SDC, Search Strategies: Embase Search Strategy <1984 to 2012 Week 50>

1 exp kidney transplantation/
2 kidney transplant$.tw.
3 renal transplant$.tw.
4 kidney graft$.tw.
5 renal graft$.tw.
6 kidney allograft$.tw.
7 renal allograft$.tw.
8 1 or 2 or 3 or 4 or 5 or 6 or 7
9 exp fracture/
10 exp bone/
11 posttraumatic osteoporosis/ or primary osteoporosis/ or senile osteoporosis/ or involutional osteoporosis/ or secondary osteoporosis/ or idiopathic osteoporosis/ or osteoporosis/ or corticosteroid induced osteoporosis/ or osteoporosis.mp. or postmenopause osteoporosis/
12 osteoporosis$.tw.
13 fracture$.tw.
14 (mineral$ adj2 bone$ adj2 disease$).tw.
15 exp falling/
16 fall$.tw.
17 BMD.tw.
18 exp renal osteodystrophy/co, di, dm, dr, dt, ep, et, pc, si, su, thYOU
19 renal osteodystrophy$.tw.
20 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19
21 8 and 20
22 limit 21 to yr="1984 -Current"
23 limit 22 to english language
SDC, Search Strategies (continued): Medline Search Strategy (1946 to November Week 3 2012)

1. exp Kidney Transplantation/
2. kidney transplant$.tw.
3. renal transplant$.tw.
4. kidney graft$.tw.
5. renal graft$.tw.
6. kidney allograft$.tw.
7. renal allograft$.tw.
8. 1 or 2 or 3 or 4 or 5 or 6 or 7
9. exp Fractures, Bone/
10. fracture$.tw.
11. exp Osteoporosis/
12. osteoporosis$.tw.
13. exp Renal Osteodystrophy/
14. exp Accidental Falls/
15. fall$.tw.
16. 9 or 10 or 11 or 12 or 13 or 14 or 15
17. 8 and 16

18 limit 17 to yr="1984 -Current"

19 limit 18 to english
SDC, Data Abstraction Form

A. STUDY IDENTIFIERS

A1. Primary Author’s Name: __________________________

A2. Year Published: __________

A3. Country (where fracture data was obtained): _________________

A4. Was a funding source(s) reported in the manuscript:

☐ Yes
☐ No
☐ Unknown

A4.1. If yes, what was the source:
(check all that apply)

☐ Public (peer reviewed grant) funding:

☐ Private (i.e. industry) funding:

☐ Other: ________________

B. STUDY DESIGN/STUDY SCOPE

B1. Type of Study:

☐ Retrospective

☐ Prospective

B2. What was the study scope?

☐ Single-center

☐ Multi-center

☐ Database

*If selected that a database was used please specify which database. (i.e. United States Renal Data System): _____________________
C. STUDY CHARACTERISTICS

C1. How many adult kidney transplant recipients were included? (if the total number of recipients were categorized, i.e. living versus deceased, please report)

☐ Yes

☐ No

C2. Did the study include kidney-pancreas recipients?

☐ Yes

☐ No

C2.1. If yes, please report on the number of kidney-pancreas recipients and the number of kidney-only recipients._____________________________________________

C3. What was the median/mean length of follow-up? (include SD if possible):___________________

C4. What year(s) did recipients receive their transplant?__________________________

C5. What was time zero (i.e. transplant date)?________________________

C6. What percentage of participants were female/male?________________________

C7. What was the mean age? (include SD):____________________

C8. What percentage of transplant recipients had diabetes? Report type 1 and type 2 diabetes separately if possible.________________________

C9. Were individuals with multiple kidney transplants included?

☐ Yes

☐ No

C9.1 If yes, indicate how many kidney retransplants were allowed:______

C10. List all fracture locations that were included/excluded.
C11. Was a definition of fragility fracture included?

- Yes
- No

C11.1. If yes, please provide the definition.

C12. Were traumatic fractures included?

- Yes
- No

C12.1. If yes, were traumatic and low trauma fractures reported separately?

- Yes
- No

C13. How was the diagnosis of fracture ascertained (i.e. radiograph, survey, codes (i.e. ICD))?

C14. List the event(s) that subjects were censored at.
D. ANALYSIS AND RESULTS

D1. Were multiple fractures per person included?

☐ Yes

☐ No

D2. State the incidence/cumulative incidence of fracture. If the incidence of fracture is reported differently for different subgroups (i.e. male versus female) please report separately. ______________________

D3. State the most common fracture location (state the number of fractures that occurred at that location and the percentage) (NOTE: please indicate if the most common fracture location was the only location assessed): ______________________

D4. State the number and percentage of fractures for each location.

D5. If reported, please comment on the time to fracture (i.e. there was a linear increase in fracture after transplant OR report mean/median time to fracture).

D6. Was the number of recipients lost to follow-up reported?

☐ Yes

☐ No

D6.1. If yes, were reasons for loss to follow-up reported (i.e. death)?

☐ Yes

☐ No
D.6.2. If yes, report on the numbers lost to follow-up for each reason.

D7. Did the study report on risk factors for fracture using a multivariable technique (i.e. used univariate regression then included the significant risk factors from the univariate analysis into the multivariable regression)?

☐ Yes
☐ No

D7.1. If yes, list the nonsignificant risk factors.

D7.2. If yes, list the significant risk factors (including the effect measure and confidence interval).

D8. Additional Comments:
SDC, Modified Downs and Black checklist for non-randomized studies (Prospective and Retrospective Studies)

<table>
<thead>
<tr>
<th>ALL CRITERIA</th>
<th>DESCRIPTION OF CRITERIA (with additional explanation as required, determined by consensus raters)</th>
<th>POSSIBLE ANSWERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Is the hypothesis/aim/objective of the study clearly described? Must be explicit</td>
<td>Yes/No</td>
</tr>
<tr>
<td>2</td>
<td>Are the main outcomes to be measured clearly described in the Introduction or Methods section? If the main outcomes are first mentioned in the Results section, the question should be answered no. ALL primary outcomes should be described for YES</td>
<td>Yes/No</td>
</tr>
<tr>
<td>3</td>
<td>Are the characteristics of the patients included in the study clearly described? In cohort studies and trials, inclusion and/or exclusion criteria should be given. In case-control studies, a case-definition and the source for controls should be given. Single case studies must state source of patient. *Are baseline characteristics of individuals clearly described.</td>
<td>Yes/No</td>
</tr>
<tr>
<td>4</td>
<td>Are the main findings of the study clearly described? Simple outcome data (including denominators and numerators) should be reported for all major findings so that the reader can check the major analyses and conclusions.</td>
<td>Yes/No</td>
</tr>
<tr>
<td>5</td>
<td>Does the study provide estimates of the random variability in the data for the main outcomes? In nonnormally distributed data the inter-quartile range of results should be reported. In normally distributed data the standard error, standard deviation or confidence intervals should be reported</td>
<td>Yes/No</td>
</tr>
<tr>
<td>6</td>
<td>Have the characteristics of patients lost to follow-up been described? If not explicit = NO. RETROSPECTIVE – if not described = UTD; if not explicit re: numbers agreeing to participate = NO. Needs to be &gt;85%</td>
<td>Yes/No</td>
</tr>
<tr>
<td>7</td>
<td>Have actual probability values been reported (e.g. 0.035 rather than &lt;0.05) for the main outcomes except where the probability value is less than 0.001?</td>
<td>Yes/No</td>
</tr>
<tr>
<td>8</td>
<td>Were the subjects asked to participate in the study representative of the entire population from which they were recruited? The study must identify the source population for patients and describe how the patients were selected.</td>
<td>Yes/No/UTD</td>
</tr>
<tr>
<td>9</td>
<td>Were those subjects who were prepared to participate representative of the entire population from which they were recruited? The proportion of those asked who agreed should be stated.</td>
<td>Yes/No/UTD</td>
</tr>
<tr>
<td>Question</td>
<td>Yes/No/UTD</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>Were the staff, places, and facilities where the patients were treated,</td>
<td>Yes/No/UTD</td>
<td></td>
</tr>
<tr>
<td>representative of the treatment the majority of patients receive? For</td>
<td></td>
<td></td>
</tr>
<tr>
<td>the question to be answered yes the study should demonstrate that the</td>
<td></td>
<td></td>
</tr>
<tr>
<td>intervention was representative of that in use in the source population.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Must state type of hospital and country for YES.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If any of the results of the study were based on “data dredging”, was</td>
<td>Yes/No/UTD</td>
<td></td>
</tr>
<tr>
<td>this made clear? Any analyses that had not been planned at the outset of</td>
<td></td>
<td></td>
</tr>
<tr>
<td>the study should be clearly indicated. Retrospective = NO. Prospective</td>
<td></td>
<td></td>
</tr>
<tr>
<td>= YES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In trials and cohort studies, do the analyses adjust for different</td>
<td>Yes/No/UTD</td>
<td></td>
</tr>
<tr>
<td>lengths of follow-up of patients, or in case-control studies, is the</td>
<td></td>
<td></td>
</tr>
<tr>
<td>time period between the intervention and outcome the same for cases and</td>
<td></td>
<td></td>
</tr>
<tr>
<td>controls? Where follow-up was the same for all study patients the answer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>should yes. Studies where differences in follow-up are ignored should be</td>
<td></td>
<td></td>
</tr>
<tr>
<td>answered no. Acceptable range 1 yr follow up = 1 month each way; 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>years follow up = 2 months; 3 years follow up = 3 months........10years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>follow up = 10 months</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Were the statistical tests used to assess the main outcomes appropriate?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The statistical techniques used must be appropriate to the data. If no</td>
<td>Yes/No/UTD</td>
<td></td>
</tr>
<tr>
<td>tests done, but would have been appropriate to do = NO</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Were the main outcome measures used accurate (valid and reliable)? YES=</td>
<td>Yes/No/UTD</td>
<td></td>
</tr>
<tr>
<td>used radiographs, codes, patient records or multiple methods (i.e.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>questionnaires verified by codes). NO=questionnaires only used to</td>
<td></td>
<td></td>
</tr>
<tr>
<td>determine if patient fractured. UTD=no method was reported</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Was a case definition of fracture provided? YES=stated that a fracture</td>
<td>Yes/No</td>
<td></td>
</tr>
<tr>
<td>was a fall from standing height or less and/or stated that they</td>
<td>NO</td>
<td></td>
</tr>
<tr>
<td>excluded/included high trauma fractures NO=not reported</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Was there adequate adjustment for confounding in the analyses from which</td>
<td></td>
<td></td>
</tr>
<tr>
<td>the main findings were drawn? In nonrandomised studies if the effect of</td>
<td>Yes/No/UTD</td>
<td></td>
</tr>
<tr>
<td>the main confounders was not investigated or no adjustment was made in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>the final analyses the question should be answered as NO. If no</td>
<td></td>
<td></td>
</tr>
<tr>
<td>significant difference between groups shown then YES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Were losses of patients to follow-up taken into account? If the numbers</td>
<td>Yes/No/UTD</td>
<td></td>
</tr>
<tr>
<td>of patients lost to follow-up are not reported = unable to determine.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Score:** \( \frac{\text{YES}}{1} + \frac{\text{NO}}{0} + \frac{\text{UTD (unable to determine)}}{0} = \) \( \frac{\text{Total Score}}{17} \)

*Items that have been added.

Source: Downs SH, Black N. The feasibility of creating a checklist for the assessment of the methodological quality both of randomized and non-randomised studies of health care interventions. *J Epidemiol Community Health* 1998; 52: 377.