

SUPPLEMENTARY MATERIAL

- a. Dental implant-related journals included in the manual search;
- b. Reference list of the included studies;
- c. Figure S1. Forest plot for the event 'implant failure', global results;
- d. Table S1. Detailed data of the included studies;
- e. Table S2. Quality assessment of the included studies, according to the National Institutes of Health (NIH).

a. Dental implant-related journals included in the manual search

Clinical Implant Dentistry and Related Research, Clinical Oral Implants Research, European Journal of Oral Implantology, Implant Dentistry, International Journal of Implant Dentistry, International Journal of Oral and Maxillofacial Implants, International Journal of Oral Implantology, International Journal of Prosthodontics, Journal of Clinical Periodontology, Journal of Oral Implantology, Journal of Periodontology, Journal of Prosthetic Dentistry, Journal of Prosthodontics, Journal of Prosthodontic Research.

b. Reference list of the included studies

1. Abduljabbar T, Al-Hamoudi N, Al-Sowayh ZH, Alajmi M, Javed F, Vohra F. Comparison of peri-implant clinical and radiographic status around short (6 mm in length) dental implants placed in cigarette-smokers and never-smokers: Six-year follow-up results. *Clin Implant Dent Relat Res*. 2018 Feb;20(1):21-25.
2. Abi-Aad H, Daher F, Dimassi H, Cordioli G, Majzoub Z. Immediate vs conventional loading of variable-thread tapered implants supporting three- to four-unit fixed partial dentures in the posterior maxilla: 1-year interim results of a split-mouth randomised controlled trial. *Eur J Oral Implantol*. 2018;11(3):337-350.
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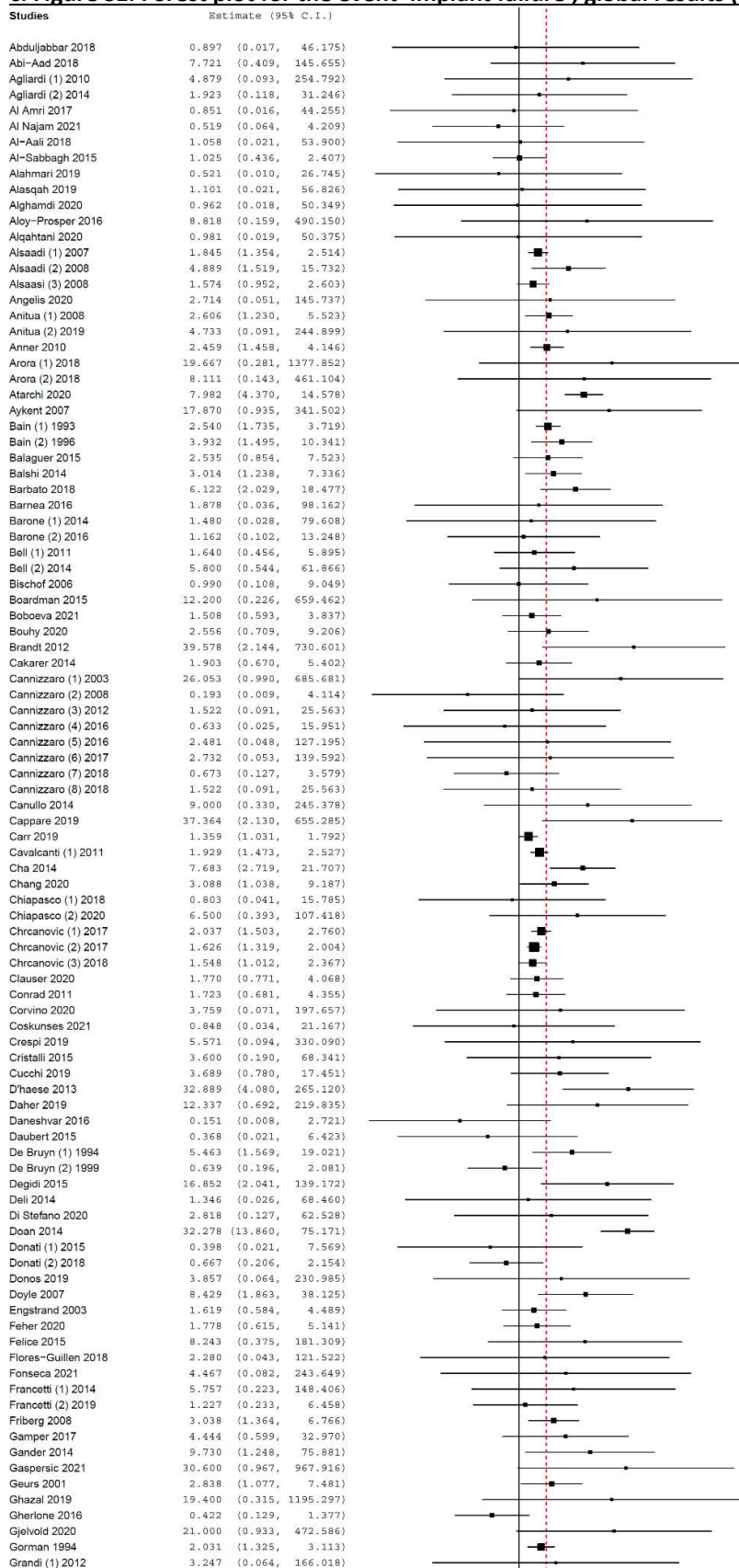
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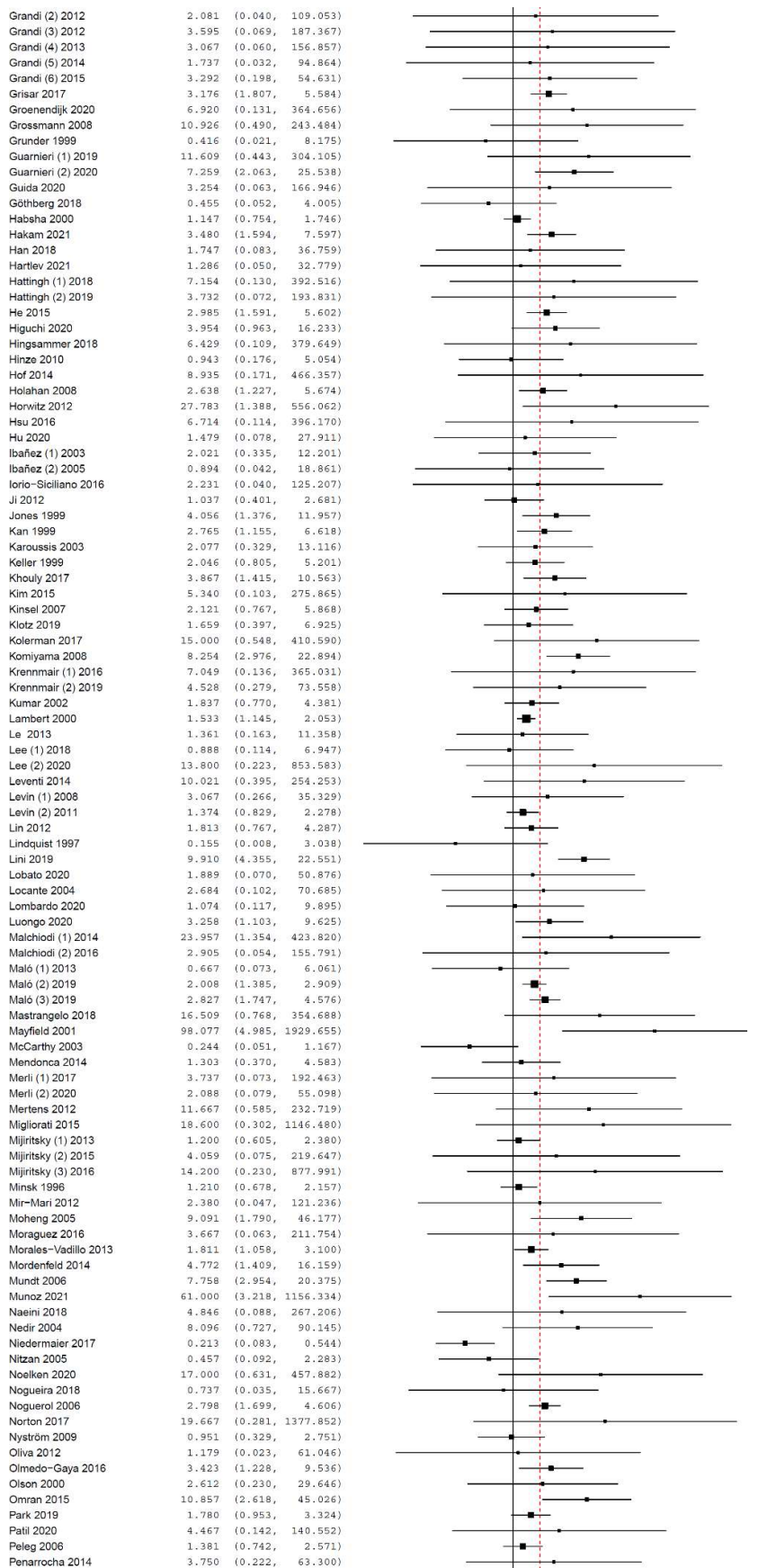
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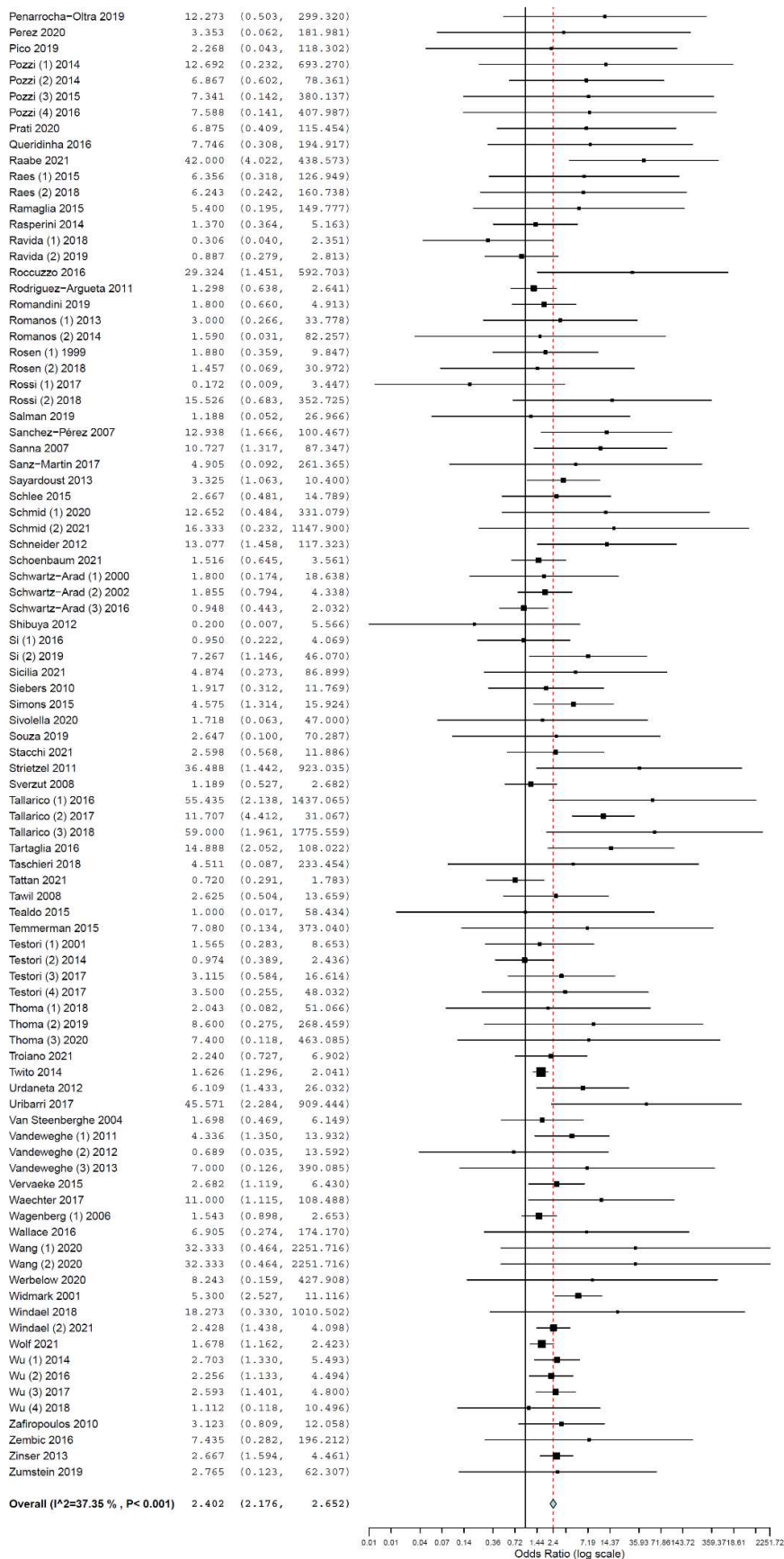
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c. Figure S1. Forest plot for the event 'implant failure', global results (estimate in odds ratio).





d. Table S1. Detailed data of the included studies.

| Study | Year | Study design | Country / Setting | Patients (male/female) (n) | Patients' Age Range (mean) (years) | Prosthetic loading | Implant location (maxilla and/or mandible) | Implant used | Type of smokers included ^a |
|---------------------|------|-----------------|--------------------------------|----------------------------|------------------------------------|----------------------------------|--|--|---|
| Abduljabbar | 2018 | CCT (unicenter) | Saudi Arabia / University | 56 (56/0) | NM (41) | Delayed (3-4 mo) | Mx, Md | Osseospeed (Astra Tech, Mölndal, Sweden) | 29 smokers |
| Abi-Aad | 2018 | RCT (unicenter) | Lebanon / University | 26 (12/14) | 34-67 (49.5) | Immediate, delayed (3 mo) | Mx | NobelActive (Nobel Biocare, Göteborg, Sweden) | 5 heavy smokers 9 extra-heavy smokers |
| Agliardi (1) | 2010 | CCT (unicenter) | Italy / Private practice | 24 (13/11) | 40-73 (60) | Immediate | Md | MkIV TiUnite, NobelSpeedy Groovy (Nobel Biocare, Göteborg, Sweden) | 4 smokers |
| Agliardi (2) | 2014 | CCT (unicenter) | Italy / Private practice | 32 (15/17) | 44-68 (58) | Immediate | Mx | MK IV and NobelSpeedy Groovy (Nobel Biocare, Göteborg, Sweden) | 11 light smokers |
| Al Amri | 2017 | RA (unicenter) | Saudi Arabia / University | 61 (51/10) | 33-53 (43) | Immediate, delayed (mean 3.2 mo) | Md | Straumann Bone Level (Straumann, Basel, Switzerland) | 33 light and heavy smokers |
| Al Najam | 2021 | RA (unicenter) | Netherlands / Private Practice | 110 (62/48) | 18-40 (24) | Delayed (4 mo) | Mx, Md | Bone level (Straumann, Basel, Switzerland) | 19 smokers |
| Al-Aali | 2018 | RA (unicenter) | Saudi Arabia / University | 116 (116/0) | 35-51 (44) | Delayed (mean 3.2 mo) | Mx, Md | NM | 59 smokers, but the degree of smoking among the patients was not reported |
| Alahmari | 2019 | RA (unicenter) | Saudi Arabia / University | 123 (123/0) | NM (43) | Delayed | Mx, Md | NM | 41 cigarette smokers (minimum of 5 cig./day), 40 water pipe smokers |
| Alasqah | 2019 | RA (unicenter) | Saudi Arabia / University | 82 (65/17) | NM (43) | NM | Md | NM (Straumann, Basel, Switzerland) | 39 smokers (minimum of 1 cig./day) |
| Alghamdi | 2020 | RA (unicenter) | Saudi Arabia / University | 51 (51/0) | NM (46) | Immediate | Mx, Md | NM | 26 smokers, but the degree of smoking among the patients was not reported |
| Aloy-Prosper | 2016 | RA (unicenter) | Spain / University | 53 (14/39) | 18-67 (35-48) | Delayed (3 mo) | Mx, Md | TSA Avantblast (Phibo Dental Solutions) | 2 light smokers 3 heavy smokers |
| Alqahtani | 2020 | RA (unicenter) | Saudi Arabia / University | 101 (101/0) | NM (51-55) | NM | Mx, Md | NM | 51 smokers |

| | | | | | | | | | |
|--------------------|------|------------------|------------------------------|-----------------|--------------|-----------------------------|--------|---|---|
| Alsaadi (1) | 2007 | RA (unicenter) | Belgium / University | 2004 (792/1212) | NM | NM | Mx, Md | Brånemark, TiUnite (Nobel Biocare, Göteborg, Sweden) | Light, heavy, and extra-heavy smokers |
| Alsaadi (2) | 2008 | PS (unicenter) | Belgium / University | 283 (96/187) | 18-86 (56.2) | NM | Mx, Md | TiUnite (Nobel Biocare, Göteborg, Sweden) | NM |
| Alsaadi (3) | 2008 | RA (unicenter) | Belgium / University | 412 (172/240) | NM | NM | Mx, Md | Brånemark, TiUnite (Nobel Biocare, Göteborg, Sweden) | 61 smokers |
| Al-Sabbagh | 2015 | RA (unicenter) | USA / University | 415 (174/241) | NM (59.4) | NM | Mx, Md | NM | 46 smokers |
| Angelis | 2020 | RA (unicenter) | Italy / Private practice | 38 (17/21) | 51-76 (65) | Delayed (3 mo) | Mx, Md | Bone Level Tapered RC, SLA, Loxim, Roxolid (Straumann, Basel, Switzerland) | 10 light smokers |
| Anitua (1) | 2008 | RA (multicenter) | Spain / NM | 1060 (386/674) | 17-91 (54) | Immediate, delayed (>3 mo) | Mx, Md | BTI (Biotechnology Institute, Vitoria, Spain) | 221 light, heavy, and extra-heavy smokers |
| Anitua (2) | 2019 | RA (unicenter) | Spain / Private practice | 113 (50/63) | 32-77 (56) | Delayed (mean 4 mo) | Mx, Md | UnicCa (BTI Biotechnology Institute, Vitoria-Gasteiz, Spain) | NM |
| Anner | 2010 | RA (unicenter) | Israel / Private practice | 475 (176/299) | NM (52) | NM | Mx, Md | NM | 63 smokers |
| Arora (1) | 2018 | PS (unicenter) | Australia / Private practice | 30 (13/17) | 26-77 (52) | Delayed (3-4 mo) | Mx | NM (Straumann, Basel, Switzerland) | Only light smokers (<10 cig/day) |
| Arora (2) | 2018 | RA (unicenter) | Australia / Private practice | 40 (16/24) | 19-74 (50.6) | Immediate, delayed (3-4 mo) | Mx | Osseospeed (Astra Tech, Mölndal, Sweden) | 3 light smokers 1 heavy smoker |
| Atarchi | 2020 | RA (multicenter) | USA / University | 1343 (516/827) | 18-96 (61.7) | NM | Mx | Several (Astra EV OsseoSpeed, NobelReplace, Biomet 3i, Straumann, Zimmer) | 58 smokers |
| Aykent | 2007 | RA (unicenter) | Turkey / University | 34 (14/20) | 19-70 (44.5) | Delayed (3-6 mo) | Mx, Md | Calcitek (Sulzer Medical, Carlsbad, USA), SLA (Straumann, Basel, Switzerland) | NM |
| Bain (1) | 1993 | RA (unicenter) | Scotland / Private practice | 540 (229/311) | 12-86 (55) | NM | Mx, Md | Brånemark (Nobel Biocare, Göteborg, Sweden) | NM |
| Bain (2) | 1996 | RA (unicenter) | Scotland / Private practice | 78 (NM) | NM | NM | Mx, Md | Brånemark (Nobel Biocare, Göteborg, Sweden) | NM |
| Balaguer | 2015 | PS (unicenter) | Spain / University | 95 (43/52) | 23-80 (55.9) | Delayed (3 mo) | Mx, Md | Tissue Level (Straumann, Basel, Switzerland) | 18 smokers |
| Balshi | 2014 | RA (unicenter) | USA / Private practice | 152 (NM) | NM | Immediate | Mx, Md | Brånemark (Nobel Biocare, Göteborg, Sweden) | 13 light, heavy, and extra-heavy smokers |
| Barbato | 2018 | RA (unicenter) | Italy / Private practice | 32 (10/22) | 37-81 (55.4) | Delayed (6-9 mo) | Mx | TSA Advance (Defcon, Barcelona, Spain) | 13 heavy and extra-heavy smokers |

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|-----------------------|------|-----------------|--------------------------------|----------------|--------------------|---------------------------|--------|---|--|
| Barnea | 2016 | RA (unicenter) | Israel / Private practice | 29 (16/13) | 40-83 (64.5) | Delayed (6 mo) | Mx | Biocom (MIS Implant technologies, Bar Lev Industrial Park, Israel) | 10 smokers |
| Barone (1) | 2014 | PS (unicenter) | Italy / Hospital | 30 (16/14) | 29-67 (43-51) | Immediate, delayed (4 mo) | Mx, Md | Blossom (Intra-Lock International, Boca Raton, USA) | 12 light smokers |
| Barone (2) | 2016 | RCT (unicenter) | Italy / University | 116 (39/77) | NM (51.4) | Delayed (3 mo) | Mx, Md | CT, Blossom (Intra-Lock International, Boca Raton, USA) | 35 light smokers |
| Bell (1) | 2011 | RA (unicenter) | USA / Private practice | 655 (NM) | NM | 3 months | Mx, Md | SLA (Straumann, Waldenburg, Switzerland) | NM |
| Bell (2) | 2014 | RA (unicenter) | USA / Private practice | 39 (NM) | 24-88 (58) | Immediate, delayed | Mx | Oxidized (NobelActive, Nobel Biocare, Göteborg, Sweden) | NM |
| Bischof | 2006 | RA (unicenter) | Switzerland / Private practice | 212 (91/121) | 22-88 (49.9) | Delayed (mean 3.7 mo) | Mx, Md | SLA, ITI (Straumann, Waldenburg, Switzerland) | Light and heavy smokers |
| Boardman | 2015 | RA (unicenter) | Australia / Private practice | 98 (21/77) | 23-81 (51.2) | NM | Mx | Several (AstraTech, Straumann, Biomet 3i, Nobel Biocare) | 7 smokers |
| Boboeva | 2021 | RA (unicenter) | South Korea / University | 1295 (584/711) | 15-86 (46.7, 71.4) | Delayed | Mx, Md | Several (Astra Tech, AB, Mölndal, Sweden; Dentis, Daegu, South Korea; Dentium, Seoul, South Korea; Straumann, Basel, Switzerland; Megagen Implant, Gyeongsan, South Korea; Osstem Implant, Seoul, South Korea). | 78 smokers |
| Bouhy | 2020 | PS (unicenter) | Belgium / University | 30 (17/13) | 48-82 (66.4) | Delayed (3 mo) | Mx | Roxolid (Straumann, Basel, Switzerland) | 4 light smokers (<10 cig/day) |
| Brandt | 2012 | PS (unicenter) | USA / University | 34 (NM) | 35-70 (NM) | Immediate | Md | MDL (Intra-Lock System International, Boca Raton, Florida) | NM |
| Cakarar | 2014 | RA (unicenter) | Turkey / University | 274 (109/165) | 19-84 (50.2) | Delayed (2-3 mo) | Mx, Md | Several (Astra Tech, Straumann, SwissPlus) | Yes, but the exact number was not informed |
| Cannizzaro (1) | 2003 | CCT (unicenter) | Italy / Private practice | 28 (14/14) | 18-72 (38) | Immediate, delayed | Mx, Md | Spline Twist MTX (Centerpulse Dental, Carlsbad, USA) | 6 smokers |
| Cannizzaro (2) | 2008 | RCT (unicenter) | Italy / Private practice | 60 (25/35) | 36-80 (61) | Immediate, early (6 wk) | Md | Tapered SwissPlus (Zimmer Dental, Carlsbad, USA) | 9 light smokers 21 heavy smokers |
| Cannizzaro (3) | 2012 | RCT (unicenter) | Italy / Private practice | 30 (15/15) | 18-57 (35) | Immediate, delayed (6 wk) | Mx, Md | NanoTite (Biomet 3i, Palm Beach, USA) | 12 light and heavy smokers |
| Cannizzaro (4) | 2016 | RCT (unicenter) | Italy / Private practice | 50 (25/25) | 19-62 (40) | Immediate | Mx, Md | Syra and Syra SL (Sweden & Martina, Due Carrare, Italy) | 11 light smokers 6 heavy smokers |
| Cannizzaro (5) | 2016 | RCT (unicenter) | Italy / Private practice | 40 (21/19) | 33-78 (56) | Immediate | Mx, Md | Prama PF tapered (Sweden & Martina, Due Carrare, Italy) | Light and heavy smokers |

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|-----------------------|------|-------------------|-------------------------------|-----------------|---------------|---------------------------|--------|---|---|
| Cannizzaro (6) | 2017 | RCT (multicenter) | Italy / Private practice | 60 (29/31) | 37-83 (59) | Immediate | Md | NT Full Osseotite (Zimmer Biomet, Palm Beach Gardens, USA), ExFeel (MegaGen Implant, Gyeongbuk, South Korea) | 11 light smokers 5 heavy smokers |
| Cannizzaro (7) | 2018 | RCT (multicenter) | Italy / Private practice | 48 (28/20) | 36-78 (58) | Immediate | Mx, Md | Syra and Syra SL (Sweden & Martina, Due Carrare, Italy) | 13 light smokers 4 heavy smokers |
| Cannizzaro (8) | 2018 | RCT (unicenter) | Italy / Private practice | 30 (15/15) | 18-57 (35) | Immediate, delayed (6 wk) | Mx, Md | NanoTite (Biomet 3i, Palm Beach Gardens, USA) | 9 light smokers 3 heavy smokers |
| Canullo | 2014 | RCT (unicenter) | Spain / University | 15 (6/9) | 32-76 (57.3) | Delayed (2 mo) | Md | Premium SP (Sweden & Martina, Padua, Italy) | 4 light smokers |
| Cappare | 2019 | PS (unicenter) | Italy / University | 24 (NM) | NM | Immediate | Mx, Md | TTx, Winsix (Biosafin, Ancona, Italy) | 12 smokers |
| Carr | 2019 | RA (unicenter) | USA / Non-profit organization | 2798 (NM) | >18 | Immediate, delayed | Mx, Md | NM | NM |
| Cavalcanti | 2011 | RA (multicenter) | Italy / Private practice | 1727 (702/1025) | 17-85 (47-51) | Immediate, delayed | Mx, Md | Several (3i Biomet, Astra Tech, Camlog, Friadent-Dentsply, Nobel Biocare, Straumann, Sweden & Martina, Zimmer Dental) | 549 smokers |
| Cha | 2014 | PS (unicenter) | South Korea / Hospital | 161 (96/65) | NM | Delayed (6 mo) | Mx | Implantium (Dentium Co., Seoul, Korea) | 18 heavy and extra-heavy smokers |
| Chang | 2020 | RA (unicenter) | China / Hospital | 376 (222/154) | NM (49) | Delayed | Mx, Md | Osseotite, Certain Taper (Biomet 3i, Palm Beach Gardens, USA) | 15 smokers 52 former smokers |
| Chiapasco (1) | 2018 | RA (NM) | Italy / NM | 69 (16/53) | 16-72 (48) | Delayed (3-9 mo) | Mx, Md | NM | 10 light smokers |
| Chiapasco (2) | 2020 | RA (NM) | Italy / NM | 75 (21/54) | 18-78 (49) | Delayed (3-10 mo) | Md | NM | 10 light smokers |
| Chrcanovic (1) | 2017 | RA (unicenter) | Sweden / Public service | 999 (479/520) | 14-90 (60) | Immediate, delayed | Mx, Md | Several | 263 light, heavy and extra-heavy smokers 23 former smokers |
| Chrcanovic (2) | 2017 | RA (unicenter) | Sweden / Public service | 1406 (625/781) | NM | Immediate, delayed | Mx, Md | Several | 285 light, heavy and extra-heavy smokers 33 former smokers |
| Chrcanovic (3) | 2018 | RA (unicenter) | Sweden / Public service | 227 (95/132) | NM | Immediate, delayed | Mx, Md | Several | Light, heavy and extra-heavy smokers |
| Clauser | 2020 | PS (multicenter) | Italy / Private practice | 214 (92/122) | 17-84 (48.3) | Immediate | Mx, Md | NanoTite Certain Tapered (Biomet 3i) | 24 heavy smokers 4 extra-heavy smokers |

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|-------------------|------|------------------|----------------------------|---------------|--------------|----------------------------------|--------|---|--|
| Conrad | 2011 | RA (unicenter) | USA / University | NM | 18-84 (55.3) | Immediate, delayed (mean 3.8 mo) | Mx | NM | NM |
| Corvino | 2020 | RCT (unicenter) | Italy / Private practice | 33 (17/16) | NM (67.4) | Delayed (2-3 mo) | Mx, Md | NeO Conical Standard, NeO Internal Hex (Alpha-Bio Tec, Petah Tikva, Israel) | 5 light smokers |
| Coskunes | 2021 | PS (unicenter) | Turkey / University | 28 (17/11) | 23-72 (52) | Immediate | Mx, Md | Roxolid Bone Level Tapered (Straumann, Basel, Switzerland) | 6 smokers |
| Crespi | 2019 | RA (NM) | Italy / NM | 22 (8/14) | NM (54) | Immediate, delayed (4 mo) | Mx | out-Link PRO-Link (Sweden & Martina) | 3 smokers |
| Cristalli | 2015 | PS (NM) | Italy / NM | 24 (9/15) | 35-65 (47.3) | Immediate | Mx, Md | NobelActive (Nobel Biocare, Göteborg, Sweden) | 6 light smokers |
| Cucchi | 2019 | PS (NM) | Italy / NM | 20 (NM) | NM (67) | Early (3-5 d) | Mx, Md | NM | Light smokers |
| D'haese | 2013 | PS (unicenter) | Belgium / University | 26 (16/10) | 20-81 (51.8) | Immediate | Mx | Osseospeed (Astra Tech, Mölndal, Sweden) | 9 heavy smokers |
| Daher | 2019 | RCT (unicenter) | Lebanon / University | 24 (11/13) | 34-67 (49.2) | Immediate, delayed | Mx | NobelActive (Nobel Biocare, Göteborg, Sweden) | 13 heavy smokers |
| Daneshvar | 2016 | RA (unicenter) | Canada / University | 111 (40/71) | 17-86 (56.1) | NM | Mx, Md | NM | 8 smokers |
| Daubert | 2015 | RA (unicenter) | USA / University | 96 (48/48) | 31-86 (67.6) | Immediate, delayed | Mx, Md | Several | 7 smokers, but the degree of smoking among the patients was not reported |
| De Bruyn | 1994 | RA (unicenter) | Belgium / Private practice | 117 (NM) | 20-80 (NM) | NM | Mx, Md | Brånemark (Nobel Biocare, Göteborg, Sweden) | 26 smokers |
| De Bruyn | 1999 | PS (unicenter) | Sweden / University | 23 (NM) | NM | NM | Mx | Screw-Vent (Zimmer Dental, Carlsbad, USA) | 10 smokers |
| Degidi | 2015 | PS (unicenter) | Italy / Private practice | 114 (NM) | NM (53.1) | Immediate | Mx, Md | XiVE (Dentsply, Mannheim, Germany) | 34 smokers |
| Deli | 2014 | RA (unicenter) | Italy / University | 216 (94/122) | NM (54) | Delayed (4 mo) | Mx, Md | Straight line (Dentegris, Duisburg, Germany) | 92 light smokers |
| Di Stefano | 2020 | RA (multicenter) | Italy / Private practice | 32 (12/20) | 36-73 (52.2) | Delayed (3-4 mo) | Mx, Md | XiVE (Dentsply) | 9 light smokers |
| Doan | 2014 | RA (multicenter) | Australia / University | 472 (216/256) | 19-89 (54) | Delayed | Mx, Md | Several (Imtec, Innova, MIS, Southern, Straumann, Biomet/3i, Zimmer Dental Implant Systems) | 39 smokers |
| Donati (1) | 2015 | PS (multicenter) | Italy / Private practice | 151 (70/81) | NM (45) | Immediate, delayed (3 mo) | Mx, Md | Osseospeed (Astra Tech, Mölndal, Sweden) | 34 smokers |
| Donati (2) | 2018 | RCT (unicenter) | Sweden / Public service | 51 (20/31) | 36-80 (59.5) | Delayed | Mx, Md | Turned and TiOblast (Astra Tech, Mölndal, Sweden) | 17 smokers, but the degree of smoking among |

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| | | | | | | | | | the patients was not reported |
| Donos | 2019 | RCT (unicenter) | England / University | 16 (5/11) | NM (49) | Immediate, delayed (4 mo) | Mx | Straumann Bone Level SLActive (Straumann, Basel, Switzerland) | 3 light smokers |
| Doyle | 2007 | RA (unicenter) | USA / Private practice | 171 (NM) | NM (47.5) | NM | Mx, Md | NM | 10 smokers |
| Engstrand | 2003 | PS (unicenter) | Sweden / Public Service | 95 (53/42) | 45-89 (68.5) | Immediate, delayed | Md | Turned (Brånemark, Nobel Biocare, Göteborg, Sweden) | 23 smokers |
| Feher | 2020 | RA (unicenter) | Austria / University | 1132 (505/627) | NM (50.6) | Evaluation of implants before loading | Mx, Md | NM | 157 light smokers 60 heavy smokers |
| Felice | 2015 | RCT (multicenter) | Italy / Private practice | 50 (25/25) | 32-72 (52) | Immediate, delayed (4 mo) | Mx | XiVE S plus (Dentsply Friadent, Mannheim, Germany) | Light and heavy smokers |
| Flores-Guillen | 2018 | RCT (unicenter) | Spain / University | 40 (23/17) | NM (48) | Delayed (2-3 mo) | Mx, Md | Straumann Bone Level SLActive (Straumann, Basel, Switzerland) | 12 light smokers |
| Fonseca | 2021 | PS (unicenter) | Switzerland / University | 32 (20/12) | 28-82 (52.4) | Early, delayed (2-4 mo) | Mx, Md | SLActive (Straumann, Basel, Switzerland) | 5 smokers 3 former smokers |
| Francetti (1) | 2014 | PS (unicenter) | Italy / Private practice | 22 (10/22) | NM | Delayed (3-6 mo) | Mx, Md | Replace Select Straight and Tapered TiUnite (Nobel Biocare, Göteborg, Sweden) | 6 light and heavy smokers |
| Francetti (2) | 2019 | RA (unicenter) | Italy / Private practice | 77 (32/45) | NM (68.2) | Immediate, early | Mx, Md | Nobel Speedy Groovy, MK IV TiUnite (Nobel Biocare, Göteborg, Sweden) | 19 light and heavy smokers |
| Friberg | 2008 | RA (unicenter) | Sweden / Public Service | 75 (39/36) | 20-87 (64) | NM | Mx | Turned (Brånemark, Nobel Biocare, Göteborg, Sweden) | 28 smokers |
| Gamper | 2017 | RCT (unicenter) | Switzerland / University | 60 (23/37) | NM (47.8-55.7, 2 groups) | Early, delayed (from 6 wk to 7 mo) | Mx, Md | Mk III and Mk IV TiUnite (Nobel Biocare, Göteborg, Sweden), SLA Standard, Standard Plus, and Standard Plus Tapered (Straumann, Basel, Switzerland) | 14 smokers, 2 smoked <5 cig/day and 12 smoked >5 cig/day |
| Gander | 2014 | RA (multicenter) | Switzerland / Private practice, University | 33 (23/10) | NM (64) | NM | Md | OsseoSpeed (Astra Tech, Mölndal, Sweden) | 21 smokers |
| Gaspersic | 2021 | PS (unicenter) | Slovenia / NM | 11 (5/6) | 49-73 (61) | Delayed (6 mo) | Mx | SLActive (Straumann, Basel, Switzerland) | 3 smokers |
| Geurs | 2001 | RA (multicenter) | USA / Private practice | 100 (NM) | NM | NM | Mx | NM | NM |
| Ghazal | 2019 | RCT (multicenter) | USA / University | 50 (18/32) | NM (51.2) | Early (3-4 wk) | Mx, Md | Roxolid (Straumann, Basel, Switzerland) | 2 light smokers 6 former smokers |
| Gherlone (2) | 2016 | PS (unicenter) | Italy / Hospital | 68 (22/46) | 40-73 (55.3) | Delayed (2-3 mo) | Mx, Md | WinSix (BioSAFin., Ancona, Italy) | 29 light smokers 13 heavy smokers |

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| Gjelvold | 2020 | PS (unicenter) | Sweden / Public service | 46 (25/21) | NM (40) | Immediate | Mx | Tapered Internal (BioHorizons, Birmingham, USA) | 3 smokers, but the degree of smoking among the patients was not reported |
| Gorman | 1994 | CCT (multicenter) | USA / Military clinic | 310 (NM) | NM | NM | Mx, Md | NM | 82 smokers |
| Göthberg | 2018 | RCT (unicenter) | Sweden / Public service | 50 (18/32) | NM (67) | Immediate, delayed (3 mo) | Mx, Md | Brånemark TiUnite (Nobel Biocare, Göteborg, Sweden) | 15 light smokers |
| Grandi (1) | 2012 | CCT (multicenter) | Italy / Private practice | 47 (22/25) | 52-78 (62.3) | Immediate | Md | JDEvolution (JDentalCare, Modena, Italy) | 11 light and heavy smokers |
| Grandi (2) | 2012 | RCT (multicenter) | Italy / Private practice | 28 (11/17) | 39-64 (51) | Immediate | Mx, Md | JDEvolution (JDentalCare, Modena, Italy) | 9 light smokers |
| Grandi (3) | 2012 | PS (multicenter) | Italy / Private practice | 42 (13/29) | 71-89 (76.5) | Immediate | Md | JDEvolution (JDentalCare, Modena, Italy) | 9 light smokers |
| Grandi (4) | 2013 | RCT (multicenter) | Italy / Private practice | 80 (31/49) | 39-65 (52-55) | Immediate, delayed (2 mo) | Mx, Md | JDEvolution (JDentalCare, Modena, Italy) | 22 light smokers |
| Grandi (5) | 2014 | RCT (multicenter) | Italy / Private practice | 25 (9/16) | 39-74 (56) | Immediate | Mx, Md | JDEvolution (JDentalCare, Modena, Italy) | 9 light and heavy smokers |
| Grandi (6) | 2015 | RCT (multicenter) | Italy / Private practice | 105 (50/55) | 21-75 (45-51) | Immediate, early, delayed (4 mo) | Mx, Md | JD Evolution (J DentalCare, Modena, Italy) | 19 light smokers 6 heavy smokers |
| Grisar | 2017 | RA (unicenter) | Belgium / University | 509 (240/269) | 16-87 (58) | Immediate, delayed | Mx, Md | Several (Nobel Biocare, Straumann, Bicon, Astra, Ankylos) | Yes, but exact number not reported |
| Groenendijk | 2020 | PS (multicenter) | Netherlands / Private practice + University | 98 (41/57) | 17-80 (45.8) | Immediate | Mx | NobelActive (Nobel Biocare, Göteborg, Sweden) | 12 smokers |
| Grossman | 2008 | RA (unicenter) | Israel / Private practice | 23 (20/3) | 33-57 (44.2) | NM | Mx, Md | Several (Zimmer Dental, 3i Implant Innovations, MIS Implants Technologies) | 8 smokers |
| Grunder | 1999 | PS (multicenter) | Switzerland / Private practice | 74 (40/34) | NM (57.8) | Delayed (3-6 mo) | Mx, Md | Osseotite (3i-Implant Innovations Inc., Palm Beach Gardens, USA) | 19 smokers |
| Guarnieri (1) | 2019 | RCT (unicenter) | Italy / University | 20 (12/8) | 36-64 (49.7) | Delayed (4-6 mo) | Mx, Md | Laser Lok (BioHorizons, Birmingham, USA) | Light smokers |
| Guarnieri (2) | 2020 | RA (multicenter) | Italy / Private practice | 274 (146/128) | 45-75 (48.1) | Immediate, delayed | Mx, Md | BioHorizons TLX and TRX (BioHorizons) | 124 smokers |
| Guida | 2020 | RCT (multicenter) | Italy / Private practice + University | 30 (17/13) | NM (63) | Delayed (3 mo) | Md | OsseoSpeed TX (Dentsply, Mölndal, Sweden) | 7 heavy smokers 4 former smokers |

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|---------------------|------|------------------|---|----------------|--------------|--------------------------------|--------|--|---|
| Habsha | 2000 | RA (unicenter) | Canada / University | 389 (NM) | 15-84 (49.3) | NM | Mx, Md | Brånemark (Nobel Biocare, Göteborg, Sweden) | 104 smokers |
| Hakam | 2021 | RA (unicenter) | USA / University | 771 (346/425) | 22-97 (67.3) | NM | Mx, Md | NM | 37 smokers |
| Han | 2018 | PS (multicenter) | China / University | 45 (17/28) | 26-73 (53) | Early (6 wk) | Mx, Md | OsseoSpeed TX (Dentsply, Mölndal, Sweden) | 2 smokers 3 former smokers |
| Hartlev | 2021 | RCT (unicenter) | Denmark / University | 27 (15/12) | 23-72 (50) | Delayed (mean 6.7 mo) | Mx | NobelParallel Conical Connection (Nobel Biocare, Göteborg, Sweden) | 3 smokers |
| Hattingh (1) | 2018 | PS (unicenter) | England / Private practice | 51 (36/15) | 38-89 (61) | Delayed (4 mo) | Mx, Md | MAX (Southern Implants, Irene, South Africa) | 5 smokers |
| Hattingh (2) | 2019 | RA (unicenter) | United Kingdom / Private practice | 85 (43/42) | 45-87 (65) | Delayed (4 mo) | Mx, Md | MAX (Southern Implants, Irene, South Africa) | NM |
| He | 2015 | RA (unicenter) | China / University | 1377 (704/673) | 18-83 (44.9) | Immediate, delayed | Mx, Md | Several (Straumann, Bego, Dentium, Anthogyr, Biomet 3i, Lifecore, Osstem, BLB) | NM |
| Higuchi | 2020 | PS (multicenter) | USA, Chile, Spain, Australia, Italy / University + Private practice | 110 (50/60) | NM (61.7) | Immediate, early (within 10 d) | Md | Nobel Active (Nobel Biocare, Göteborg, Sweden) | 23 light and heavy smokers 47 former smokers |
| Hingsammer | 2018 | RA (unicenter) | Austria / Private practice | 25 (9/16) | 19-73 (42.5) | Immediate | Mx | NM (Nobel Biocare, Göteborg, Sweden) | 3 smokers |
| Hinze | 2010 | CCT (unicenter) | Germany / Private practice | 37 (18/19) | 39-84 (64.6) | Immediate | Mx, Md | Osseotite, NanoTite Tapered (Biomet 3i, Palm Beach Gardens, USA) | 11 light and heavy smokers |
| Hof | 2014 | RA (unicenter) | Austria / University | 153 (73/80) | NM (37) | Delayed | Mx | MkIII, Nobel Replace Tapered (Nobel Biocare, Göteborg, Sweden) | 15 smokers |
| Holahan | 2008 | RA (unicenter) | USA / University | 192 (0/192) | 50-85 (63.4) | NM | Mx, Md | NM | 24 smokers |
| Horwitz | 2012 | PS (unicenter) | Israel / University | 18 (NM) | 34-69 (54.5) | Immediate | Mx, Md | Seven (MIS Implants Technologies Ltd., Tel Aviv, Israel) | 5 smokers |
| Hsu | 2016 | RCT (unicenter) | USA / University | 26 (19/7) | 31-90 (57.7) | Early | Mx | NM (SuperLine, Dentium), Zimmer TSV (Zimmer Dental) | 3 smokers 10 former smokers |

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|------------------------|------|------------------|--|---------------|---------------|--------------------|--------|--|--|
| Hu | 2020 | RA (unicenter) | Singapore / Public Service | 200 (100/100) | 28-84 (57.7) | NM | Mx, Md | NM (Straumann, Basel, Switzerland) | Light smokers |
| Ibañez (1) | 2003 | CCT (NM) | Argentina / Private practice | 195 (86/109) | 18-79 (49.2) | Immediate, delayed | Mx, Md | Osseotite (3i-Implant Innovations Inc., Palm Beach Gardens, USA) | Heavy smokers |
| Ibañez (2) | 2005 | PS (multicenter) | Argentina / Private practice, University | 41 (11/30) | 38-82 (62.1) | Immediate | Mx, Md | Osseotite (Biomet 3i, Palm Beach Gardens, USA) | NM |
| Iorio-Siciliano | 2016 | RA (unicenter) | Italy / University | 20 (7/13) | NM (46.5) | Delayed (3-6 mo) | Mx, Md | Laser-Lok Tapered Internal Plus (BioHorizons) | 6 light smokers |
| Ji | 2012 | RA (unicenter) | USA / University | 45 (18/27) | 25-88 (61.5) | Immediate | Mx, Md | XiVe (Dentsply Friadent, Mannheim, Germany), TiUnite (Nobel Biocare, Göteborg, Sweden), Steri-Oss Hex-Loc (Nobel Biocare, Göteborg, Sweden) Tapered Screw-Vent, (Zimmer Dental, Carlsbad, USA) | 8 smokers |
| Jones | 1999 | RCT (unicenter) | USA / University | 65 (25/40) | 21-70 (50) | Delayed (3-7 mo) | Mx, Md | TPS (Sterngold/Implamed, Attleboro, USA) | 19 smokers |
| Kan | 1999 | RA (unicenter) | USA / University | 60 (27/33) | 41-84 (64.6) | NM | Mx | NM | 16 smokers |
| Karoussis | 2003 | CCT (unicenter) | Switzerland / University | 53 (NM) | NM | Delayed (4-6 mo) | Mx, Md | TPS (ITI Straumann, Waldenburg, Switzerland) | 12 smokers |
| Keller | 1999 | RA (unicenter) | USA / Non-profit organization | 62 (42/20) | 15-73 (28-59) | NM | Mx | Brånemark (Nobel Biocare, Göteborg, Sweden) | 8 smokers |
| Khouly | 2017 | RA (unicenter) | Spain / Private practice | 67 (30/37) | NM (56) | Delayed (6-9 mo) | Mx | BTI Externa (BTI, Biotechnology Institute, Vitoria-Gasteiz, Spain) and Brånemark Mk IV TiUnite (Nobel Biocare, Göteborg, Sweden) | NM |
| Kim | 2015 | RA (unicenter) | USA / Community practice | 85 (43/42) | 17-83 (55) | Immediate, delayed | Mx, Md | Nobel Replace Select (Nobel Biocare, Göteborg, Sweden) | NM |
| Kinsel | 2007 | RA (unicenter) | USA / Private practice | 43 (12/31) | 35-80 (58) | Immediate | Mx, Md | TPS, SLA (Straumann, Basel, Switzerland) | 12 extra-heavy smokers |
| Klotz | 2019 | RA (unicenter) | Germany / Private practice | 84 (28/56) | 28-96 (60.2) | Delayed | Mx, Md | BlueSky (Bredent Medical) | Yes, but the exact number was not reported |

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|----------------------|------|-------------------|----------------------------|---------------|--------------|--------------------|--------|--|--|
| Kolerman | 2017 | RA (unicenter) | Israel / University | 39 (16/23) | 24-82 (47.5) | Immediate | Mx | Lans (MIS, Bar Lev, Israel) | 7 light smokers |
| Komiyama | 2008 | RA (unicenter) | Sweden / University | 29 (20/9) | 42-90 (71.5) | Immediate | Mx, Md | TiUnite Brånemark MkIII (Nobel Biocare, Göteborg, Sweden) | 5 smokers |
| Krennmair (1) | 2016 | CCT (unicenter) | Austria / University | 41 (21/20) | NM (62.9) | Delayed (2 mo) | Md | Camlog Screw-line (Promote+, Wimsheim, Germany) | 5 light smokers |
| Krennmair (2) | 2019 | PS (unicenter) | Austria / Private practice | 85 (39/46) | NM (56.7) | Delayed (5-7 mo) | Mx | Camlog Screw-line (Promote+, Wimsheim, Germany) | 15 smokers |
| Kumar | 2002 | RA (unicenter) | USA / Private Practice | 461 (NM) | NM | Delayed (6-12 wk) | Mx, Md | Sandblasted and acid-etched (SLA, ITI, Straumann, Waldenburg, Switzerland) | 72 heavy smokers |
| Lambert | 2000 | CCT (multicenter) | USA / Public Hospital | 662 (NM) | NM | NM | Mx, Md | NM | 199 smokers |
| Le | 2013 | RA (unicenter) | USA / Private practice | 168 (74/94) | 34-87 (61) | NM | Mx, Md | SLA (Straumann, Waldenburg, Switzerland), Astra Tech (AstraTech, Mölndal, Sweden), NM (Zimmer Dental, Warsaw, USA), NM (3i Implant Innovations, Palm Beach Gardens), NM (BioHorizons, Birmingham, USA) | 13 smokers |
| Lee (1) | 2018 | RA (unicenter) | Taiwan / Private practice | 161 (NM) | 23-90 (53) | Immediate, delayed | Mx, Md | IDEOSS (IDEOSS Biotech, Taipei, Taiwan) | Yes, but the exact number was not reported |
| Lee (2) | 2020 | RCT (unicenter) | USA / University | 36 (13/23) | NM (49.2) | Immediate | Mx | Full OSSEOTITE Certain Tapered Implant (Biomet 3i, Palm Beach Gardens, USA) | 2 light smokers |
| Leventi | 2014 | RA (unicenter) | Scotland / University | 41 (16/25) | 45-88 (65.4) | Delayed (>3 mo) | Md | NM | 9 smokers |
| Levin (1) | 2008 | RA (unicenter) | Israel / Private practice | 55 (NM) | 18-78 (45) | NM | Mx, Md | NM | 6 smokers |
| Levin (2) | 2011 | CCT (unicenter) | Israel / Private practice | 717 (273/444) | NM (46-54) | NM | Mx, Md | NM | 103 heavy smokers |
| Lin | 2012 | RA (multicenter) | USA / University | 75 (32/43) | NM (59.6) | Delayed (1 mo) | Mx | NM | 28 smokers |
| Lindquist | 1997 | CCT (unicenter) | Sweden / University | 45 (13/32) | 33-64 (65) | Delayed (4 mo) | Md | Brånemark (Nobel Biocare, Göteborg, Sweden) | 21 light, heavy, and extra-heavy smokers |
| Lini | 2019 | RA (unicenter) | Italy / University | 67 (45/22) | NM (65) | Delayed (2-6 mo) | Mx, Md | Frialit-2 (Friadent) | NM |
| Lobato | 2020 | RCT (unicenter) | Brazil / University | 44 (NM) | 25-77 (50.8) | Delayed (4-6 mo) | Mx, Md | Alvim, Drive, and Titamax (Neodent, Curitiba, Brazil) | Light and heavy smokers |

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|-----------------------|------|-------------------|-----------------------------|----------------|--------------|------------------------|--------|--|---|
| Locante | 2004 | RA (unicenter) | USA / Private practice | 86 (35/51) | 12-81 (NM) | Immediate | Mx | Stabledent (Crystal Medical Technology, Pelham, USA) | 9 light, heavy, and extra-heavy smokers |
| Lombardo | 2020 | RA (unicenter) | NM / University | 98 (43/55) | 32-77 (54.1) | Delayed (4-6 mo) | Md | Morse taper, Morse cone (Bicon Dental Implants, Boston, USA) | 20 smokers |
| Luongo | 2020 | PS (NM) | NM / NM | 190 (97/93) | NM (64.2) | Delayed (6-7 mo) | Mx | T3 (Biomet 3i) | 42 smokers |
| Malchiodi (1) | 2014 | PS (NM) | Italy / University | 136 (46/90) | 48-71 (58.9) | Delayed (3-4 mo) | Mx, Md | Endopore Dental System (Innova Corporation, Toronto, Canada) | 32 light smokers 19 heavy smokers |
| Malchiodi (2) | 2016 | RCT (unicenter) | Italy / University | 40 (24/16) | 35-75 (52) | Delayed (3 mo) | Mx, Md | SybronPRO XR (Sybron Implant Solutions) | 10 light and heavy smokers |
| Maló (1) | 2013 | RA (unicenter) | Portugal / Private clinic | 70 (29/41) | 35-81 (54) | Immediate | Mx | NobelSpeedy Replace and Shorty (Nobel Biocare, Göteborg, Sweden) | NM |
| Maló (2) | 2019 | RA (unicenter) | Portugal / Private practice | 1072 (442/630) | 20-88 (55.8) | Immediate | Mx | MK III, MK IV, NobelSpeedy Groovy (Nobel Biocare, Göteborg, Sweden) | 241 smokers |
| Maló (3) | 2019 | RA (unicenter) | Portugal / Private practice | 471 (185/286) | 20-85 (57.7) | Immediate | Md | MK II, MK III, MK IV, NobelSpeedy Groovy (Nobel Biocare, Göteborg, Sweden) | 117 smokers |
| Mastrangelo | 2018 | RCT (multicenter) | Italy / Private practice | 102 (63/39) | 18-72 (44) | Delayed (4 mo) | Mx | NM (tioLogic Implant System, Dentaurem, Germany) | 28 smokers, but the degree of smoking among the patients was not reported |
| Mayfield | 2001 | RA (unicenter) | Sweden / Private practice | 15 (7/8) | 47-80 (71) | NM | Mx, Md | Several (Nobel Biocare, ITI, Cresco IMZ) | 3 smokers |
| McCarthy | 2003 | RA (unicenter) | UK / University | 18 (6/12) | 18-75 (43.7) | Delayed (mean 35.4 wk) | Mx | Brånemark (Nobel Biocare, Göteborg, Sweden) | 5 smokers |
| Mendonça | 2014 | RA (unicenter) | Brazil / Private practice | 198 (86/112) | 45-81 (60) | Delayed (12-18 wk) | Mx, Md | NM | NM |
| Merli (1) | 2017 | RCT (unicenter) | Italy / Private practice | 24 (9/15) | 47-76 (63.4) | NM | Mx, Md | NM (Nobel Biocare, Göteborg, Sweden) | 5 light and heavy smokers |
| Merli (2) | 2020 | RCT (unicenter) | Italy / Private practice | 60 (22/38) | 19-72 (49) | Immediate, early | Mx, Md | Element, Contact (Thommen Medical, Waldenburg, Switzerland) | 7 smokers |
| Mertens | 2012 | PS (unicenter) | Germany / University | 15 (5/10) | 41-69 (55.3) | Delayed (6 mo) | Mx | TiOblast (Astra Tech, Mölndal, Sweden) | 6 smokers |
| Migliorati | 2015 | RCT (unicenter) | Italy / University | 48 (23/25) | 22-70 (47.5) | Immediate | Mx | Tapered Effect, Bone Level SLActive (Straumann, Basel, Switzerland) | 2 light smokers |
| Mijiritsky (1) | 2013 | RA (multicenter) | Israel / Private practice | 787 (NM) | 18-86 (53.7) | Immediate, delayed | Mx, Md | NM (Adin Dental Implants, Alon Tavor, Israel). | NM |

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|------------------------|------|------------------|--|---------------|------------------|------------------|--------|--|-------------------------|
| Mijiritsky (2) | 2015 | RA (NM) | Israel / NM | 20 (13/7) | 44-67 (56) | NM | Mx, Md | Several (Zimmer Dental, Carlsbad, USA; Friadent, Mannheim, Germany; MIS Implants Technologies, Shlomi, Israel) | 4 smokers |
| Mijiritsky (3) | 2016 | RA (multicenter) | Israel, Romania, Italy, Canada / University + Private practice | 37 (22/15) | 37-75 (51.2) | Delayed | Mx | iRaise (Maxillent Ltd, Herzliya, Israel) | 2 smokers |
| Minsk | 1996 | RA (unicenter) | USA / University | 380 (NM) | NM | NM | Mx, Md | Brånemark (Nobel Biocare, Göteborg, Sweden), others (ITI, 3i, IMZ, Astra) | NM |
| Mir-Mari | 2012 | RA (unicenter) | Spain / Private practice | 68 (24/44) | NM (45.1) | Delayed (4-6 mo) | Mx, Md | NM | 21 smokers |
| Moheng | 2005 | PS (unicenter) | France / Hospital | 93 (36/57) | 18-85 (60.5) | NM | Mx, Md | Frialit-2 (Friadent, Mannheim, Germany), IMZ Twin Plus (Friadent, Mannheim, Germany) | 15 smokers |
| Moraguez | 2016 | PS (unicenter) | Switzerland / University | 10 (4/6) | 32-68 (49.4) | Delayed | Mx | NM (Straumann, Basel, Switzerland) | 2 light smokers |
| Morales-Vadillo | 2013 | RA (unicenter) | Brazil / Private practice | 154 (NM) | 20-87 (55) | NM | Mx, Md | Bioform (BiomacMed, Juiz de Fora, Brazil) | NM |
| Mordenfeld | 2014 | PS (unicenter) | Sweden / Public service | 20 (6/14) | 48-69 (62) | Delayed (6-9 mo) | Mx | Mk II (Nobel Biocare, Göteborg, Sweden) | 9 smokers |
| Mundt | 2006 | RA (unicenter) | Germany / Private practice | 159 (65/94) | 14.9-80.9 (54.1) | NM | Mx, Md | TioloX implants (Dentaurum, Ispringen, Germany) | NM |
| Munoz | 2021 | RCT (unicenter) | Spain / University | 65 (32/33) | NM (54.9) | Delayed (10 wk) | Mx, Md | Vega (Klockner, Spain) | 8 smokers |
| Naeini | 2018 | CCT (unicenter) | England / Private practice | 36 (20/16) | 28-85 (62) | Delayed | Mx, Md | Brånemark TiUnite (Nobel Biocare, Göteborg, Sweden) | 5 smokers |
| Nedir | 2004 | CCT (unicenter) | Switzerland / Private practice | 236 (91/145) | 18-89 (NM) | Delayed | Mx, Md | TPS, SLA, ITI (Straumann, Waldenburg, Switzerland) | Light and heavy smokers |
| Niedermayer | 2017 | RA (unicenter) | Germany / Private practice | 380 (188/192) | 23-92 (61.9) | Immediate | Mx, Md | NanoTite (Biomet 3i, Palm Beach Gardens, USA), Nobel Active, Nobel Speedy, Nobel Speedy Replace and Nobel Replace CC (Nobel Biocare, Göteborg, Sweden) | 141 smokers |

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|-------------------------|------|-------------------|---------------------------------------|---------------|--------------|------------------|--------|--|---------------------------------------|
| Nitzan | 2005 | RA (unicenter) | Israel / Private practice | 161 (NM) | 23-89 (57) | NM | Mx, Md | NM | 59 light and heavy smokers |
| Noelken | 2020 | RCT (unicenter) | Germany / Private practice | 50 (18/32) | 23-73 (47) | Delayed (>3 mo) | Mx, Md | OsseoSpeed (Astra Tech, Mölndal, Sweden) | 7 light smokers 1 heavy smoker |
| Nogueira | 2018 | PS (unicenter) | Brazil / University | 45 (11/34) | 48-80 (63.4) | Delayed (3 mo) | Md | Titamax (Neodent, Curitiba, Brazil) | 5 light smokers |
| Noguerol | 2006 | RA (unicenter) | Spain / Private practice | 316 (NM) | NM | NM | Mx, Md | Brånemark (Nobel Biocare, Göteborg, Sweden) | Light, heavy, and extra-heavy smokers |
| Norton | 2017 | PS (unicenter) | United Kingdom / Private practice | 22 (10/12) | 22-79 (NM) | Immediate | Mx, Md | Astra Tech AV (Dentsply, Mölndal, Sweden) | Light smokers |
| Nyström | 2009 | PS (unicenter) | Sweden / University | 26 (13/13) | 38-70 (54.7) | Delayed (4-8 wk) | Mx | Brånemark (Nobel Biocare, Göteborg, Sweden) | 6 smokers |
| Oliva | 2012 | RA (unicenter) | Spain / Private practice | 17 (11/6) | NM (52.88) | Delayed (4 mo) | Mx, Md | SLA, ITI (Straumann, Waldenburg, Switzerland), SSII (Osstem, Surrey, UK) | 8 smokers |
| Olmedo-Gaya | 2016 | RA (unicenter) | Spain / Private practice | 142 (52/90) | 20-78 (48.5) | Delayed | Mx, Md | BTI (Biotechnology Institute) | 37 smokers |
| Olson | 2000 | RA (multicenter) | USA / University, Public institution | 29 (28/1) | 34-78 (56) | NM | Mx | NM | NM |
| Omran | 2015 | RA (unicenter) | USA / University | NM | ≥18 | NM | Mx, Md | Several (Astra Tech Osseospeed, Biomet 3i, NobelReplace) | Yes, but exact number not informed |
| Park | 2019 | RA (unicenter) | South Korea / Private practice | 207 (137/70) | 35-70 (51.1) | Delayed (6 mo) | Mx | NM | 98 smokers |
| Patil | 2020 | RCT (unicenter) | Malaysia / University | 24 (10/14) | NM (64) | Immediate | Md | Roxolid (Straumann, Basel, Switzerland) | 1 heavy smoker |
| Peleg | 2006 | CCT (NM) | USA, Israel / NM | 731 (278/453) | 42-81 (53) | Delayed (6-9 mo) | Mx | Spline HA cylinder MP-1 (Zimmer Dental, Carlsbad, USA), MTX (Zimmer Dental, Carlsbad, USA) | 226 smokers |
| Penarrocha | 2014 | RA (unicenter) | Spain / University | 13 (5/8) | 30-76 (54.8) | Delayed (3 mo) | Mx | Phibo Avantblast (PhiboDental Solutions S.L., Barcelona, Spain) | 13 light smokers |
| Penarrocha-Oltra | 2019 | RCT (multicenter) | Spain / University + Private practice | 20 (7/13) | 23-70 (51) | Delayed (4 mo) | Mx | Ticare Inhex (MozoGrau, Valladolid, Spain) | 3 light smokers 4 heavy smokers |

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|-------------------|------|----------------------|---|-------------|-------------------|-----------------------|--------|---|------------------------------------|
| Perez | 2020 | RCT (unicenter) | Switzerland / University | 36 (19/17) | 23-77 (51- 59) | Delayed (4 mo) | Mx, Md | BLT (Straumann, Basel, Switzerland) | 8 light smokers |
| Pico | 2019 | RCT (unicenter) | Spain / University | 33 (NM) | 40-76 (54) | Delayed (3 mo) | Mx, Md | BioniQ (LASAK) | NM |
| Pozzi (1) | 2014 | RCT (unicenter) | Italy / University | 34 (15/19) | 39-59 (52.2) | Delayed (2 mo) | Md | NobelActive and Nobel Speedy Groovy (Nobel Biocare, Göteborg, Sweden) | 4 light smokers |
| Pozzi (2) | 2014 | PS (multicenter) | Italy, USA / Private practice | 66 (28/38) | 39-79 (51.3) | Immediate | Mx | Nobel Speedy Replace and Groovy (Nobel Biocare, Göteborg, Sweden) | 16 light smokers |
| Pozzi (3) | 2015 | RA (unicenter) | Italy / University | 22 (11/11) | 50-83 (68.3) | Immediate | Mx, Md | TiUnite (Nobel Biocare, Göteborg, Sweden) | 3 light smokers |
| Pozzi (4) | 2016 | PS (unicenter) | Italy / University | 18 (7/11) | 58-73 (65.4) | Delayed (3 mo) | Mx, Md | Nobel Replace (Nobel Biocare, Göteborg, Sweden) | 2 light smokers |
| Prati | 2020 | PS (multicenter) | Italy / University + Private practice | 76 (34/42) | NM (55.6) | Delayed (3 mo) | Mx, Md | Premium SP (Sweden & Martina, Due Carrare, Italy) | 8 heavy smokers |
| Queridinha | 2016 | RA (unicenter) | Portugal / Private practice | 60 (21/39) | NM (64.1) | Immediate | Mx | Mk II, Mk III, Mk IV, TiUnite, NobelSpeedy Groovy, NobelReplace Tapered (Nobel Biocare, Göteborg, Sweden) | NM |
| Raabe | 2021 | RA (unicenter) | Switzerland / University | 55 (18/37) | 26-87 (60.8) | Delayed (>2 mo) | Mx, Md | SLA, SLActive (Straumann, Basel, Switzerland) | 2 light smokers 3 heavy smokers |
| Raes (1) | 2015 | CCT (multicenter) | Belgium, Italy / Private practice + University | 85 (42/43) | NM | Immediate | Mx | Osseospeed (Astra Tech, Mölndal, Sweden) | 46 smokers |
| Raes (2) | 2018 | PS (multicenter) | Italy, Belgium / Private practice + University | 46 (23/23) | 18-73 (44.5) | Immediate | Mx, Md | AnyRidge (MegaGen Implant, Gyeongbuk, South Korea) | 17 smokers |
| Ramaglia | 2015 | PS (unicenter) | Italy / University | 21 (13/8) | 30-53 (39) | Delayed (4 mo) | Mx | NM (Biomet 3i, Palm Beach, USA) | 8 smokers |
| Rasperini | 2014 | RA (multicenter) | Italy / University | 120 (NM) | NM (46- 51) | Delayed (4-6 mo) | Mx, Md | Brånemark machined (Nobel Biocare, Göteborg, Sweden), TPS (Straumann, Basel, Switzerland) | 40 smokers |
| Ravida (1) | 2018 | RA (unicenter) | USA / University | 45 (24/21) | 22-83 (58.9) | Immediate, delayed | Mx, Md | Several | 5 smokers |
| Ravida (2) | 2019 | RA (unicenter) | USA / University | 145 (64/81) | NM (69.7) | NM | Mx, Md | NM | 39 smokers |

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|--------------------------|------|---------------------|-----------------------------------|------------------|--------------------------------------|------------------------------|--------|--|--|
| Roccuzzo | 2016 | CCT (unicenter) | Italy / Private practice | 128 (52/76) | NM (52.4) | Delayed (6-10 wk) | Md | SLA (Straumann, Basel, Switzerland) | 21 smokers |
| Rodriguez-Argueta | 2011 | RA (unicenter) | Spain / University | 295 (127/168) | 21-68 (53.1) | NM | Mx, Md | Brånemark, Replace (Nobel Biocare, Göteborg, Sweden), DEFCON Tissue Care (Impladent SL, Sentmenat, Spain), NM (AstraTech, Mölndal, Sweden) | 113 smokers |
| Romandini | 2019 | RA (unicenter) | Italy / University | 52 (24/28) | NM (68.5) | NM | Mx, Md | Several (Straumann, Biomet 3i, Nobel Biocare, Camlog) | 10 smokers 4 former smokers |
| Romanos (1) | 2013 | CCT (unicenter) | Germany / University | 20 (12/8) | NM (55.7, G1) NM (65.9, G2) | Immediate | Mx, Md | Ankylos (Dentsply Implants, Mannheim, Germany) | 8 heavy smokers |
| Romanos (2) | 2014 | PS (unicenter) | Germany / University | 13 (7/6) | NM (60.8) | Immediate | Md | Ankylos (Dentsply implants, Mölndal, Sweden) | 5 heavy smokers |
| Rosen (1) | 1999 | RA (multicenter) | USA / Private practice | 101 (37/64) | 31-81 (56.1) | Delayed (mean 7 mo) | Mx | Several (Dentsply Standard; Implamed standard; TPS cylinders, Implant Innovations; standard, Implant Innovations; Interpore TPS cylinders, Wurmberg, Germany; turned, Nobel Biocare, Göteborg, Sweden; TPS, Straumann Waldenburg, Switzerland) | 17 smokers |
| Rosen (2) | 2018 | RA (unicenter) | USA / Private practice | 75 (27/48) | 29-88 (61) | Delayed (2-6 mo) | Mx, Md | ProActive (Neoss Ltd., Harrogate, England) | 6 smokers |
| Rossi (1) | 2017 | PS (unicenter) | Italy / Private practice | 20 (7/13) | NM (55) | Delayed (2 mo) | Mx, Md | SLActive (Straumann, Basel, Switzerland) | 7 heavy smokers |
| Rossi (2) | 2018 | PS (unicenter) | Italy / Private practice | 35 (13/22) | 28-70 (51) | Delayed (6 wk) | Mx, Md | SLActive (Straumann, Basel, Switzerland) | 10 heavy smokers |
| Salman | 2019 | RCT (unicenter) | USA / University | 30 (18/12) | 53-85 (66) | Immediate, delayed (3 mo) | Md | Osseospeed TX (Astra Tech, Mölndal, Sweden) | 4 light smokers |
| Sánchez-Pérez | 2007 | RA (unicenter) | Spain / Private practice | 66 (NM) | 15-71 (43.4) | Delayed (2 mo) | Mx, Md | Bis (Biotech, Avignon, France) | 40 light, heavy, and extra-heavy smokers |
| Sanna | 2007 | RA (unicenter) | Belgium / University | 30 (18/12) | 38-74 (56) | Immediate | Mx, Md | NM (Nobel Biocare, Göteborg, Sweden) | 13 smokers |
| Sanz-Martin | 2017 | RCT (unicenter) | Spain / University | 47 (21/26) | NM (58) | Delayed (12 mo) | Mx, Md | NM (Sweden & Martina, Due Carrare, Italy) | 10 light smokers 1 former smoker |
| Sayadoust | 2013 | RA (unicenter) | Sweden / Public institution | 80 (40/40) | NM (53.5- 63.2) | Delayed (3-4 mo) | Mx, Md | Brånemark, TiUnite (Nobel Biocare, Göteborg, Sweden) | 40 heavy smokers |

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|-------------------------------|------|---------------------|---|------------------|---------------------|-----------------------------------|--------|--|---|
| Schlee | 2015 | PS (multicenter) | Netherlands, Germany, Italy, France, Spain / Private practice | 105 (50/55) | 22-77 (55.2) | NM | Mx, Md | Trabecular Meta Material (Zimmer TMT, Parsippany, USA) | 17 light and heavy smokers |
| Schmid (1) | 2020 | RA (unicenter) | Switzerland / University | 26 (12/14) | NM (72.2) | Delayed (3-6 mo) | Mx, Md | SLA (Straumann, Basel, Switzerland) | 4 smokers |
| Schmid (2) | 2021 | RA (unicenter) | Switzerland / University | 21 (9/12) | 45-89 (71.4) | Delayed (3-6 mo) | Mx, Md | SLA (Straumann, Basel, Switzerland) | 1 smoker |
| Schneider | 2012 | RA (unicenter) | Switzerland / University | 70 (27/43) | 19.8-76.6 (50.7) | Early, delayed (mean 12 mo) | Mx, Md | Brånemark (Nobel Biocare, Göteborg, Sweden), SLA, ITI, (Straumann, Waldenburg, Switzerland) | 31 smokers |
| Schoenbaum | 2021 | RA (multicenter) | USA / Private practice | 378 (181/197) | NM (60) | NM | Mx, Md | NM | 15% of the implants in smokers and former smokers |
| Schwartz- Arad (1) | 2000 | RA (unicenter) | Israel / University | 43 (16/27) | 17-73 (47) | NM | Mx, Md | NM | NM |
| Schwartz- Arad (2) | 2012 | RA (unicenter) | Israel / University | 261 (NM) | 18-67 (48) | NM | Mx, Md | NM | 89 light and heavy smokers |
| Schwartz- Arad (3) | 2016 | RA (unicenter) | Israel / NM | 214 (35/179) | NM (50.3) | Delayed (4-6 mo) | Mx, Md | Several (Screw-Vent and Spline, Zimmer Dental Inc., Warsaw, USA; NobelActive and Replace Select, Nobel Biocare, Göteborg, Sweden; Implant Direct, Implant Direct LLC, Zurich, Switzerland) | 39 smokers |
| Shibuya | 2012 | RA (unicenter) | Japan / University | 9 (8/1) | 22-71 (50.6) | NM | Mx | TiUnite (Nobel Biocare, Göteborg, Sweden) | 5 smokers |
| Si (1) | 2016 | RA (unicenter) | China / University | 80 (43/37) | 25-70 (48.8) | Delayed (3-4 mo) | Mx | NM (Straumann, Basel, Switzerland) | NM |
| Si (2) | 2019 | RA (unicenter) | China / University | 156 (56/100) | 21-82 (51.5) | Delayed (3 mo) | Mx, Md | SLA (Straumann, Basel, Switzerland) | 13 smokers |
| Sicilia | 2021 | RA (unicenter) | Spain / Private practice | 268 (NM) | NM | Delayed (8-10 wk) | Md | Turned (Lifecore Biomedical), Osseotite (Biomet 3i), TiUnite (Nobel Biocare, Göteborg, Sweden) | 75 smokers |
| Siebers | 2010 | CCT (unicenter) | Germany / Private practice | 76 (34/42) | 22-85 (52 ± 13) | Immediate, delayed (4-6 mo) | Mx, Md | Camlog Rootline and Screw Line (Camlog Biotechnologies, Basel, Switzerland), Osseotite (Biomet 3i, Palm Beach Gardens, USA), Restore RBM (Lifecore Biomedical, Chaska, USA) | 15 smokers |

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|----------------------|------|-------------------|------------------------------------|--------------|---------------|-----------------------|--------|---|----------------------------|
| Simons | 2015 | RA (unicenter) | Belgium / University | 185 (69/116) | 20-88 (56.4) | Delayed (3-6 mo) | Md | Brånemark MK III (Nobel Biocare, Göteborg, Sweden) | 29 smokers |
| Sivolella | 2020 | RCT (unicenter) | Italy / University | 16 (10/6) | NM (53.5) | Delayed (4 mo) | Mx, Md | Osseotite Tapered Certain Prevail (Biomet 3i) | 3 light smokers |
| Souza | 2019 | RA (unicenter) | Brazil / NM | 10 (4/6) | 49-70 (60) | Delayed (6 mo) | Mx | Master Porous (Conexão Sistemas de Prótese Ltda, São Paulo, Brazil) | 1 smoker |
| Stacchi | 2021 | RA (multicenter) | Italy / Private practice | 156 (61/95) | 22-86 (60.9) | NM | Mx | NM | 29 smokers |
| Stoker | 2012 | RCT (unicenter) | Netherlands / University | 94 (28/66) | NM (59.8) | Delayed (3 mo) | Md | ITI/Bonefit (Straumann, Basel, Switzerland) | 35 smokers |
| Striezel | 2011 | RA (unicenter) | Germany, Israel / Private practice | 25 (12/13) | 45-74 (55.2) | Immediate | Mx, Md | Alpha Bio (Alpha-Bio Tech Ltd., Petach Tikva, Israel) | 3 smokers |
| Sverzut | 2008 | RA (unicenter) | Brazil / University | 650 (NM) | 13-84 (42.7) | NM | Mx, Md | NM | 76 smokers |
| Tallarico (1) | 2016 | RA (NM) | NM | 56 (25/31) | NM (66.2) | Immediate, delayed | Mx, Md | NobelReplace Conical Connection, NobelSpeedy Groovy, Brånemark MKIII, NobelReplace Tapered Groovy (Nobel Biocare, Göteborg, Sweden) | 3 light smokers |
| Tallarico (2) | 2017 | RA (multicenter) | Italy / Private practice | 141 (49/92) | 29-88 (53.3) | Immediate, delayed | Mx, Md | TiUnite Nobel Replace Conical Connection, Nobel Replace Select Tapered, NobelSpeedy Groovy (Nobel Biocare, Göteborg, Sweden) | Light and heavy smokers |
| Tallarico (3) | 2018 | RCT (multicenter) | Italy / Private practice | 20 (10/10) | 28-84 (61-67) | Delayed (4 mo) | Mx, Md | NobelSpeedy Groovy (Nobel Biocare, Göteborg, Sweden) | 1 heavy smoker |
| Tartaglia | 2016 | RA (unicenter) | Italy / Private practice | 113 (53/60) | 42-90 (65) | Immediate | Mx, Md | Milde (Titanmed, Bergamo, Italy) | 18 smokers |
| Taschieri | 2018 | RCT (unicenter) | Italy / University | 52 (22/30) | 31-77 (52) | Delayed (5-7 mo) | Mx | Interna, Universal Platform and Universal Plus Platform (BTI Biotechnology Institute, Vitoria-Gasteiz, Spain) | 12 light and heavy smokers |
| Tattan | 2021 | RA (unicenter) | USA / University | 201 (95/106) | 45-69 (60) | NM | Mx, Md | NM | 37 smokers |
| Tawil | 2008 | CCT (unicenter) | Lebanon / Private practice | 90 (57/33) | 43-84 (64.7) | Immediate, delayed | Mx, Md | Brånemark, TiUnite (Nobel Biocare, Göteborg, Sweden) | 40 smokers |
| Tealdo | 2015 | RA (unicenter) | Italy / University | 4 (3/1) | 41-65 (54) | Immediate | Md | NM (Nobel Biocare, Göteborg, Sweden) | 2 smokers |
| Temmerman | 2015 | PS (unicenter) | Belgium / University | 28 (3/25) | 42-76 (63) | Delayed (mean 3.6 mo) | Mx, Md | NM (Astra Tech, Dentsply Implants, Mölndal, Sweden) | Light and heavy smokers |

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|------------------------|------|----------------------|--|------------------|-----------------|-----------------------------------|--------|---|---|
| Testori (1) | 2001 | PS (multicenter) | Italy, Canada, Ireland, USA / Private Practice | 181 (76/105) | 18-86 (55.4) | Delayed (4-6 mo) | Mx, Md | Osseotite NanoTite Tapered (Biomet 3i, Palm Beach Gardens, USA) | 37 light smokers |
| Testori (2) | 2014 | RA (unicenter) | Italy / University | 80 (38/42) | NM (59) | Immediate, delayed | Mx, Md | NM (Biomet 3i, Palm Beach Gardens, USA) | 11 light smokers 15 heavy smokers |
| Testori (3) | 2017 | RA (multicenter) | Italy / NM | 27 (8/19) | 39-69 (57) | Immediate | Mx | NM (Biomet 3i, Palm Beach Gardens, USA) | 3 light smokers |
| Testori (4) | 2017 | RA (unicenter) | Italy / Private practice | 21 (11/10) | 24-73 (55.6) | Immediate, delayed | Mx, Md | T3 (Biomet 3i, Palm Beach Gardens, USA) | 1 light smoker 1 heavy smoker 1 pipe smoker |
| Thoma (1) | 2018 | RCT (multicenter) | Switzerland, Poland, Austria, Spain, USA / University + Private practice | 101 (49/52) | 20-75 (50.5) | Delayed (5 mo) | Mx | Osseospeed (Astra Tech, Mölndal, Sweden) | NM |
| Thoma (2) | 2019 | RA (unicenter) | Switzerland / University | 38 (18/20) | 30-92 (62.8) | NM | Mx, Md | NM (Nobel Biocare, Göteborg, Sweden) NM (Straumann, Basel, Switzerland) | 2 light smokers |
| Thoma (3) | 2020 | RCT (unicenter) | Switzerland / University | 20 (7/13) | NM (44) | Delayed (3 mo) | Mx, Md | NM | 2 smokers |
| Troiano | 2021 | RA (unicenter) | Italy / Private practice | 109 (63/46) | NM (58.1) | Immediate, Delayed (2-4 mo) | Mx, Md | Several (3i, JD Dental Care, Astra Tech, Sweden & Martina, SIN, Henry Schein Krugg, Biosfera) | 31 smokers |
| Twito | 2014 | RA (unicenter) | Israel / Military clinic | NM | 22-55 (41) | Immediate, delayed | Mx, Md | NM | NM |
| Urdaneta | 2012 | RA (unicenter) | USA / Private practice | 291 (147/144) | NM | NM | Mx, Md | Integra-CP (Bicon, Boston, USA) | 22 smokers |
| Uribarri | 2017 | CCT (unicenter) | Spain / University | 104 (44/60) | 38-78 (52) | Delayed (6 mo) | Mx | Osseospeed (Astra Tech, Mölndal, Sweden) SLActive (Straumann, Basel, Switzerland) | 12 smokers |
| Van Steenberghe | 2004 | PS (unicenter) | Belgium / University | 50 (25/25) | 45-80 (56.5) | Immediate | Md | Brånemark (Nobel Biocare, Göteborg, Sweden) | 13 heavy smokers |
| Vandeweghe (1) | 2011 | RA (multicenter) | Belgium / Private practice | 329 (141/188) | 18-84 (54) | Immediate, delayed | Mx, Md | NM (Southern Implants, Irene, South Africa) | 41 smokers |

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|-----------------------|------|------------------|--|---------------|--------------|-----------------------------|--------|--|---------------------------------|
| Vandeweghe (2) | 2012 | RA (multicenter) | South Africa, UK, Germany / Private practice | 75 (31/44) | 25-82 (58) | Immediate, delayed (3 mo) | Mx, Md | Sandblasted (Max Southern Implants, Irene, South Africa) | 10 light and heavy smokers |
| Vandeweghe (3) | 2013 | RA (multicenter) | Greece, Belgium / Private practice, University | 38 (16/22) | 20-82 (49) | Immediate | Mx, Md | Sandblasted (Southern Implants, Irene, South Africa) | 5 smokers |
| Vervaeke | 2015 | RA (unicenter) | Belgium / Private Practice | 376 (166/210) | 17-82 (56) | Immediate, delayed | Mx, Md | Osseospeed (Astra Tech, Mölndal, Sweden) | NM |
| Waechter | 2017 | RCT (unicenter) | Brazil / University | 20 (7/13) | NM (50.8) | Delayed (3 mo) | Md | Duo, Integra (Signo Vincens) | 2 light smokers |
| Wagenberg (1) | 2006 | RA (unicenter) | USA / University | 891 (281/510) | 14-94 (57.9) | Immediate, delayed (3-6 mo) | Mx, Md | Brånemark (Nobel Biocare, Göteborg, Sweden), Osseotite (3i Implant Innovations, Palm Beach Gardens, USA) | NM |
| Wagenberg (2) | 2013 | RA (unicenter) | USA / Private practice | 541 (NM) | 12-88 (58) | Immediate, delayed | Mx, Md | NM | Heavy smokers |
| Wallace | 2000 | RA (unicenter) | UK / NM | 56 (29/27) | NM | NM | Mx, Md | NM | 17 smokers |
| Wang (1) | 2016 | RA (unicenter) | China / University | 26 (15/11) | 55-76 (64) | Delayed (3 mo) | Mx | Tissue Level (Straumann, Basel, Switzerland) | 8 light smokers |
| Wang (2) | 2020 | RCT (unicenter) | USA / University | 49 (15/34) | 25-70 (46.8) | Immediate, Delayed (3 mo) | Mx, Md | NobelParallel Conical Connection (Nobel Biocare, Göteborg, Sweden) | 1 light smoker |
| Wennström | 2004 | RCT (unicenter) | Sweden / University | 51 (20/31) | 36-80 (59.5) | Delayed (3-6 mo) | Mx, Md | Tioblast (Astra Tech, Mölndal, Sweden) | 17 smokers |
| Werbelow | 2020 | RA (unicenter) | Germany / Private practice | 23 (13/10) | 42-74 (64) | Immediate | Mx, Md | blueSKY© (Bredent GmbH & Co. KG, Senden, Germany) | 2 smokers |
| Widmark | 2001 | RA (unicenter) | Sweden / Public Service | 36 (13/23) | NM | 6-8 months | Mx | Brånemark (Nobel Biocare, Göteborg, Sweden) | 11 smokers |
| Windael (1) | 2018 | PS (unicenter) | Belgium / University | 21 (8/13) | 49-84 (68.4) | Immediate | Md | Osseospeed (Astra Tech, Mölndal, Sweden) | 1 smoker 6 former smokers |
| Windael (2) | 2021 | RA (unicenter) | Belgium / Private practice | 407 (186/221) | 28-92 (64.9) | Immediate, Delayed (3 mo) | Mx, Md | Osseospeed (Astra Tech, Mölndal, Sweden) | 50 smokers 66 former smokers |
| Wolf | 2021 | RA (unicenter) | Germany / University | 121 (91/30) | 45-89 (65.7) | NM | Mx, Md | Several (Dentsply Sirona, Straumann, Camlog, Nobel Biocare) | 27 smokers |

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|---------------------|------|----------------|--------------------------------|---------------|--------------|----------------------------------|--------|---|-----------------------|
| Wu (1) | 2014 | RA (unicenter) | Canada / Private practice | 490 (198/292) | 17-93 (56.4) | Immediate, delayed (mean 5.1 mo) | Mx, Md | Brånemark (Nobel Biocare, Göteborg, Sweden) | Heavy smokers |
| Wu (2) | 2016 | RA (unicenter) | Canada / Private practice | 728 (375/353) | 18-93 (57.7) | Immediate, Delayed | Mx, Md | TiUnite (Nobel Biocare, Göteborg, Sweden) | 83 smokers |
| Wu (3) | 2017 | RA (unicenter) | Canada / University | 799 (369/430) | 18-93 (56.6) | NM | Mx, Md | TiUnite (Nobel Biocare, Göteborg, Sweden) | Any degree of smoking |
| Wu (4) | 2018 | RA (unicenter) | China / University | 72 (42/30) | NM (47) | Delayed (3-6 mo) | Mx, Md | XiVE S Plus (Dentsply implants, Mölndal, Sweden) | 9 light smokers |
| Zafiropoulos | 2010 | RA (unicenter) | Germany / Private practice | 252 (135/117) | 43-70 (49) | Immediate | Mx, Md | Camlog root line (Altatec, Wimsheim, Germany), SLA (Straumann, Waldenburg, Switzerland) | 86 light smokers |
| Zembic | 2016 | PS (unicenter) | Netherlands / University | 20 (15/5) | 45-84 (61) | Delayed (3-5 mo) | Mx | Roxolid Tissue Level (Straumann, Basel, Switzerland) | 6 smokers |
| Zinser | 2013 | RA (unicenter) | Netherlands / Public Hospital | 224 (120/104) | 35-81 (56) | Delayed (3-6 mo) | Mx | NM | NM |
| Zumstein | 2019 | RA (unicenter) | Switzerland / Private practice | 51 (22/29) | NM (58.2) | Immediate, delayed | Mx, Md | Neoss ProActive Straight (Neoss Ltd, Harrogate, UK) | 4 smokers |

NM – not mentioned; RA – retrospective analysis; PS – prospective study; CCT – controlled clinical trial; RCT – randomized controlled trial

G1 – group smokers; G2 – group non-smokers

d – days; wk – weeks; mo – months; Mx – maxilla; Md – mandible

^a light smokers <10 cig/day; heavy smokers >10 cig/day; extra-heavy smokers >20 cig/day

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|----------------|------|---|---|---|---|---|---|---|---|---|---|-----|
| Chrcanovic (3) | 2018 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Clauser | 2020 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Conrad | 2011 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Corvino | 2020 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 7/9 |
| Coskunses | 2021 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Crespi | 2019 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Cristalli | 2015 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Cucchi | 2019 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Daher | 2019 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Daneshvar | 2016 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 8/9 |
| Daubert | 2015 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| De Bruyn (1) | 1994 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 7/9 |
| De Bruyn (2) | 1999 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 7/9 |
| Degidi | 2015 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Deli | 2014 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 7/9 |
| D'haese | 2013 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 7/9 |
| Di Stefano | 2020 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Doan | 2014 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 8/9 |
| Donati (1) | 2015 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Donati (2) | 2018 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Donos | 2019 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 7/9 |
| Doyle | 2007 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 7/9 |
| Engstrand | 2003 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Feher | 2020 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Felice | 2015 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Flores-Guillen | 2018 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Fonseca | 2021 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Francetti (1) | 2014 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 7/9 |
| Francetti (2) | 2019 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Friberg | 2008 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Gamper | 2017 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Gander | 2014 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Gaspersic | 2021 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Geurs | 2001 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 7/9 |
| Ghazal | 2019 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |

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|-----------------|------|---|---|---|---|---|---|---|---|---|---|-----|
| Gherlone | 2016 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Gjelvold | 2020 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Gorman | 1994 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 7/9 |
| Grandi (1) | 2012 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Grandi (2) | 2012 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Grandi (3) | 2012 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Grandi (4) | 2013 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Grandi (5) | 2014 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Grandi (6) | 2015 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Grisar | 2017 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Groenendijk | 2020 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 8/9 |
| Grossmann | 2008 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 8/9 |
| Grunder | 1999 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Guarnieri (1) | 2019 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Guarnieri (2) | 2020 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Guida | 2020 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Göthberg | 2018 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Habsha | 2000 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Hakam | 2021 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Han | 2018 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Hartlev | 2021 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Hattingh (1) | 2018 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 7/9 |
| Hattingh (2) | 2019 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| He | 2015 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Higuchi | 2020 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 7/9 |
| Hingsammer | 2018 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Hinze | 2010 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 7/9 |
| Hof | 2014 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Holahan | 2008 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Horwitz | 2012 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 7/9 |
| Hsu | 2016 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Hu | 2020 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 8/9 |
| Ibañez (1) | 2003 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 7/9 |
| Ibañez (2) | 2005 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 8/9 |
| Iorio-Siciliano | 2016 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 7/9 |

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|---------------|------|---|---|---|---|---|---|---|---|---|-----|
| Ji | 2012 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 7/9 |
| Jones | 1999 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 7/9 |
| Kan | 1999 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 7/9 |
| Karoussis | 2003 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Keller | 1999 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 8/9 |
| Khouly | 2017 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 8/9 |
| Kim | 2015 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Kinsel | 2007 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Klotz | 2019 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Kolerman | 2017 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 8/9 |
| Komiyama | 2008 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 7/9 |
| Krennmair (1) | 2016 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Krennmair (2) | 2019 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Kumar | 2002 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 8/9 |
| Lambert | 2000 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Le | 2013 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 7/9 |
| Lee (1) | 2018 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 7/9 |
| Lee (2) | 2020 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 7/9 |
| Leventi | 2014 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 7/9 |
| Levin (1) | 2008 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 8/9 |
| Levin (2) | 2011 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Lin | 2012 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 7/9 |
| Lindquist | 1997 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Lini | 2019 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 8/9 |
| Lobato | 2020 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 7/9 |
| Locante | 2004 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 7/9 |
| Lombardo | 2020 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Luongo | 2020 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 7/9 |
| Malchiodi (1) | 2014 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Malchiodi (2) | 2016 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Maló (1) | 2013 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 8/9 |
| Maló (2) | 2019 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Maló (3) | 2019 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Mastrangelo | 2018 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Mayfield | 2001 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 7/9 |

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|-----------------|------|---|---|---|---|---|---|---|---|---|-----|
| McCarthy | 2003 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 8/9 |
| Mendonca | 2014 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Merli (1) | 2017 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Merli (2) | 2020 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Mertens | 2012 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Mijiritsky (1) | 2013 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 8/9 |
| Mijiritsky (2) | 2015 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 8/9 |
| Mijiritsky (3) | 2016 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 7/9 |
| Minsk | 1996 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 8/9 |
| Mir-Mari | 2012 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 7/9 |
| Moheng | 2005 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Moraguez | 2016 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Morales-Vadillo | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 8/9 |
| Mordenfeld | 2014 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Mundt | 2006 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Munoz | 2021 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Naeini | 2018 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Nedir | 2004 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 8/9 |
| Niedemaier | 2017 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Nitzan | 2005 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 8/9 |
| Noelken | 2020 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Nogueira | 2018 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Noguerol | 2006 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Norton | 2017 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Nyström | 2009 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Oliva | 2012 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 7/9 |
| Olmedo-Gaya | 2016 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Olson | 2000 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Omran | 2015 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Park | 2019 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Patil | 2020 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 7/9 |
| Peleg | 2006 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 7/9 |
| Penarrocha | 2014 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 7/9 |

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|-----------------------|------|---|---|---|---|---|---|---|---|---|-----|
| Penarrocha- Oltra | 2019 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Perez | 2020 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Pico | 2019 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Pozzi (1) | 2014 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Pozzi (2) | 2014 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Pozzi (3) | 2015 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Pozzi (4) | 2016 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Prati | 2020 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Queridinha | 2016 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Raabe | 2021 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Raes (1) | 2015 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Raes (2) | 2018 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Ramaglia | 2015 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 7/9 |
| Rasperini | 2014 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 8/9 |
| Ravida (1) | 2018 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Ravida (2) | 2019 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Roccuzzo | 2016 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Rodriguez- Argueta | 2011 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 8/9 |
| Romandini | 2019 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 7/9 |
| Romanos (1) | 2013 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 7/9 |
| Romanos (2) | 2014 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 7/9 |
| Rosen (1) | 1999 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 8/9 |
| Rosen (2) | 2018 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Rossi (1) | 2017 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 8/9 |
| Rossi (2) | 2018 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 8/9 |
| Salman | 2019 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Sánchez-Pérez | 2007 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 8/9 |
| Sanna | 2007 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Sanz-Martin | 2017 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Sayardoust | 2013 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 8/9 |
| Schlee | 2015 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 7/9 |
| Schmid (1) | 2020 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Schmid (2) | 2021 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |

| | | | | | | | | | | | |
|---------------|------|---|---|---|---|---|---|---|---|---|-----|
| Schneider | 2012 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Schoenbaum | 2021 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Schwartz-Arad | | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 7/9 |
| (1) | 2000 | | | | | | | | | | |
| Schwartz-Arad | | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 7/9 |
| (2) | 2002 | | | | | | | | | | |
| Schwartz-Arad | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| (3) | 2016 | | | | | | | | | | |
| Shibuya | 2012 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 7/9 |
| Si (1) | 2016 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Si (2) | 2019 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Siebers | 2010 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 7/9 |
| Simons | 2015 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Sivolella | 2020 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Souza | 2019 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 7/9 |
| Stacchi | 2021 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Stoker | 2012 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 7/9 |
| Strietzel | 2011 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Sverzut | 2008 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Tallarico (1) | 2016 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Tallarico (2) | 2017 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Tallarico (3) | 2018 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 8/9 |
| Tartaglia | 2016 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Taschieri | 2018 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Tattan | 2021 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Tawil | 2008 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Tealdo | 2015 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 7/9 |
| Temmerman | 2015 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Testori (1) | 2001 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 8/9 |
| Testori (2) | 2014 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9/9 |
| Testori (3) | 2017 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 7/9 |
| Testori (4) | 2017 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Thoma (1) | 2018 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |
| Thoma (2) | 2019 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 7/9 |
| Thoma (3) | 2020 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 8/9 |

^a 3 months of follow-up was considered to be of adequate length.

Color codes concerning risk of bias of the studies (last column of the table): low (green), moderate (yellow) or high (red) risk of bias