



Complete Summary

GUIDELINE TITLE

Assessment of donors with sub-optimal kidney function/structure.

BIBLIOGRAPHIC SOURCE(S)

Assessment of donors with sub-optimal kidney function/structure.
Nephrology 2005 Oct;10(S4):S120-4.

Assessment of donors with sub-optimal kidney function/structure. Westmead NSW (Australia): CARI - Caring for Australians with Renal Impairment; 2005 Jul. 12 p. [20 references]

GUIDELINE STATUS

This is the current release of the guideline.

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SCOPE

DISEASE/CONDITION(S)

- Kidney donation
- Renal transplantation

GUIDELINE CATEGORY

Evaluation
Management
Risk Assessment
Treatment

CLINICAL SPECIALTY

Critical Care
Emergency Medicine
Nephrology
Pathology
Pediatrics
Surgery
Urology

INTENDED USERS

Advanced Practice Nurses
Nurses
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

To explore the assessment of extended criteria donors for renal transplantation

TARGET POPULATION

Patients awaiting renal transplantation

INTERVENTIONS AND PRACTICES CONSIDERED

Evaluation

Pre-implant assessment of extended criteria donor kidneys

- Age, renal function, renal structure, co-morbidities, medication history
 - Optimal
 - Marginal
- Procurement issues
- Renal allograft biopsy
- Surgical assessment
- Radiologic assessment
- Appropriateness for single versus double transplantation

Risk Assessment/Prognosis

1. Categorize donor kidneys as optimal versus marginal
2. Assessment of risks versus benefits of extended criteria donor renal transplantation

Management/Treatment

1. Donor organ procurement
2. Organ allocation issues
 - Cold ischemia time
 - Non-heart-beating donors
 - Extended criteria donors

- Dual transplantation
- Pediatric donors

MAJOR OUTCOMES CONSIDERED

- Allograft survival
- Patient survival
- Delayed graft function
- Cold ischemia time
- Discard rate of potential renal allografts

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Databases searched: Medical Subject Headings (MeSH) terms and text words for kidney transplantation and cadaveric organs were combined with MeSH terms and text words for diabetes, hypertension, viruses, bacterial infections, non-heart beating, marginal donor, paediatric donor, aged donor, and donor with prior cancer. These were then combined with the Cochrane highly sensitive search strategy for randomized controlled trials and search filters for identifying prognosis and aetiology studies. The search was carried out in Medline (1966 – November Week 2 2003). The Cochrane Renal Group Trials Register was also searched for trials not indexed in Medline.

Date of searches: 12 December 2003.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Levels of Evidence

Level I: Evidence obtained from a systematic review of all relevant randomized controlled trials (RCTs)

Level II: Evidence obtained from at least one properly designed RCT

Level III: Evidence obtained from well-designed pseudo-randomized controlled trials (alternate allocation or some other method); comparative studies with concurrent controls and allocation not randomized, cohort studies, case-control studies, interrupted time series with a control group; comparative studies with historical control, two or more single arm studies, interrupted time series without a parallel control group

Level IV: Evidence obtained from case series, either post-test or pretest/post-test

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Comparison with Guidelines from Other Groups
Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Recommendations of Others. Recommendations regarding assessment of extended criteria donors for renal transplantation from the following groups were discussed: Kidney Disease Outcomes Quality Initiative, Canadian Society of Nephrology, Transplant Society of Australia and New Zealand, The United Network for Organ Sharing, The Expanded Kidney Donor, Eurotransplant International

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Definitions for the levels of evidence (I–IV) can be found at the end of the "Major Recommendations" field.

Guidelines

No recommendations possible based on Level I or II evidence

Suggestions for Clinical Care

(Suggestions are based on Level III and IV sources)

- Procurement of renal allografts from extended criteria donors should continue to be actively pursued.
- Assessment of such potential renal allografts should take into account donor factors, issues at the time of procurement, plus the result of a pre-implantation renal allograft biopsy.
- Use of extended criteria donors' renal allografts should only be in the setting of recipient informed consent, weighing up the risks versus benefits.
- The decision to accept a deceased donor as suitable for renal donation is the responsibility of both nephrologists and renal surgeons experienced in renal transplantation.
- The approach to a deceased organ donor should be to consider age, renal function and renal structure, other co-morbidities, to categorise the kidneys into optimal or marginal.
- Extended criteria donor (ECD) kidneys are those which after transplantation, lead to a significantly worse outcome as defined by poor graft survival or inferior renal function.
- The predominant features of ECD kidneys are reduced donor renal function and/or structural abnormality.
- These kidneys are usually procured from donors with cumulative effects of the following characteristics: age > 55 years, pre-existing hypertension, diabetes mellitus, history of vascular disease, elevated or rising serum creatinine, history of systemic disease or medications known to affect the kidneys, and non-heart-beating donor.
- Assessment of ECD kidneys should include surgical assessment at procurement with particular note of renal size, presence of scars/masses, vasculature, and organ perfusion.
- Assessment of renal function is by estimated creatinine clearance using the best admission serum creatinine.
- Histological assessment of procurement needle biopsy is by taking particular note of percentage glomerulosclerosis, arteriolar disease and interstitial fibrosis. Any identified lesion should also be biopsied.
- Assessment of ECD kidneys should determine whether the kidney is acceptable for single transplantation. If not, a decision should be made to

determine whether the kidneys are suitable for double transplantation. Double transplantation should not be considered unless the donor creatinine clearance is < 80 mL/min, and the percentage glomerulosclerosis is 20% to 40%, or severe vascular disease is present. Organs not transplanted should be managed according to the wishes of the family and or the requirements of the coroner.

Allocation Issues

- Attention should be made to minimising the cold ischaemic time of ECD kidneys.
- Non-heart-beating donor kidneys and dual transplants should be allocated within the state of donation.
- There is conflicting evidence on the value of allocating ECD kidneys to either younger or older recipients.
- Education regarding the possibility of transplantation with an ECD or dual transplant including the risks and benefits of the procedure should be a prerequisite of entry onto the transplant waiting list. Recipients of ECD or dual kidneys must give specific informed consent prior to transplantation.
- Kidneys from paediatric donors < 15 kg and/or < 5 years should be considered for en-bloc transplantation.
- Beware of inotropes and either microscopic haematuria (dysmorphic red cells) or proteinuria in the donor.
- Radiological means of assessing donor kidneys prior to procurement may be of limited benefit.
- Backtable biopsy preferably involves a needle biopsy (not wedge biopsy) through the upper pole cortex.

Definitions:

Levels of Evidence

Level I: Evidence obtained from a systematic review of all relevant randomized controlled trials (RCTs)

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Level III: Evidence obtained from well-designed pseudo-randomized controlled trials (alternate allocation or some other method); comparative studies with concurrent controls and allocation not randomized, cohort studies, case-control studies, interrupted time series with a control group; comparative studies with historical control, two or more single arm studies, interrupted time series without a parallel control group

Level IV: Evidence obtained from case series, either post-test or pretest/post-test

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations").

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

- Appropriate assessment of extended criteria donors for use in renal transplantation
- Decreased discardment of potential renal allografts
- If successful, may confer a survival advantage over that of the potential recipients remaining on dialysis

POTENTIAL HARMS

Increased risk of graft failure

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

Implementation and Audit

1. All State/Territory & New Zealand Organ Procurement Agencies need to be aware of the Caring for Australians with Renal Impairment (CARI) Deceased Kidney Donor Suitability guidelines.
2. All State/Territory & New Zealand Organ Procurement Agencies should consider developing and implementing protocols for procurement biopsy of extended criteria donor (ECD) kidneys.
3. Consideration should be given by all State/Territory & New Zealand Organ Procurement Agencies to performing an annual audit of the number of ECD kidneys procured on a per annum basis, versus the number of ECD kidneys not procured or discarded. Results of such audits should be compared to published international benchmarks.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Living with Illness

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

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ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2005 Oct

GUIDELINE DEVELOPER(S)

Caring for Australasians with Renal Impairment - Disease Specific Society

SOURCE(S) OF FUNDING

Industry-sponsored funding administered through Kidney Health Australia

GUIDELINE COMMITTEE

Not stated

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

All guideline writers are required to fill out a declaration of conflict of interest.

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the [Caring for Australasians with Renal Impairment \(CARI\) Web site](#).

Print copies: Available from Caring for Australasians with Renal Impairment, Locked Bag 4001, Centre for Kidney Research, Westmead NSW, Australia 2145

AVAILABILITY OF COMPANION DOCUMENTS

The following is available:

- The CARI guidelines. A guide for writers. Caring for Australasians with Renal Impairment. 2006 May. 6 p.

Electronic copies: Available from the [Caring for Australasians with Renal Impairment \(CARI\) Web site](#).

PATIENT RESOURCES

None available

NGC STATUS

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