

Appendix E: RCT Methodological Quality- Pharmacological and Nonpharmacological interventions Prevention and Treatment

Class: Cholinesterase inhibitors

Donepezil review

<i>Study</i>	<i>Sequence Generation</i>	<i>Allocation Concealment</i>	<i>Blinding</i>	<i>Attrition, ITT and Power Calculation</i>	<i>Baseline Comparable</i>
Liptzin 2005	Not stated.	Unclear.	<p>Patient: yes double blind trial.</p> <p>Outcome assessor: Yes; The investigators, research assistants and nursing staff were blind to the study drug..</p>	<p>Power calculation: Yes.</p> <p>Attrition: No ($\leq 20\%$ loss to follow up).</p> <p>ITT: Yes (all followed).</p>	Some comparable; Comparable on age, ethnicity, surgeon, joint operated on, MMSE scores..

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Class: Cholinesterase inhibitors

Rivastigmine review

<i>Study</i>	<i>Sequence Generation</i>	<i>Allocation Concealment</i>	<i>Blinding</i>	<i>Attrition, ITT and Power Calculation</i>	<i>Baseline Comparable</i>
Gamberini 2009	Adequate-random numbers table or statistical table.	Partial - central randomisation: vague statement of central randomisation.	Patient: yes double blind trial. Outcome assessor: Yes.	Power calculation: Yes. Attrition: No ($\leq 20\%$ loss to follow up). ITT: No (available case analysis).	Yes; comparable on age, gender, type of surgery, baseline MMSE.
Moretti 2004	Not stated.	Not stated.	Patient: not stated. Outcome assessor: Unclear.	Power calculation: Not stated. Attrition: No ($\leq 20\%$ loss to follow up). ITT: Unclear/not stated.	Yes; Comparable on BEHAVE-AS, CDR and CIRS scales; comedications and concomitant illnesses; matched for age and education level..

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Class: Typical antipsychotics

Haloperidol review

<i>Study</i>	<i>Sequence Generation</i>	<i>Allocation Concealment</i>	<i>Blinding</i>	<i>Attrition, ITT and Power Calculation</i>	<i>Baseline Comparable</i>
Hu 2006	Not stated.	Not stated.	Patient: not stated. Outcome assessor: Unclear.	Power calculation: Not stated. Attrition: No ($\leq 20\%$ loss to follow up). ITT: No (available case analysis).	Yes; comparable on age, gender, pre-treatment severity of mental symptoms.
Kalisvaart 2005	Adequate-computer or calculator generated sequence.	Patial- not met all requirements:serially numbered/identical/allocated sequentially.	Patient: yes double blind trial. Outcome assessor: Yes; research team blinded; checked by interviewing the assessors.	Power calculation: Yes. Attrition: No ($\leq 20\%$ loss to follow up). ITT: Yes (all included in analysis, no details).	Yes; Comparable on age, gender, mini-mental examination score, visual acuity, health scores, geriatric depression scale, Barthel Index, baseline risk of delirium, hospital days.
Kaneko 1999	Unclear; Block of drugs by computer generated randomised code.	Partial- not met all requirements: sealed/numbered/opaque envelopes; coded envelopes prepacked by hospital pharmacist & stored at pharmacy & investigation site;	Patient: not stated. Outcome assessor: Unclear.	Power calculation: Not stated. Attrition: No ($\leq 20\%$ loss to follow up). ITT: No (available case analysis).	Yes mainly; Comparable on age, sex, preexisting diseases, preoperative medicines, duration of operation and anesthesia, but not premonitory cognitive impairment.

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Class: Atypical antipsychotics

Risperidone review

<i>Study</i>	<i>Sequence Generation</i>	<i>Allocation Concealment</i>	<i>Blinding</i>	<i>Attrition, ITT and Power Calculation</i>	<i>Baseline Comparable</i>
Prakkanrattana 2007	Adequate-computer or calculator generated sequence.	Partial- not met all requirements: sealed/numbered/opaque envelopes.	Patient: yes double blind trial. Outcome assessor: Yes; Nurses who assessed delirium were blind to treatment.	Power calculation: Yes. Attrition: No ($\leq 20\%$ loss to follow up). ITT: Yes (all followed).	Yes; e.g. comparable on age, gender, weight, NYHA functional class, coexisting disease, type of operation..

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Class: Benzodiazepines

Diazepam review

<i>Study</i>	<i>Sequence Generation</i>	<i>Allocation Concealment</i>	<i>Blinding</i>	<i>Attrition, ITT and Power Calculation</i>	<i>Baseline Comparable</i>
Aizawa 2002	Not stated.	Not stated.	<p>Patient: no not blinded.</p> <p>Outcome assessor: Yes; The psychiatrist who assessed patients for post-op delirium.was unaware of the patients' group assignment..</p>	<p>Power calculation: Not stated.</p> <p>Attrition: No ($\leq 20\%$ loss to follow up).</p> <p>ITT: Unclear/not stated.</p>	Some comparable; Comparable on age, operation time, blood transfusion, operative procedure APACHE II score..

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Class: Hydration

Hydration review

<i>Study</i>	<i>Sequence Generation</i>	<i>Allocation Concealment</i>	<i>Blinding</i>	<i>Attrition, ITT and Power Calculation</i>	<i>Baseline Comparable</i>
O'Keeffe 1996	Adequate- random numbers table or satistical table.	Partial- not met all requirements: sealed/numbered/opaque envelopes.	Patient: not stated. Outcome assessor: No.	Power calculation: Yes. Attrition: No ($\leq 20\%$ loss to follow up). ITT: No (per protocol analysis).	Yes, but limited data; comparable on age, gender.

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Class: Music therapy

Music therapy review

<i>Study</i>	<i>Sequence Generation</i>	<i>Allocation Concealment</i>	<i>Blinding</i>	<i>Attrition, ITT and Power Calculation</i>	<i>Baseline Comparable</i>
McCaffrey 2004	Unclear.	Adequate- independent third party: allocates interventions & retains schedule.	Patient: no not blinded. Outcome assessor: Unclear; pateitns unlikely to be blinded.	Power calculation: Not stated. Attrition: Unclear or Not stated. ITT: Unclear/not stated.	Not stated.
McCaffrey 2006	Unclear.	Adequate- independent third party: allocates interventions & retains schedule.	Patient: no not blinded. Outcome assessor: Unclear.	Power calculation: Not stated. Attrition: No ($\leq 20\%$ loss to follow up). ITT: No (available case analysis).	Yes, but limited data; Demographic data of the sample and patients were similar in age, proportion of men and women in the intervention and control groups and proportion of patients with hip and knee surgery in each

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Class: multicomponent

Multicomponent review

<i>Study</i>	<i>Sequence Generation</i>	<i>Allocation Concealment</i>	<i>Blinding</i>	<i>Attrition, ITT and Power Calculation</i>	<i>Baseline Comparable</i>
Cole 1994	Not stated.	Not stated.	Patient: no not blinded. Outcome assessor: Yes.	Power calculation: Yes. Attrition: Yes. ITT: Yes (all followed).	Yes, but limited data; comparable on age, sex, baseline SPMSQ and CGBRS score.
Cole 2002	Adequate- computer or calculator generated sequence.	Partial- independent part but unclear treatment allocation.	Patient: no not blinded. Outcome assessor: Yes.	Power calculation: Not stated. Attrition: No ($\leq 20\%$ loss to follow up). ITT: Yes (all included in analysis, no details).	Yes; comparable on age, Hx of dementia, mean MMSE score, Charlton comorbidity index.
Landefeld 1995	Adequate- computer or calculator generated sequence.	Not stated.	Patient: no not blinded. Outcome assessor: No.	Power calculation: Not stated. Attrition: No ($\leq 20\%$ loss to follow up). ITT: No (available case analysis).	Yes; Comparable on age, sex, ethnicity, living situation before admission, health status measures, and coexisting illnesses.

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<i>Study</i>	<i>Sequence Generation</i>	<i>Allocation Concealment</i>	<i>Blinding</i>	<i>Attrition, ITT and Power Calculation</i>	<i>Baseline Comparable</i>
Marcantonio 2001	Adequate- random numbers table or satistical table.	Partial- not met all requirements: sealed/numbered/opaque envelopes.	Patient: no single blind trial. Outcome assessor: Yes; research interviewer conducted the assessments blinded.	Power calculation: Yes. Attrition: No ($\leq 20\%$ loss to follow up). ITT: Yes (all followed).	Yes, but limited data; Comparable on age, gender, ethnicity, prefracture dementia, prefracture ADL impairment, 'high medical comorbidity', type of fracture, and proportion with hip replacement surgery.
Pitkala 2006	Adequate- computer or calculator generated sequence.	Adequate- central randomisation with details/stated retained schedule.	Patient: no not blinded. Outcome assessor: Unclear; not stated.	Power calculation: Yes. Attrition: Yes. ITT: Yes (all followed).	Yes; comparable on age, sex, education, alcohol, comorbidity, drugs, BP, nutrition, BMI, depression, physical function, Hx of dementia, cognition, delirium intensity, treatment.