SUPPLEMENTARY MATERIAL

Supplementary Appendix 1. Detailed search strategies for each database. MeSH terms, search terms, and combinations of the 2 were used for each database search

| Database                          | Detailed search strategies                                                                                                                                                                                                 | Records founded |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| MEDLINE/PubMed                    | (“breast cancer”[All Fields] OR “Breast Neoplasms”[MeSH] OR “Unilateral Breast Neoplasms”[MeSH] OR “Mastectomy, Segmental”[MeSH] AND (“osteoporosis”[All Fields] OR osteoporosis[MeSH Terms] OR “bone density”[MeSH Terms] OR (“bone”[All Fields] AND “density”[All Fields]) OR “bone density”[All Fields]) OR (“bone”[All Fields] AND “mineral”[All Fields] AND “density”[All Fields]) OR “bone mineral density”[All Fields]) AND (“fractures, bone”[MeSH Terms] OR “bone fractures”[All Fields] OR “fracture”[All Fields]) | 777             |
| EMBASE                            | (‘breast cancer’/exp OR ‘mastectomy’/exp OR ‘breast cancer’ OR ‘breast neoplasm’ OR ‘mastectomy’) AND (‘fragility fracture’/exp OR ‘osteoporotic fracture’)                                                                                                                                  | 816             |

| ID       | Search Hits                                                                 | Results |
|----------|-----------------------------------------------------------------------------|---------|
| Cochrane Central Register of Controlled Trials |
| #1       | MeSH descriptor: [Breast Neoplasms] explode all trees                        | 11,134  |
| #2       | MeSH descriptor: [Mastectomy] explode all trees                              | 1,446   |
| #3       | MeSH descriptor: [Unilateral Breast Neoplasms] explode all trees             | 7       |
| #4       | ‘mastectomy’ or ‘breast cancer’ or ‘breast neoplasm’                       | 28,236  |
| #5       | #1 OR #2 OR #3 OR #4                                                        | 28,517  |
| #6       | MeSH descriptor: [Osteoporosis] explode all trees                            | 3,685   |
| #7       | MeSH descriptor: [Osteoporotic Fractures] explode all trees                  | 236     |
| #8       | MeSH descriptor: [Bone Density] explode all trees                            | 4,369   |
| #9       | ‘osteoporotic fracture’ or ‘osteoporosis’ or ‘bone mineral density’         | 11,702  |
| #10      | #6 OR #7 OR #8 OR #9                                                        | 12,265  |
| #11      | #5 AND #10                                                                  | 671     |

Ultimately, 2,161 records were found, 777 from MEDLINE/PubMed, 816 from EMBASE, and 568 from the Cochrane Library. Studies were further selected according to the inclusion criteria listed in the material and methods (Fig. 1).