Supplementary material BMJ Open Sp Ex Med

#### 2 GRADEpro evidence profile tables for all index tests

Judgement of the evidence quality with GRADEpro was made according to the following criteria:

#### Risk of bias:

not serious: if all risk of bias items were at low risk according to the QUADAS 2 tool serious: if at least one item was at unclear risk and no high risk according to the QUADAS 2 tool

very serious: if at least one item was at high risk according to the QUADAS 2 tool. For detailed information of risk of bias rating, please check figure 3 (the QUADAS 2 tool).

Indirectness: Where positivity of the index or reference test or the execution of the index test were not clearly mentioned in the study, indirectness was rated as serious.

Inconsistency: If there was an unexplained heterogeneity of results across studies, inconsistency was rated as serious.

Based on the partially low prevalences in the included studies we decided a number of participants less than 250 as a serious imprecision.

Question: Should f120 add C be used to diagnose pincer or cam deformities in FAI syndrome?

| Sensitivity | 0.60 (95% CI: 0.52 to 0.68) |  |
|-------------|-----------------------------|--|
| Specificity | (95% CI: to)                |  |

| Prevalences | 55% | 85% |  |
|-------------|-----|-----|--|
|-------------|-----|-----|--|

|  | № of studies              | S<br>Study design                      | F                    | actors that ma       | ay decrease cer | ence                 | Effect per 1.000 patients tested |                                   | Test accuracy                     |                  |
|--|---------------------------|--|----------------------|----------------------|-----------------|----------------------|----------------------------------|-----------------------------------|-----------------------------------|------------------|
| Outcome  | (№ of patients)           |  | Risk of<br>bias      | Indirectness         | Inconsistency   | Imprecision          | Publication<br>bias              | pre-test<br>probability<br>of 55% | pre-test<br>probability<br>of 85% | CoE              |
| True positives (patients with pincer or cam deformities)   | 1 studies<br>143 patients | case-control<br>type accuracy<br>study | very<br>serious<br>a | serious <sup>b</sup> | not serious     | serious <sup>c</sup> | none                             | 330 (286<br>to 374)               | 510 (442<br>to 578)               | ⊕OOO<br>VERY LOW |
| False negatives<br>(patients incorrectly classified<br>as not having pincer or cam<br>deformities) |                           |  |                      |                      |                 |                      |                                  | 220 (176<br>to 264)               | 340 (272<br>to 408)               |                  |
| True negatives (patients without pincer or cam deformities)  | 0 studies<br>0 patients   |  |                      |                      |                 |                      |                                  | 0 (0 to 0)                        | 0 (0 to 0)                        | -                |
| False positives<br>(patients incorrectly classified<br>as having pincer or cam<br>deformities)     |                           |  |                      |                      |                 |                      |                                  | 450 (450<br>to 450)               | 150 (150<br>to 150)               |                  |

- a. Inclusion criteria do not exactly match the review question, execution and interpretation of index and reference test not described b. Test execution and interpretation not described
- c. small number of participants

Question: Should f120 add IR be used to diagnose pincer or cam deformities in FAI syndrome?

| Sensitivity | 0.74 (95% CI: 0.66 to 0.81) |
|-------------|-----------------------------|
| Specificity | (95% CI: to)                |

| Prevalences | 55% | 85% |  |
|-------------|-----|-----|--|
|-------------|-----|-----|--|

|  | N₂ of studies (N₂ of patients) |  | F                    | actors that ma       | ay decrease cer | ence                 | Effect per 1.000 patients tested |                                   | Test accuracy                     |                  |
|--|--------------------------------|--|----------------------|----------------------|-----------------|----------------------|----------------------------------|-----------------------------------|-----------------------------------|------------------|
| Outcome  |                                | Study design                                       | Risk of bias         | Indirectness         | Inconsistency   | Imprecision          | Publication<br>bias              | pre-test<br>probability<br>of 55% | pre-test<br>probability<br>of 85% | CoE              |
| True positives<br>(patients with pincer or cam<br>deformities)                                     | 1 studies<br>143 patients      | case-control type<br>accuracy study                | very<br>serious<br>a | serious <sup>b</sup> | not serious     | serious <sup>c</sup> | none                             | 407 (363<br>to 446)               | 629 (561<br>to 689)               | ⊕OOO<br>VERY LOW |
| False negatives<br>(patients incorrectly classified<br>as not having pincer or cam<br>deformities) |                                |  |                      |                      |                 |                      |                                  | 143 (104<br>to 187)               | 221 (161<br>to 289)               |                  |
| True negatives<br>(patients without pincer or<br>cam deformities)                                  | 0 studies<br>0 patients        | cross-sectional<br>(cohort type<br>accuracy study) |                      |                      |                 |                      |                                  | 0 (0 to 0)                        | 0 (0 to 0)                        | -                |
| False positives<br>(patients incorrectly classified<br>as having pincer or cam<br>deformities)     |                                |  |                      |                      |                 |                      |                                  | 450 (450<br>to 450)               | 150 (150<br>to 150)               |                  |

- a. Inclusion criteria do not exactly match the review question, execution and interpretation of index and reference test not described b. Test execution and interpretation not described
- c. small number of participants

Question: Should f90 add C be used to diagnose pincer or cam deformities in FAI syndrome?

| Sensitivity | 0.33 (95% CI: 0.25 to 0.41) |  |
|-------------|-----------------------------|--|
| Specificity | (95% CI: to)                |  |

| Pr | evalences | 55% | 85% |  |
|----|-----------|-----|-----|--|
|----|-----------|-----|-----|--|

|  | № of studies              |  | Factors that may decrease certainty of evidence |                      |               |                      |                     |                                   | er 1.000<br>s tested              | Test accuracy    |
|--|---------------------------|--|---|----------------------|---------------|----------------------|---------------------|-----------------------------------|-----------------------------------|------------------|
| Outcome  | (№ of<br>patients)        | Study design                                       | Risk of<br>bias                                 | Indirectness         | Inconsistency | Imprecision          | Publication<br>bias | pre-test<br>probability<br>of 55% | pre-test<br>probability<br>of 85% | CoE              |
| True positives<br>(patients with pincer or cam<br>deformities)                                     | 1 studies<br>143 patients | case-control type<br>accuracy study                | very<br>serious<br>a                            | serious <sup>b</sup> | not serious   | serious <sup>c</sup> | none                | 182 (138<br>to 226)               | 281 (213<br>to 349)               | ⊕OOO<br>VERY LOW |
| False negatives<br>(patients incorrectly classified<br>as not having pincer or cam<br>deformities) |                           |  |   |                      |               |                      |                     | 368 (324<br>to 412)               | 569 (501<br>to 637)               |                  |
| True negatives<br>(patients without pincer or<br>cam deformities)                                  | 0 studies<br>0 patients   | cross-sectional<br>(cohort type<br>accuracy study) |   |                      |               |                      |                     | 0 (0 to 0)                        | 0 (0 to 0)                        | -                |
| False positives<br>(patients incorrectly classified<br>as having pincer or cam<br>deformities)     |                           |  |   |                      |               |                      |                     | 450 (450<br>to 450)               | 150 (150<br>to 150)               |                  |

- a. Inclusion criteria do not exactly match the review question, execution and interpretation of index and reference test not described b. Test execution and interpretation not described
- c. small number of participants

Question: Should FABER Distance test (FDT) be used to diagnose pincer or cam deformities in FAI syndrome?

| Sensitivity | 0.79 to 0.99 |             |  |
|-------------|--------------|-------------|--|
| Scholavicy  | 0.73 to 0.33 | Prevalences |  |
| Specificity | 0.33 to 0.42 | Trevalences |  |
| Specificity | 0.55 to 0.42 |             |  |

|  | № of studies              | f Study design                                     | F                    | Factors that may decrease certainty of evidence |               |             |                     |                                   | er 1.000<br>s tested              | Test accuracy    |
|--|---------------------------|--|----------------------|---|---------------|-------------|---------------------|-----------------------------------|-----------------------------------|------------------|
| Outcome  | ome (№ of patients)       |  | Risk of<br>bias      | Indirectness                                    | Inconsistency | Imprecision | Publication<br>bias | pre-test<br>probability<br>of 55% | pre-test<br>probability<br>of 85% | CoE              |
| True positives (patients with pincer or cam deformities)   | 2 studies<br>472 patients | cohort & case-<br>control type<br>studies          | very<br>serious<br>a | not serious                                     | not serious   | not serious | none                | 435 to<br>545                     | 672 to<br>842                     | ⊕⊕OO<br>LOW      |
| False negatives<br>(patients incorrectly classified<br>as not having pincer or cam<br>deformities) |                           |  |                      |   |               |             |                     | 5 to 115                          | 8 to 178                          |                  |
| True negatives<br>(patients without pincer or<br>cam deformities)                                  | 1 studies<br>432 patients | cross-sectional<br>(cohort type<br>accuracy study) | serious<br>a         | not serious                                     | not serious   | not serious | none                | 149 to<br>189                     | 50 to 63                          | ⊕⊕⊕O<br>MODERATE |
| False positives<br>(patients incorrectly classified<br>as having pincer or cam<br>deformities)     |                           |  |                      |   |               |             |                     | 261 to<br>301                     | 87 to 100                         |                  |

55%

85%

#### **Explanations**

a. see QUADAS 2

Question: Should FABER test (Patrick) be used to diagnose pincer or cam deformities in FAI syndrome?

| Sensitivity | 0.15 to 1.00 |
|-------------|--------------|
| Specificity | 0.10 to 0.35 |

| Prevalences | 55% | 85% |  |
|-------------|-----|-----|--|
|-------------|-----|-----|--|

|  | № of studies              | № of studies<br>(№ of Study design<br>patients)    |                      | Factors that may decrease certainty of evidence |                      |                      |                     |                                   | er 1.000<br>s tested              | Test accuracy    |
|--|---------------------------|--|----------------------|---|----------------------|----------------------|---------------------|-----------------------------------|-----------------------------------|------------------|
| Outcome  | ,                         |  |                      | Indirectness                                    | Inconsistency        | Imprecision          | Publication<br>bias | pre-test<br>probability<br>of 55% | pre-test<br>probability<br>of 85% | CoE              |
| True positives (patients with pincer or cam deformities)   | 3 studies<br>201 patients | cohort & case-<br>control type<br>studies          | very<br>serious<br>a | serious <sup>b</sup>                            | serious <sup>c</sup> | serious <sup>d</sup> | none                | 83 to 550                         | 128 to<br>850                     | ⊕OOO<br>VERY LOW |
| False negatives<br>(patients incorrectly classified<br>as not having pincer or cam<br>deformities) |                           |  |                      |   |                      |                      |                     | 0 to 467                          | 0 to 722                          |                  |
| True negatives<br>(patients without pincer or<br>cam deformities)                                  | 1 studies<br>45 patients  | cross-sectional<br>(cohort type<br>accuracy study) | very<br>serious<br>a | not serious                                     | not serious          | serious <sup>d</sup> | none                | 45 to 157                         | 15 to 53                          | ⊕OOO<br>VERY LOW |
| False positives<br>(patients incorrectly classified<br>as having pincer or cam<br>deformities)     |                           |  |                      |   |                      |                      |                     | 293 to<br>405                     | 97 to 135                         |                  |

- a. see QUADAS 2
- b. reference test positivity not always stated
- c. wide variance of point estimates across studies d. small number of participants

Question: Should FADIR test (AIT, f90 add IR) be used to diagnose pincer or cam deformities in FAI syndrome?

| Sensitivity | 0.47 to 1.00 |
|-------------|--------------|
| Specificity | 0.06 to 0.20 |

| Prevalences | 55% | 85% |  |
|-------------|-----|-----|--|
|-------------|-----|-----|--|

|  | № of studies              | № of studies                                       |                      | Factors that may decrease certainty of evidence |                      |                      |                     |                                   | er 1.000<br>s tested              | Test accuracy    |
|--|---------------------------|--|----------------------|---|----------------------|----------------------|---------------------|-----------------------------------|-----------------------------------|------------------|
| Outcome  | (№ of patients)           | Study design                                       | Risk of bias         | Indirectness                                    | Inconsistency        | Imprecision          | Publication<br>bias | pre-test<br>probability<br>of 55% | pre-test<br>probability<br>of 85% | CoE              |
| True positives (patients with pincer or cam deformities)   | 4 studies<br>608 patients | cohort & case-<br>control type<br>studies          | very<br>serious<br>a | not serious                                     | serious <sup>b</sup> | not serious          | none                | 259 to<br>550                     | 399 to<br>850                     | ⊕OOO<br>VERY LOW |
| False negatives<br>(patients incorrectly classified<br>as not having pincer or cam<br>deformities) |                           |  |                      |   |                      |                      |                     | 0 to 291                          | 0 to 451                          |                  |
| True negatives<br>(patients without pincer or<br>cam deformities)                                  | 1 studies<br>88 patients  | cross-sectional<br>(cohort type<br>accuracy study) | serious<br>a         | not serious                                     | not serious          | serious <sup>c</sup> | none                | 27 to 90                          | 9 to 30                           | ⊕⊕OO<br>LOW      |
| False positives<br>(patients incorrectly classified<br>as having pincer or cam<br>deformities)     |                           |  |                      |   |                      |                      |                     | 360 to<br>423                     | 120 to<br>141                     |                  |

- a. see QUADAS 2
- b. wide variance of point estimates across studies c. small number of participants

Question: Should FLEX ROM < 115 be used to diagnose pincer or cam deformities in FAI syndrome?

| Sensitivity | 0.20 (95% CI: 0.14 to 0.28) |
|-------------|-----------------------------|
| Specificity | (95% CI: to)                |

| Prevalences | 55% | 85% |  |
|-------------|-----|-----|--|
|-------------|-----|-----|--|

|  | № of studies              |  | F                    | Factors that may decrease certainty of evidence |               |                      |                     |                                   | er 1.000<br>s tested              | Test accuracy    |
|--|---------------------------|--|----------------------|---|---------------|----------------------|---------------------|-----------------------------------|-----------------------------------|------------------|
| Outcome  | (№ of patients)           | , , , ,                                |                      | Indirectness                                    | Inconsistency | Imprecision          | Publication<br>bias | pre-test<br>probability<br>of 55% | pre-test<br>probability<br>of 85% | CoE              |
| True positives (patients with pincer or cam deformities)   | 1 studies<br>143 patients | case-control<br>type accuracy<br>study | very<br>serious<br>a | serious <sup>b</sup>                            | not serious   | serious <sup>c</sup> | none                | 110 (77 to<br>154)                | 170 (119<br>to 238)               | ⊕OOO<br>VERY LOW |
| False negatives<br>(patients incorrectly classified<br>as not having pincer or cam<br>deformities) |                           |  |                      |   |               |                      |                     | 440 (396<br>to 473)               | 680 (612<br>to 731)               |                  |
| True negatives (patients without pincer or cam deformities)  | 0 studies<br>0 patients   |  |                      |   |               |                      |                     | 0 (0 to 0)                        | 0 (0 to 0)                        | -                |
| False positives<br>(patients incorrectly classified<br>as having pincer or cam<br>deformities)     |                           |  |                      |   |               |                      |                     | 450 (450<br>to 450)               | 150 (150<br>to 150)               |                  |

- a. Inclusion criteria do not exactly match the review question, execution and interpretation of index and reference test not described b. Test execution and interpretation not described
- c. small number of participants

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**Question**: Should FPAW be used to diagnose pincer or cam deformities in FAI syndrome?

| Sensitivity | 0.61 (95% CI: 0.52 to 0.70) |
|-------------|-----------------------------|
| Specificity | 0.56 (95% CI: 0.45 to 0.66) |

| Prevalences | 55% | 85% |  |
|-------------|-----|-----|--|
|-------------|-----|-----|--|

|  | № of studies              | N <sub>2</sub> of studies                          |                | Factors that may decrease certainty of evidence |               |                      |                     |                                   | er 1.000<br>s tested              | Test accuracy    |
|--|---------------------------|--|----------------|---|---------------|----------------------|---------------------|-----------------------------------|-----------------------------------|------------------|
| Outcome  | (№ of patients)           | Study design                                       | Risk of bias   | Indirectness                                    | Inconsistency | Imprecision          | Publication<br>bias | pre-test<br>probability<br>of 55% | pre-test<br>probability<br>of 85% | CoE              |
| <b>True positives</b> (patients with pincer or cam deformities)                                    | 1 studies<br>111 patients | cross-sectional<br>(cohort type<br>accuracy study) | not<br>serious | not serious                                     | not serious   | serious <sup>a</sup> | none                | 336 (286<br>to 385)               | 519 (442<br>to 595)               | ⊕⊕⊕O<br>MODERATE |
| False negatives<br>(patients incorrectly classified<br>as not having pincer or cam<br>deformities) |                           |  |                |   |               |                      |                     | 214 (165<br>to 264)               | 331 (255<br>to 408)               |                  |
| True negatives (patients without pincer or cam deformities)  | 1 studies<br>88 patients  | cross-sectional<br>(cohort type<br>accuracy study) | not<br>serious | not serious                                     | not serious   | serious <sup>a</sup> | none                | 252 (202<br>to 297)               | 84 (68 to<br>99)                  | ⊕⊕⊕O<br>MODERATE |
| False positives<br>(patients incorrectly classified<br>as having pincer or cam<br>deformities)     |                           |  |                |   |               |                      |                     | 198 (153<br>to 248)               | 66 (51 to<br>82)                  |                  |

# **Explanations**

a. small number of participants

Question: Should Internal Rotation Pain test be used to diagnose pincer or cam deformities in FAI syndrome?

| Sei | ns itivity | 0.39 (95% CI: 0.31 to 0.48) |
|-----|------------|-----------------------------|
| Spe | ecificity  | (95% CI: to)                |

| Prevalences | 55% | 85% |  |
|-------------|-----|-----|--|
|-------------|-----|-----|--|

|  | № of studies              | № of studies                                       | F                    | actors that ma       | ay decrease cer | Effect per 1.000 patients tested |                     | Test accuracy                     |                                   |                  |
|--|---------------------------|--|----------------------|----------------------|-----------------|----------------------------------|---------------------|-----------------------------------|-----------------------------------|------------------|
| Outcome  | (№ of patients)           | Study design                                       | Risk of bias         | Indirectness         | Inconsistency   | Imprecision                      | Publication<br>bias | pre-test<br>probability<br>of 55% | pre-test<br>probability<br>of 85% | CoE              |
| True positives (patients with pincer or cam deformities)   | 1 studies<br>143 patients | case-control type<br>accuracy study                | very<br>serious<br>a | serious <sup>b</sup> | not serious     | serious <sup>c</sup>             | none                | 215 (171<br>to 264)               | 332 (264<br>to 408)               | ⊕OOO<br>VERY LOW |
| False negatives<br>(patients incorrectly classified<br>as not having pincer or cam<br>deformities) |                           |  |                      |                      |                 |                                  |                     | 335 (286<br>to 379)               | 518 (442<br>to 586)               |                  |
| True negatives<br>(patients without pincer or<br>cam deformities)                                  | 0 studies<br>0 patients   | cross-sectional<br>(cohort type<br>accuracy study) |                      |                      |                 |                                  |                     | 0 (0 to 0)                        | 0 (0 to 0)                        | -                |
| False positives<br>(patients incorrectly classified<br>as having pincer or cam<br>deformities)     |                           |  |                      |                      |                 |                                  |                     | 450 (450<br>to 450)               | 150 (150<br>to 150)               |                  |

- a. inclusioncriteria do not exactly match the review question, execution and interpretation of index and reference test not described
- b. Test execution and interpretation not described
- c. small number of participants

Question: Should IR ROM & f90 IR be used to diagnose pincer or cam deformities in FAI syndrome?

| Sensitivity | 0.11 (95% CI: 0.07 to 0.18) |
|-------------|-----------------------------|
| Specificity | (95% CI: to)                |

| Prevalences | 55% | 85% |  |
|-------------|-----|-----|--|
|-------------|-----|-----|--|

|  | № of studies              | of studies                             |                      | actors that ma       | ay decrease cer |                      | er 1.000<br>s tested | Tost accuracy                     |                                   |                      |
|--|---------------------------|--|----------------------|----------------------|-----------------|----------------------|----------------------|-----------------------------------|-----------------------------------|----------------------|
| Outcome  | Outcome (№ of patients)   | Study design                           | Risk of<br>bias      | Indirectness         | Inconsistency   | Imprecision          | Publication<br>bias  | pre-test<br>probability<br>of 55% | pre-test<br>probability<br>of 85% | Test accuracy<br>CoE |
| True positives<br>(patients with pincer or cam<br>deformities)                                     | 1 studies<br>143 patients | case-control<br>type accuracy<br>study | very<br>serious<br>a | serious <sup>b</sup> | not serious     | serious <sup>c</sup> | none                 | 61 (39 to<br>99)                  | 94 (60 to<br>153)                 | ⊕OOO<br>VERY LOW     |
| False negatives<br>(patients incorrectly classified<br>as not having pincer or cam<br>deformities) |                           |  |                      |                      |                 |                      |                      | 489 (451<br>to 511)               | 756 (697<br>to 790)               |                      |
| True negatives (patients without pincer or cam deformities)  | 0 studies<br>0 patients   |  |                      |                      |                 |                      |                      | 0 (0 to 0)                        | 0 (0 to 0)                        | -                    |
| False positives<br>(patients incorrectly classified<br>as having pincer or cam<br>deformities)     |                           |  |                      |                      |                 |                      |                      | 450 (450<br>to 450)               | 150 (150<br>to 150)               |                      |

- a. Inclusion criteria do not exactly match the review question, execution and interpretation of index and reference test not described b. Test execution and interpretation not described
- c. small number of participants

Question: Should IR ROM & FABER be used to diagnose pincer or cam deformities in FAI syndrome?

| Sensitivity | 0.13 (95% CI: 0.08 to 0.20) |
|-------------|-----------------------------|
| Specificity | (95% CI: to)                |

| Prevalences | 55% | 85% |  |
|-------------|-----|-----|--|
|-------------|-----|-----|--|

|  | № of studies              | № of studies                           |                      | actors that ma       | ay decrease cer | Effect per 1.000 patients tested |                     | Tost assurasy                     |                                   |                      |
|--|---------------------------|--|----------------------|----------------------|-----------------|----------------------------------|---------------------|-----------------------------------|-----------------------------------|----------------------|
| Outcome  | (№ of St<br>patients)     | , , , ,                                | Risk of<br>bias      | Indirectness         | Inconsistency   | Imprecision                      | Publication<br>bias | pre-test<br>probability<br>of 55% | pre-test<br>probability<br>of 85% | Test accuracy<br>CoE |
| True positives (patients with pincer or cam deformities)   | 1 studies<br>143 patients | case-control<br>type accuracy<br>study | very<br>serious<br>a | serious <sup>b</sup> | not serious     | serious <sup>c</sup>             | none                | 72 (44 to<br>110)                 | 111 (68 to<br>170)                | ⊕OOO<br>VERY LOW     |
| False negatives<br>(patients incorrectly classified<br>as not having pincer or cam<br>deformities) |                           |  |                      |                      |                 |                                  |                     | 478 (440<br>to 506)               | 739 (680<br>to 782)               |                      |
| True negatives (patients without pincer or cam deformities)  | 0 studies<br>0 patients   |  |                      |                      |                 |                                  |                     | 0 (0 to 0)                        | 0 (0 to 0)                        | -                    |
| False positives<br>(patients incorrectly classified<br>as having pincer or cam<br>deformities)     |                           |  |                      |                      |                 |                                  |                     | 450 (450<br>to 450)               | 150 (150<br>to 150)               |                      |

- a. Inclusion criteria do not exactly match the review question, execution and interpretation of index and reference test not described b. Test execution and interpretation not described
- c. small number of participants

Question: Should IR ROM < 120 be used to diagnose pincer or cam deformities in FAI syndrome?

| Sensitivity | 0.22 (95% CI: 0.15 to 0.29) |
|-------------|-----------------------------|
| Specificity | (95% CI: to)                |

| Prevalences | 55% | 85% |  |
|-------------|-----|-----|--|
|-------------|-----|-----|--|

|  | N <sub>e</sub> of studies |  | F                    | actors that ma       | ay decrease cer |                      | er 1.000<br>s tested | Tost assurasy                     |                                   |                      |
|--|---------------------------|--|----------------------|----------------------|-----------------|----------------------|----------------------|-----------------------------------|-----------------------------------|----------------------|
| Outcome  | (№ of patients)           | Study design                           | Risk of<br>bias      | Indirectness         | Inconsistency   | Imprecision          | Publication<br>bias  | pre-test<br>probability<br>of 55% | pre-test<br>probability<br>of 85% | Test accuracy<br>CoE |
| True positives (patients with pincer or cam deformities)   | 1 studies<br>143 patients | case-control<br>type accuracy<br>study | very<br>serious<br>a | serious <sup>b</sup> | not serious     | serious <sup>c</sup> | none                 | 121 (83 to<br>160)                | 187 (128<br>to 246)               | ⊕OOO<br>VERY LOW     |
| False negatives<br>(patients incorrectly classified<br>as not having pincer or cam<br>deformities) |                           |  |                      |                      |                 |                      |                      | 429 (390<br>to 467)               | 663 (604<br>to 722)               |                      |
| True negatives (patients without pincer or cam deformities)  | 0 studies<br>0 patients   |  |                      |                      |                 |                      |                      | 0 (0 to 0)                        | 0 (0 to 0)                        | -                    |
| False positives<br>(patients incorrectly classified<br>as having pincer or cam<br>deformities)     |                           |  |                      |                      |                 |                      |                      | 450 (450<br>to 450)               | 150 (150<br>to 150)               |                      |

- a. Inclusion criteria do not exactly match the review question, execution and interpretation of index and reference test not described b. Test execution and interpretation not described
- c. small number of participants

**Question**: Should IROP be used to diagnose pincer or cam deformities in FAI syndrome?

| Sensitivity | 1.00 (95% CI: 0.48 to 1.00) |
|-------------|-----------------------------|
| Specificity | 0.16 (95% CI: 0.06 to 0.29) |

| Prevalences | 55% | 85% |  |
|-------------|-----|-----|--|
|-------------|-----|-----|--|

|  | № of studies                         | Factors that may decrease certainty of evidence    |                      |                      |               |                      |                     | er 1.000<br>s tested              | Tost accuracy                     |                      |
|--|--------------------------------------|--|----------------------|----------------------|---------------|----------------------|---------------------|-----------------------------------|-----------------------------------|----------------------|
| Outcome  | Outcome (№ of Study design patients) | Study design                                       | Risk of bias         | Indirectness         | Inconsistency | Imprecision          | Publication<br>bias | pre-test<br>probability<br>of 55% | pre-test<br>probability<br>of 85% | Test accuracy<br>CoE |
| True positives (patients with pincer or cam deformities)   | 1 studies<br>5 patients              | cross-sectional<br>(cohort type<br>accuracy study) | very<br>serious<br>a | serious <sup>b</sup> | not serious   | serious <sup>c</sup> | none                | 550 (264<br>to 550)               | 850 (408<br>to 850)               | ⊕OOO<br>VERY LOW     |
| False negatives<br>(patients incorrectly classified<br>as not having pincer or cam<br>deformities) |                                      |  |                      |                      |               |                      |                     | 0 (0 to<br>286)                   | 0 (0 to<br>442)                   |                      |
| True negatives<br>(patients without pincer or<br>cam deformities)                                  | 1 studies<br>45 patients             | cross-sectional<br>(cohort type<br>accuracy study) | very<br>serious      | serious <sup>b</sup> | not serious   | serious <sup>c</sup> | none                | 72 (27 to<br>130)                 | 24 (9 to<br>44)                   | ⊕OOO<br>VERY LOW     |
| False positives<br>(patients incorrectly classified<br>as having pincer or cam<br>deformities)     |                                      |  |                      |                      |               |                      |                     | 378 (320<br>to 423)               | 126 (106<br>to 141)               |                      |

- a. no blinding of assessor, positivity criteria for reference test not declared
  b. positivity criteria for reference test not declared
  c. very small number of participants

Question: Should log roll test be used to diagnose pincer or cam deformities in FAI syndrome?

| Sensitivity | 0.30 (95% CI: 0.17 to 0.43) |  |
|-------------|-----------------------------|--|
| Specificity | (95% CI: to)                |  |

| Prevalences | 55% | 85% |  |
|-------------|-----|-----|--|
|-------------|-----|-----|--|

|  | № of studies                  | № of studies                           |                      | actors that m                | ay decrease cer | ence                 | Effect per 1.000 patients tested |                                   | Test accuracy                     |                  |
|--|-------------------------------|--|----------------------|------------------------------|-----------------|----------------------|----------------------------------|-----------------------------------|-----------------------------------|------------------|
| Outcome  | Outcome (№ of study patients) | Study design                           | Risk of bias         | Indirectness                 | Inconsistency   | Imprecision          | Publication<br>bias              | pre-test<br>probability<br>of 55% | pre-test<br>probability<br>of 85% | CoE              |
| True positives<br>(patients with pincer or cam<br>deformities)                                     | 1 studies<br>40 patients      | case-control<br>type accuracy<br>study | very<br>serious<br>a | very<br>serious <sup>b</sup> | not serious     | serious <sup>c</sup> | none                             | 165 (94 to<br>237)                | 255 (145<br>to 366)               | ⊕OOO<br>VERY LOW |
| False negatives<br>(patients incorrectly classified as<br>not having pincer or cam<br>deformities) |                               |  |                      |                              |                 |                      |                                  | 385 (313<br>to 456)               | 595 (484<br>to 705)               |                  |
| True negatives<br>(patients without pincer or cam<br>deformities)                                  | 0 studies<br>0 patients       |  |                      |                              |                 |                      |                                  | 0 (0 to 0)                        | 0 (0 to 0)                        | -                |
| False positives<br>(patients incorrectly classified as<br>having pincer or cam<br>deformities)     |                               |  |                      |                              |                 |                      |                                  | 450 (450<br>to 450)               | 150 (150<br>to 150)               |                  |

- a. only cases, assessor not blinded, execution of index test not described, exclusion criteria not appropriate b. execution of index test not described, exclusion criteria not appropriate
- c. small number of participants

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Question: Should maximal Squat test be used to diagnose cam deformity in FAI syndrome?

| Sensitivity | 0.75 (95% CI: 0.57 to 0.89) |
|-------------|-----------------------------|
| Specificity | 0.41 (95% CI: 0.27 to 0.57) |

| Prevalences | 55% | 85% |  |
|-------------|-----|-----|--|
|-------------|-----|-----|--|

|  | № of studies             | of studies   |                | actors that ma | ay decrease cei | ence                 | Effect per 1.000 patients tested  |                                   | Test accuracy       |                  |
|--|--------------------------|--|----------------|----------------|-----------------|----------------------|-----------------------------------|-----------------------------------|---------------------|------------------|
| Outcome (№ of patients)  | Study design             | Risk of bias                                       | Indirectness   | Inconsistency  | Imprecision     | Publication<br>bias  | pre-test<br>probability<br>of 55% | pre-test<br>probability<br>of 85% | CoE                 |                  |
| True positives (patients with cam deformity)   | 1 studies<br>32 patients | cross-sectional<br>(cohort type<br>accuracy study) | not<br>serious | not serious    | not serious     | serious <sup>a</sup> | none                              | 413 (314<br>to 490)               | 638 (484<br>to 757) | ⊕⊕⊕O<br>MODERATE |
| False negatives<br>(patients incorrectly<br>classified as not having<br>cam deformity) |                          |  |                |                |                 |                      |                                   | 137 (60 to<br>236)                | 212 (93 to<br>366)  |                  |
| True negatives<br>(patients without cam<br>deformity)                                  | 1 studies<br>46 patients | cross-sectional<br>(cohort type<br>accuracy study) | not<br>serious | not serious    | not serious     | serious <sup>a</sup> | none                              | 184 (122<br>to 256)               | 62 (41 to<br>86)    | ⊕⊕⊕O<br>MODERATE |
| False positives<br>(patients incorrectly<br>classified as having cam<br>deformity)     |                          |  |                |                |                 |                      |                                   | 266 (194<br>to 328)               | 88 (64 to<br>109)   |                  |

# **Explanations**

a. small number of participants

Question: Should pain predominantly in F/IR be used to diagnose pincer or cam deformities in FAI syndrome?

| Sensitivity | 0.70 (95% CI: 0.62 to 0.77) |
|-------------|-----------------------------|
| Specificity | 0.44 (95% CI: 0.33 to 0.55) |

| Prevalences | 55% | 85% |  |
|-------------|-----|-----|--|
|-------------|-----|-----|--|

|  | № of studies              | studies  |              | Factors that may decrease certainty of evidence |               |                      |                     |                                   | er 1.000<br>s tested              | Test accuracy |
|--|---------------------------|--|--------------|---|---------------|----------------------|---------------------|-----------------------------------|-----------------------------------|---------------|
| Outcome  | Outcome (№ of St          | Study design                                       | Risk of bias | Indirectness                                    | Inconsistency | Imprecision          | Publication<br>bias | pre-test<br>probability<br>of 55% | pre-test<br>probability<br>of 85% | CoE           |
| True positives (patients with pincer or cam deformities)   | 1 studies<br>154 patients | cross-sectional<br>(cohort type<br>accuracy study) | serious<br>a | not serious                                     | not serious   | serious <sup>b</sup> | none                | 385 (341<br>to 424)               | 595 (527<br>to 655)               | ⊕⊕OO<br>LOW   |
| False negatives<br>(patients incorrectly classified<br>as not having pincer or cam<br>deformities) |                           |  |              |   |               |                      |                     | 165 (126<br>to 209)               | 255 (195<br>to 323)               |               |
| True negatives (patients without pincer or cam deformities)  | 1 studies<br>87 patients  | cross-sectional<br>(cohort type<br>accuracy study) | serious<br>a | not serious                                     | not serious   | serious <sup>b</sup> | none                | 198 (149<br>to 248)               | 66 (50 to<br>83)                  | ⊕⊕OO<br>LOW   |
| False positives<br>(patients incorrectly classified<br>as having pincer or cam<br>deformities)     |                           |  |              |   |               |                      |                     | 252 (202<br>to 301)               | 84 (67 to<br>100)                 |               |

- a. see QUADAS 2
- b. small number of participants

Question: Should PIT be used to diagnose pincer or cam deformities in FAI syndrome?

| Sensitivity | 0.11 to 0.36 |
|-------------|--------------|
| Specificity | to           |

|  | Prevalences | 55% | 85% |  |
|--|-------------|-----|-----|--|
|--|-------------|-----|-----|--|

|  | № of studies<br>(№ of<br>patients) | Study design                                       | Factors that may decrease certainty of evidence |                      |               |                      |                     | Effect per 1.000 patients tested  |                                   | Test accuracy    |
|--|------------------------------------|--|---|----------------------|---------------|----------------------|---------------------|-----------------------------------|-----------------------------------|------------------|
| Outcome  |                                    |  | Risk of bias                                    | Indirectness         | Inconsistency | Imprecision          | Publication<br>bias | pre-test<br>probability<br>of 55% | pre-test<br>probability<br>of 85% | CoE              |
| True positives (patients with pincer or cam deformities)   | 2 studies<br>190 patients          | case-control type<br>accuracy study                | very<br>serious<br>a                            | serious <sup>b</sup> | not serious   | serious <sup>c</sup> | none                | 61 to 198                         | 94 to 306                         | ⊕OOO<br>VERY LOW |
| False negatives<br>(patients incorrectly classified<br>as not having pincer or cam<br>deformities) |                                    |  |   |                      |               |                      |                     | 352 to<br>489                     | 544 to<br>756                     |                  |
| True negatives<br>(patients without pincer or<br>cam deformities)                                  | 0 studies<br>0 patients            | cross-sectional<br>(cohort type<br>accuracy study) |   |                      |               |                      |                     | 0 to 0                            | 0 to 0                            | -                |
| False positives<br>(patients incorrectly classified<br>as having pincer or cam<br>deformities)     |                                    |  |   |                      |               |                      |                     | 450 to<br>450                     | 150 to<br>150                     |                  |

- a. see QUADAS 2, only cases included in one study, examiner was not blinded b. criteria for index test positivity not stated
- c. small number of participants

Question: Should Scour maneuver be used to diagnose pincer or cam deformities in FAI syndrome?

| Sensitivity | 0.80 (95% CI: 0.28 to 0.99) |
|-------------|-----------------------------|
| Specificity | 0.40 (95% CI: 0.26 to 0.56) |

| Prevalences | 55% | 85% |  |
|-------------|-----|-----|--|
|-------------|-----|-----|--|

|  | № of studies<br>(№ of<br>patients) | Study design                                       | F                    | Factors that may decrease certainty of evidence |               |                      |                     |                                   | er 1.000<br>s tested              | Test accuracy    |
|--|------------------------------------|--|----------------------|---|---------------|----------------------|---------------------|-----------------------------------|-----------------------------------|------------------|
| Outcome  |                                    |  | Risk of<br>bias      | Indirectness                                    | Inconsistency | Imprecision          | Publication<br>bias | pre-test<br>probability<br>of 55% | pre-test<br>probability<br>of 85% | CoE              |
| <b>True positives</b> (patients with pincer or cam deformities)                                    | 1 studies<br>5 patients            | cross-sectional<br>(cohort type<br>accuracy study) | very<br>serious<br>a | serious <sup>b</sup>                            | not serious   | serious <sup>c</sup> | none                | 440 (154<br>to 545)               | 680 (238<br>to 842)               | ⊕OOO<br>VERY LOW |
| False negatives<br>(patients incorrectly classified<br>as not having pincer or cam<br>deformities) |                                    |  |                      |   |               |                      |                     | 110 (5 to<br>396)                 | 170 (8 to<br>612)                 |                  |
| True negatives<br>(patients without pincer or<br>cam deformities)                                  | 1 studies<br>45 patients           | cross-sectional<br>(cohort type<br>accuracy study) | very<br>serious<br>a | serious <sup>b</sup>                            | not serious   | serious <sup>d</sup> | none                | 180 (117<br>to 252)               | 60 (39 to<br>84)                  | ⊕OOO<br>VERY LOW |
| False positives<br>(patients incorrectly classified<br>as having pincer or cam<br>deformities)     |                                    |  |                      |   |               |                      |                     | 270 (198<br>to 333)               | 90 (66 to<br>111)                 |                  |

#### **Explanations**

- a. no blinding of assessor, positivity criteria for reference test not declared b. positivity criteria for reference test not declared  $\,$
- c. very small number of participants d. few patients, CI < 0.5

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Question: Should Stinchfield test (RSLR) be used to diagnose pincer or cam deformities in FAI syndrome?

| Sensitivity | 0.15 to 0.95 |
|-------------|--------------|
| Specificity | 0.22 to 0.51 |

| Prevalences | 55% | 85% |  |
|-------------|-----|-----|--|
|-------------|-----|-----|--|

|  | № of studies<br>(№ of<br>patients) | Study design                                       | Factors that may decrease certainty of evidence |                      |               |                      |                     | Effect per 1.000 patients tested  |                                   | Test accuracy    |
|--|------------------------------------|--|---|----------------------|---------------|----------------------|---------------------|-----------------------------------|-----------------------------------|------------------|
| Outcome  |                                    |  | Risk of bias                                    | Indirectness         | Inconsistency | Imprecision          | Publication<br>bias | pre-test<br>probability<br>of 55% | pre-test<br>probability<br>of 85% | CoE              |
| True positives<br>(patients with pincer or cam<br>deformities)                                     | 2 studies<br>46 patients           | cohort & case-<br>control type<br>studies          | very<br>serious<br>a                            | serious <sup>b</sup> | not serious   | serious <sup>c</sup> | none                | 83 to 523                         | 128 to<br>808                     | ⊕OOO<br>VERY LOW |
| False negatives<br>(patients incorrectly classified<br>as not having pincer or cam<br>deformities) |                                    |  |   |                      |               |                      |                     | 27 to 467                         | 42 to 722                         |                  |
| True negatives<br>(patients without pincer or<br>cam deformities)                                  | 1 studies<br>45 patients           | cross-sectional<br>(cohort type<br>accuracy study) | serious<br>d                                    | serious <sup>e</sup> | not serious   | serious <sup>c</sup> | none                | 99 to 229                         | 33 to 77                          | ⊕OOO<br>VERY LOW |
| False positives<br>(patients incorrectly classified<br>as having pincer or cam<br>deformities)     | fied                               |  |   |                      |               |                      |                     | 221 to<br>351                     | 73 to 117                         |                  |

- a. see QUADAS 2, no blinding of assessor, only cases included in one study b. positivity of reference test not declared in one study  ${\sf S}$

- c. very small number of participants d. see QUADAS 2, no blinding of assessor, positivity of reference test not declared
- e. positivity of reference test not declared