*Table 1:* Data for web-based search using PubMed.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Search | MeSH Term | Time limit (publication date) | Results | Included |
| #1 | Orthognathic | All | 4239 |  |
| #2 | Orthognathic | 2000-present | 3056 |  |
| #3 | Orthognathic Outcome | All | 918 |  |
| #4 | Orthognathic Outcome | 2000-present | 784 |  |
| #5 | Orthognathic Prognosis | All | 677 |  |
| #6 | Orthognathic Prognosis | 2000-present | 593 |  |
| #7 | Orthognathic Outcome Prognosis | All | 637 |  |
| #8 | Orthognathic Outcome Prognosis | 2000-present | 571 | 16 |
| Total: |  |  |  | 16 |

Date for web-based search: 4th November 2015.

*Table 2:* Included studies from web-based search.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Author: | Country: | Year of publication: | Study design: | Study group (W/M): | Aim of study:  Methods/measurements: | | | Observation period (time after OS): |
|  | Questionnaire | Clinical examination |
| Panula et al.[1] | Finland | 2000 | Prospective  Case-control | 60 (49W/11M)  (Control group: 20) | Outcome. Effect on TMJ dysfunction | X | X | 20-44 months |
| Throckmorton et al.[2] | United States | 2001 | Prospective | 104 (72W/32M) | Outcome. Effect on bite force |  | Bite force tranducer. X-rays | 36 months |
| Kobayashi et al.[3] | Japan | 2001 | Prospective  Case-control | 27 (20W/7M)  Control group: 40 (16W/24M) | Outcome. Effect on masticatory efficiency |  | X | 24 months |
| Harada et al.[4] | Japan | 2003 | Prospective | 24 (11W/13M) | Outcome. Effect on bite force |  | X | 12 months |
| Lazaridou-Terzoudi et al.[5] | Denmark | 2003 | Case-control | 117 (64W/46M)  (Control group: 131) | Outcome. Effect on function, aesthetic, psychosocial problems, etc. | X |  | Not mentioned |
| Nakata et al.[6] | Japan | 2007 | Prospective  Case-control | 37 (24W/12M)  (Control group: 30) | Outcome. Effect on bite force, muscle activity |  | X | 31 months |
| Pahkala et al.[7] | Finland | 2007 | Prospective | 82 (53W/29M) | Outcome. Effect on TMJ dysfunction, aesthetic, psychosocial well-being | X | X | Mean 21.6 months |
| Lee et al.[8] | Hong Kong | 2008 | Prospective | 36 (25W/11M) | Outcome. Quality of life | X |  | 6 months |
| Espeland et al.[9] | Norway | 2007 | Retrospective | 516 (281W/235M) | Outcome and motivation. Effect on appearance, function, oral health | X | X | 18 months |
| Nicodemo et al.[10] | Brazil | 2007 | Prospective | 29 (?) | Outcome. Effect on function, psychosocial well-being, aesthetics | X | X | 6 months |
| Øland et al.[11] | Denmark | 2010 | Prospective | 92 (57W/35M) | Outcome and motivation. Effect on function and psychosocial well-being | X |  | 36 months |
| Øland et al.[12] | Denmark | 2010 | Prospective | 118 (67W/51M) | Outcome. Effect on function and psychosocial well-being | X | X | 12 months |
| Dujoncquoy et al.[13] | Germany | 2010 | Retrospective | 57 (35W/22M) | Outcome. Effect on TMJ dysfunction | X |  | 6-30 months |
| Ponduri et al.[14] | United Kingdom | 2010 | Retrospective | 23 (?) | Outcome. Effect on function, psychosocial well-being, aesthetics | X |  | Not mentioned |
| Øland et al.[15] | Denmark | 2011 | Prospective | 118 (67W/51M) | Outcome. Effect on function | X | X | 12-36 months |
| Al-Ahmad et al.[16] | Jordan | 2014 | Retrospective (case-control) | 39 (27W/13M) | Outcome. Functional, psychosocial, aesthetics | X | X | 6-21 months |

*Table 3:* Included studies from bibliographic hand search.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Author: | Country: | Year of publication: | Study design: | Study group (W/M): | Methods/measurements: | | | Maximum observation period (time after OS): |
| Aim of study: | Questionnaire | Clinical examination |
| Peacock et al.[17] | United States | 2014 | Retrospective | 911 (476W/435M) | Motivation. Functional, aesthetic | X |  | 24 months |
| Hernandez-Alfaro et al.[18] | Spain | 2014 | Retrospective | 362 (212W/150M) | Motivation |  | X | Not mentioned |
| Hernandez-Alfaro et al.[19] | Spain | 2014 | Prospective | 45 (27W/18M) | Outcome and motivation | ? (VAS satisfaction) | X | 12 months |
| Proothi et al.[20] | United States | 2010 | Retrospective | 501 (285W/216M) | Motivation (main indication) | X |  | Not mentioned |
| Modig et al.[21] | Sweden | 2005 | Prospective | 32 (16W/16M) | Motivation (main indication) | X |  | Not mentioned |
| Hågensli et al.[22] | Norway | 2013 | Retrospective  Case-control? | 396 (192W/204M) incl. control group of 160 | Motivation | X |  | Not mentioned |
| Wolford et al.[23] | United States | 2003 | Retrospective | 25 (23W/2M) | Outcome. Effect on TMJ dysfunction | X | X | 81 months |
| Larsen et al. | Denmark | 2015 | Retrospective | 105 (93W/12M) | Outcome and motivation | X |  | Not mentioned (> 60 months) |

*Table 4*: Indications for Orthognathic Treatment.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Author: | Study group: | One option for indication: | Functional: | | | | | Appearance: | | | OSAHS: |
| Chewing and biting | Speech | Degustation | Malocclusion | Pain | Dental | Facial | Aesthetic |  |
| Espeland et al. | 516 (281W/235M) |  | 80% (important and very important) |  |  |  |  | 80% (important and very important) | 70% (important and very important) |  |  |
| Øland et al. | 92 (57W/35M) |  |  |  |  |  |  |  |  |  |  |
| Peacock et al. | 911 (476W/435M) |  | 67% |  |  |  |  |  |  | 33% |  |
| Hernandez-Alfari et al | 362(212W/150M) |  | 41% |  |  |  |  |  |  | 57% | 2% |
| Hernandez-Alfari et al | 45 (27W/18M) |  |  |  |  | 7% |  |  |  | 82% | 11% |
| Proothi et al. | 501 (285W/216M) | X | 36% |  |  |  |  |  |  | 15% |  |
| Modig et al. | 32 (16W/16M) | X | 55% | 13% | 2% |  |  |  |  | 30% |  |
| Hågensli et al. | 396 (192W/204M) |  | 82% (very and somewhat important) | 33% (very and somewhat important) |  |  |  | 88% (very and somewhat important) | 70% (very and somewhat important) |  |  |
| Larsen et al. | 105 (93W/12M) |  |  |  |  | 14% | 72% |  |  | 54% |  |

*Table 5*: Complications following Orthognathic Surgery.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Author: | Year of publication: | Study group (number of patients): | Procedure (number): | | Complications (%): | | | | | | | | Postoperative period (months): |
| Maxil | Mandible | Infection | Nerve injuries/somatosensory changes | TMJ dysfuntion | Fractures | Condylar resorption | Relapse | Respiratory difficulty | Neck pain |
| Ianetti et al.[24] | 2013 | 3236 | 2,783 | 2,912 | 2 | 19 | 11 | 1 | Unknown | Unknown | Unknown | Unknown | 12 |
| Panula et al.[25] | 2001 | 655 | \*146 | 612 | 4 | 35 | 29 | Unknown | 11 | 11 | Unknown | Unknown | 120 (mean 1.2 years) |
| Chow et al.[26] | 2007 | 1294 | \*1,174 | 1,736 | 7 | Unknown | Unknown | Unknown | Unknown | Unknown | Unknown | Unknown | > 94 |
| Kim et al.[27] | 2007 | 301 | \*78 | 252 | Unknown | 65 (N=196) | Unknown | Unknown | Unknown | Unknown | 20 (n=63) | 9 (n=26) | 96 ? |
| Teltzrow et al.[28] | 2005 | 1264 | 971 | 293 | 3 | 2 | Unknown | 1 | Unknown | Unknown | Unknown | Unknown | ? |
| Al-Bishri et al.[29] | 2004 | 43 |  | 43 | Unknown | 12 | Unknown | Unknown | Unknown | Unknown | Unknown | Unknown | > 12 |
| Acebal-Bianco et al.[30] | 2000 | 1,108 |  | 802 | Unknown | 6 | Unknown | Unknown | Unknown | Unknown | Unknown | Unknown | ? |
| Thygesen et al.[31] | 2008 | 47 |  | 47 | Unknown | 69 (25 yes/11 no) | Unknown | Unknown | Unknown | Unknown | Unknown | Unknown | 12 |
| Thygesen et al.[32] | 2009 | 25 | 25 |  | Unknown | 7-60 | Unknown | Unknown | Unknown | Unknown | Unknown | Unknown | 12 |
| Spaey et al.[33] | 2005 | 810 | 275 | 1236 | 7 | Unknown | Unknown | Unknown | Unknown | Unknown | Unknown | Unknown | 1.3 |

|  |  |
| --- | --- |
| Complications | Percentage |
| Infection | 2-7% |
| Nerve injuries | 2-69% |
| TMJ dysfunction | 11-29% |
| Fractures | 1% |
| Condylar resorption | 11% |
| Relapse | 11% |

*Table 6:* Complications following OS.