition of the Times of Malta ([www.timesofmalta.com](http://www.timesofmalta.com)) of the 7<sup>th</sup> August 2003 reported that, SMOM started to consider the future of its blood bank as blood donations had decreased significantly.

On the 14<sup>th</sup> of June 2005, the MBDA commemorated WBDD. For the occasion, President Dr. Edward Fenech Adami visited the blood mobile unit, while Prime Minister Dr. Lawrence Gonzi and opposition leader Dr. Alfred Sant visited the NBTS. Archbishop Mgr. Joseph Mercieca visited the SMOM blood bank.<sup>19</sup>

By the year 2006, Dr. Stefan Laspina was appointed consultant in charge of Transfusion Medicine. Thus, the transfusion service has been split in two; the blood establishment that is responsible for the recruitment of donors, collection, processing, testing and distribution of blood and the hospital blood bank that falls under the pathology department and is responsible for clinical issues. Also the department participated in an EU project (EU-Q-SOP) with the aim of improving and standardising transfusion services in Europe. This year also saw the introduction of the Human Blood and Transplant Act, which



regulates the collection and testing of human blood and blood components. Malta was accepted as a member of the European Blood Alliance (EBA). The SMOM blood bank closed down its' doors in 2006.<sup>20</sup>

The new donation area at G'Mangia was officially opened on the 14<sup>th</sup> May 2007. For the occasion, the Minister of Health Dr. Louis Deguara inaugurated the premises. Dr. Aquilina (Responsible Person NBTS) in his speech for the occasion stated "...the blood donor is that healthy person who voluntarily undergoes the inconvenience of spending time, sometimes hours and who donates a part of himself, blood, to save other people's lives. These people deserve the gratitude of our society, they deserve the best. This is one way of showing our gratitude for the lives they have helped to save..." Professor E. Seifried (President International Society of Blood Transfusion) and Fr. B. Mangion (ex-chaplain at SLH) who blessed the new premises were also invited. During this year, post graduate courses in transfusion medicine started at the University of Malta. The Hospital Blood Bank has moved to the new centre at Mater Dei Hospital.

An external audit for licensing purpose was carried out for the first time in 2008, to assess the NBTS conformance to European Blood Banking legislation and standards. The department started to participate in 3 projects: 1) Donor management – Best practice, on inspections and the production of a training manual for inspections (EUBIS), 2) DOMAINE applied donor management, and 3) EU-Q-SOP (SOP manual). A meeting for the media members was held for the first time on WBDD of the mentioned year. This event was kept in the departments' calendar for the years that followed.<sup>20</sup>

On 27<sup>th</sup> January 2009, *Times of Malta* reported that the completely refurbished blood mobile unit was inaugurated by Parliamentary Secretary for Health Dr. Joe Cassar.

H.E. President Dr. George Abela attended and addressed the FIODS General Assembly held in Malta, in April 2009.<sup>21</sup> During the same month, the President visited the new blood mobile unit as part of the blood drive campaign organised by the MBDA at San Anton gardens.<sup>22</sup>

As a result of a successful external audit, NBTS was officially granted a license to operate according to EU regulations in 2009.

A European Barometer published on the 11<sup>th</sup> of June 2010 showed that the Maltese have second highest willingness to donate blood among Europeans. With regards to people perceptions on blood transfusions safety, in the same survey, Malta came first with (76%) who think that blood transfusions are now safer than they were 11 years ago.<sup>23</sup> For the occasion of WBDD 2010, a meeting was held at the NBTS premises for all those who help us collecting blood by organising blood drives.

In August 2010, the MBDA in collaboration with IYC, FIODS, IFBDO organized the 10<sup>th</sup> Youth Forum. Also, in September 2010 a board meeting of EBA was held in Malta.<sup>24</sup>

The NBTS kept abreast with latest technologies to provide safe and sustainable blood in a world where the demand of is ever growing in all developed countries due to longevity of life. Future targets should include a national haemovigilance system

to improve the safety of transfusion and reduce unnecessary transfusions.<sup>26</sup>

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