

Supplemental Table 1 Databases Searched

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| MEDLINE |
| MEDLINE In Process |
| EMBASE |
| CINAHL |
| PsycInfo |
| SIGLE (System for Information on Grey Literature) |
| Sociological Abstracts |
| LILACS (Latin American and Caribbean Health Sciences Literature) |
| NHS Economic Evaluation Database |
| DARE (Database of Abstracts of Reviews of Effects) |
| HTA database |
| Pascal |
| SciSearch |
| Dissertation Abstracts |
| Inside Conferences |
| Science and Technology Proceedings |
| Cochrane Controlled Trials Register |
| National Research Register |
| OHE Health Economic Evaluations Database |
| metaRegister of Clinical Trials |
| OMNI |
| Economic Working Papers Archive |
| Google |
| Copernic |

Supplemental Table 2: Results of quality assessment for the five diagnostic accuracy studies that assessed BMI, weight, or skin fold measures in comparison with an accepted reference standard for determining percentage body fat

| Study Details | Were selection criteria clearly described? | Did the whole sample or a random selection of the sample, receive verification using a reference standard of diagnosis? | Did patients receive the same reference standard regardless of the index test result? | Was the reference independent of the index test (i.e. the index test did not form part of the reference standard)? | Was the execution of the index test described in sufficient detail to permit replication of the test? | Was the execution of the reference standard described in sufficient detail to permit its replication? | Were the index test results interpreted without knowledge of the results of the reference standard? | Were the reference standard results interpreted without knowledge of the results of the index test? | Were uninterpretable/intermediate test results reported? | Were withdrawals from the study explained? | Was the cut-off threshold predefined for the index test? | Was the cut-off threshold predefined for the reference standard? |
|------------------------------------|--|---|---|--|---|---|---|---|--|--|--|--|
| Ellis(1999) ¹³ | ✗ | ✓ | ✓ | ✓ | ✓ | ✓ | ? | ? | ? | ✓ | ? | ✗ |
| Himes(1989) ¹⁴ | ✗ | ✓ | ✓ | ✓ | ✗ | ✗ | ? | ? | ✗ | ✗ | ✓ | ✓ |
| Lazarus(1996) ¹⁵ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ? | ? | ✗ | ✗ | ? | ✓ |
| Marshall(1991) ¹⁶ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ? | ? | ? | ✓ | ✓ | ✓ |
| Wickramasinghe(2005) ²¹ | ✗ | ✓ | ✓ | ✓ | ✓ | ✓ | ? | ? | ✓ | ✓ | ✓ | ✓ |