Patient

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Organ donation

The first human transplant was a cornea harvested from a cadaver in 1905. Blood transfusion became established in 1918 and the first successful human kidney transplant was in 1954. The first heart transplant took place in 1967.

There are three different ways of donating an organ:

- The two methods of deceased organ donation can include kidneys, heart, liver, lungs, pancreas, small bowel, corneas and other tissues (eg, heart valves, skin, bone and tendons).
    - Donation after brainstem death: this includes a potential donor who has suffered brainstem death (eg, as a result of cerebral haemorrhage, severe head injury or stroke) and is on a ventilator. Death is diagnosed by brainstem tests.
    - Donation after circulatory death: a potential donor who dies in hospital but is not on a ventilator. The organs to be donated must be removed within a few minutes of the heart stopping to prevent hypoxic damage.

- Living organ donation:
  - Usually involves a family member donating an organ to another family member or partner. However, the donor may be 'an altruistic donor', who is not related to the patient.
  - Kidneys are the most common organ donated by a living person.
  - The UK Living Kidney Sharing Scheme allows family members who wish to donate but are not a match to pair with other recipients needing a transplant.[1]
  - Part of the liver, bone (to be used for bone grafts) and amniotic membrane (used in eye surgeries to promote wound healing) can also be donated from a living person. The placenta (with the amniotic membrane) can be donated when a baby is delivered by caesarean section.
  - Bone marrow transplants can be autologous or allogeneic.[2]

Under an opt-out system there is a presumption in favour of consent for organ donation unless a person has registered an objection in advance. The UK previously had an opt-in organ donation system where a person has to register their consent to donate their organs in the event of their death. Wales changed to an opt-out system in December 2015,[3] , England changed to the same system in May 2020[4] and Scotland in March 2021.[5]

What can be donated?

Kidneys, heart, liver, lungs, pancreas, small bowel, corneas, heart valves and bone can all be transplanted. Skin can be used to treat patients with severe burns.

National Institute for Health and Care Excellence (NICE) guidance[6]

NICE guidelines were published in 2011 suggesting improvements in donor identification and consent rates for deceased organ donation. The guidelines acknowledge the complexities involved in obtaining consent from patients around the time of death. They also highlight the obligations which consultant staff have when considering organ donation as part of end of life care.

Consent is an important issue. Informed decisions about end of life care, including organ donation, should be made by patients with capacity after discussion with their healthcare providers; in many cases, parents, guardians and families should also be involved unless this is against the patient's express wishes.

If the donor is under 16, the 'Seeking consent: working with children' guidelines should be followed.

If potential donors lack capacity, the following protocols apply:

- The Department of Health's guidelines on consent.[7]
- The code of practice accompanying the Mental Capacity Act.[8]
- In Wales, The Welsh government's advice on consent.[9]

Identifying donors
Potential donors should be identified as early as possible, based on the following criteria:.

- The patient is receiving end of life care, has had a catastrophic brain injury, there is absence of one or more cranial nerve reflexes **and** a Glasgow Coma Scale (GCS) score of 4 or less that is not explained by sedation.
- It is expected that withdrawal of life-sustaining treatment would result in circulatory death.

Once these criteria are met, the healthcare team should initiate discussions with the specialist nurse for organ donation.

Assessing best interests
For patients who lack capacity, an assessment will need to be made as to whether organ donation would be in the patient's best interest. Life-maintaining and sustaining treatments should be continued and the patient should be kept clinically stable whilst their wishes and clinical potential are explored, aided by clinical and legal specialist advice.

When assessing best interests, consider:

- What is known about the patient's views, especially if an advance statement or registration on the NHS Organ Donor Register has been made or the patient has expressed views to family members or friends.
- The beliefs or values likely to influence the patient if they had capacity to make the decision.
- Any other factors likely to influence the patient if they had capacity.
- The views of family, friends and anyone else involved in the provision of care.
- Anyone identified by the patient to be consulted about such decisions.

The multidisciplinary team (MDT)
This should consist of the medical and nursing team caring for the patient, the specialist donor nurse and any appropriate faith representative(s). Continuity of care should be maintained wherever possible. The MDT should have the skills and knowledge necessary to inform and support those close to the patient.

Before approaching those close to the patient, check:

- Potential for donation.
- The NHS Organ Donor Register/Lasting Powers of Attorney for health and welfare/advance statements.
- Coronial, legal, safeguarding issues.
- Clinical history.
- Identity of key family members.
- Need for family support - faith/advocate/translator.

The discussion with those close to the patient should be conducted in a sensitive, patient and caring manner, at a mutually convenient time. They should already be aware that death has occurred or is impending. The issue should be approached in a positive way and negative comments or apologies should be avoided (eg, 'I am sorry to have to broach this subject with you').

Discussion should include:

- The likely wishes of the patient if they had been able to express them.
- An assurance that the standard of care will not change irrespective of the decision.
- What criteria will be used to determine when death has occurred.
- What likely interventions to expect between consent being given and the organ(s) being retrieved.
- Coronial and legislative issues.
- Consent documentation.
- The fact that donation may not occur despite consent being given.

The Organ Donation (Deemed Consent) Act 2019 has created a system where adults are assumed to consent to organ donation unless they have specifically opted out (or where a family member/partner/longstanding friend can show that the patient would not have wanted to be an organ donor.[10]

Living donation

The shortage of organs has led to an increasing number of organ donations by living people. The most common organ donated by a living person is a kidney.

The proportion of live donor kidney transplants has been increasing. 956 live donor kidney transplants took place for the year ending March 2015, accounting for about a third of all kidney transplants.[11]

Most living donor kidney transplants are between close family members because they usually provide the best match. Under rules which came into force throughout the UK on 1 September 2006, 'altruistic' donations - those from living people who simply want to donate a kidney but not to any particular person - have been permitted.[12]

Altruistic donors will have to have a psychiatric assessment in addition to the usual medical and surgical preparation. Patients with a friend or relative prepared to donate a kidney, but whose tissue is found to be incompatible, will be able to be paired with another couple in the same situation. If the donor in each couple is a match for the patient in the other, the transplant could go ahead. For a pooled donation, there would be a chain of several pairs.

Part of a liver can be transplanted and it is also possible to donate a segment of a lung.[13] [14] In a very small number of cases, part of the small bowel can be transplanted.[15]

Non-heartbeating donors

Kidneys transplanted from living donors were thought to have a better chance of long-term survival than those transplanted from people who have died. In an effort to increase numbers of organs for donation, several centres are now retrieving organs from non-heartbeating donors as well as conventional brain-dead donors.[16]

These organs come from patients who have a cardiac arrest and cannot be resuscitated, whose kidneys are flushed with a cold preserving solution so that the kidneys can then be removed before irreversible damage occurs. With careful selection of donors and appropriate infrastructure, these kidneys have been shown to perform as well as kidneys from brain-dead donors.[17] The background to the changes includes evidence of variation in access to kidneys and recent improvements in immunosuppression.

The NHS Organ Donor Register

This is the confidential, computerised database which holds the wishes of people who have decided that, after their death, they want to donate organs. The register is used after a person has died, to help establish whether they wanted to donate and, if so, which organs.

How to become an organ donor

You can register a decision to become a donor via the referenced website or by calling the NHS Organ Donor Line: 0300 123 23 23. The Minicom number, if hard of hearing, is 0845 730 0106.[18] The lines are open 24 hours, 365 days a year. The calls are charged at the contracted rate for local calls.

Other opportunities to register include when:

- Registering for a driving licence.
- Applying for a Boots Advantage card.
- Registering at a GP surgery.
- Registering for a European Health Insurance Card (EHIC).

Donor cards, which can be carried, are available at some surgeries and hospital departments.

Organ allocation

The shortage of organs has highlighted inequities in access to deceased donor kidneys and, after prolonged controversy, the national kidney allocation scheme administered by UK Transplant changed from April 2006. The main changes, campaigned for by representatives of patients and professional groups, are thought to represent a fairer deal for patients in that they take more account of waiting time and less of tissue type matching.[19] When an organ becomes available anywhere in the country, the duty office at UK Transplant is notified immediately.

Staff identify whether there are any urgent cases, with blood group or age compatibility, in any of the transplant centres. Sometimes there are no suitable patients anywhere in the UK but a reciprocal arrangement with the European Union (EU) enables donor organs to be offered to other EU countries.

Priority

Organs donated from children generally go to child patients to ensure the best match in size but, when there are no suitable child recipients, organs from young people are given to adults.

All kidneys from deceased heartbeating donors are allocated according to a national system. This is based on five tiers:

- Complete matches for children - difficult to match patients.
- Complete matches for children - others.
- Complete matches for adults - difficult to match patients.
- Complete matches for adults - others and well-matched children.
- All other eligible patients (adults and children).

Within the first two tiers, children are prioritised according to their waiting time. In the remaining tiers, patients are prioritised according to a points score, whereby organs are allocated to the patients with the highest number of points. The score for an individual patient is based on a number of factors:

- Time on the waiting list (favouring patients who have waited longest).
- Tissue match and age combined (favouring well-matched transplants for younger patients).
- The age difference between donor and patient (favouring closer age matches).
- Location of the patient relative to the donor (favouring patients who are closer in order to minimise the transportation time of the kidney).
- Three other factors relating to blood group match and rareness of the patient's tissue type.

The Human Tissue Act 2004

This legislation was introduced to regulate the removal, storage and use of human organs and tissue. The Human Tissue Act 2004 received Royal Assent on 15th November 2004.[20] It provides safeguards and penalties to prevent retention of children's organs without parental consent.

Further reading

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