

N.	ARTICLE	APPROPRIATE	INTENDED USE	ACCEPTABLE	TOT SCORE	DESCRIPTION
IMPLANT AND GAP AND BACTERIAL AND LEAKAGE						
1	<p><a href="#">Cone-morse implant connection system significantly reduces bacterial leakage between implant and abutment: an in vitro study.</a> Baj A, Bolzoni A, Russillo A, Lauritano D, Palmieri A, Cura F, Silvestre FJ, Gianni AB. J Biol Regul Homeost Agents. 2017 Apr-Jun;31(2 Suppl 1):203-208.</p>	2	2	1	5	Cone-morse connection implant system has very low bacterial leakage percentage and is similar to one-piece implants.
2	<p><a href="#">Microleakage at the Different Implant Abutment Interface: A Systematic Review.</a> Mishra SK, Chowdhary R, Kumari S. J Clin Diagn Res. 2017 Jun;11(6):ZE10-ZE15. doi: 10.7860/JCDR/2017/28951.10054. Epub 2017 Jun 1. Review</p>	2	2	1	5	Systematic review studies showed that there was some amount of microleakage at abutment implant interface.
3	<p><a href="#">Bacterial leakage into and from prefabricated screw-retained implant-borne crowns in vitro.</a> Guindy JS, Besimo CE, Besimo R, Schiel H, Meyer J. J Oral Rehabil. 1998 Jun;25(6):403-8.</p>	2	2	5	4	Study on a specific implant.
4	<p><a href="#">Bacterial leakage in implants with different implant-abutment connections: an in vitro study.</a> Assenza B, Tripodi D, Scarano A, Perrotti V, Piattelli A, Iezzi G, D'Ercole S. J Periodontol. 2012 Apr;83(4):491-7. doi: 10.1902/jop.2011.110320. Epub 2011 Jul 22.</p>	2	2	1	5	The present study confirms previous results about the high prevalence of bacterial penetration of screw-retained implant-abutment assemblies.

5	<p><a href="#">Bacterial colonization of the implant-abutment interface of conical connection with an internal octagon: an in vitro study using real-time PCR.</a> Baj A, Beltramini GA, Bolzoni A, Cura F, Palmieri A, Scarano A, Ottria L, Gianni AB. J Biol Regul Homeost Agents. 2017 Apr-Jun;31(2 Suppl 1):163-168.</p>	2	2	1	5	Study on a specific implant.
6	<p><a href="#">Evaluation of the sealing capability of implants to titanium and zirconia abutments against Porphyromonas gingivalis, Prevotella intermedia, and Fusobacterium nucleatum under different screw torque values.</a> Smith NA, Turkyilmaz I. J Prosthet Dent. 2014 Sep;112(3):561-7. doi: 10.1016/j.prosdent.2013.11.010. Epub 2014 Mar 20.</p>	2	2	1	5	The results of this study showed that, over time, bacteria will leak through the implant-abutment microgap at the implant-abutment interface. Implants with a titanium abutment demonstrate a smaller microgap than implants with a zirconia abutment.
7	<p><a href="#">In vitro evaluation of bacterial leakage along the implant-abutment interface of different implant systems.</a> Steinebrunner L, Wolfart S, Bössmann K, Kern M. Int J Oral Maxillofac <b>Implants</b>. 2005 Nov-Dec;20(6):875-81.</p>	2	2	1	5	A newly developed test model that is a sensitive tool for the detection of differences between current implant systems with respect to their ability to prevent bacterial penetration at the implant-abutment interface under dynamic loading conditions.
8	<p><a href="#">Implant-abutment gap versus microbial colonization: Clinical significance based on a literature review.</a> Passos SP, Gressler May L, Faria R, Özcan M, Bottino MA. J Biomed Mater Res B Appl Biomater. 2013 Oct;101(7):1321-8. doi: 10.1002/jbm.b.32945. Epub 2013 May 10. Review.</p>	2	2	1	5	Systematic review studies showed that there was some amount of microleakage at abutment implant interface.

9	<p><a href="#">Implant-Abutment Contact Surfaces and Microgap Measurements of Different Implant Connections Under 3-Dimensional X-Ray Microtomography.</a> Scarano A, Valbonetti L, Degidi M, Pecci R, Piattelli A, de Oliveira PS, Perrotti V. <i>Implant Dent.</i> 2016 Oct;25(5):656-62. doi: 10.1097/ID.0000000000000465.</p>	2	2	1	5	The results of this study support the hypothesis that different types of implant-abutment joints are responsible for the observed differences in bacterial penetration.
10	<p><a href="#">Prevention of bacterial leakage into and from prefabricated screw-retained crowns on implants in vitro.</a> Besimo CE, Guindy JS, Lewetag D, Meyer J. <i>Int J Oral Maxillofac Implants.</i> 1999 Sep-Oct;14(5):654-60.</p>	3	3	3	9	Gaps were sealed with the chlorhexidine-containing varnish Cervitec with a positive feedback. (in vitro study).
11	<p><a href="#">In Vitro Characterization of Original and Nonoriginal Implant Abutments.</a> Karl M, Irastorza-Landa A. <i>Int J Oral Maxillofac Implants.</i> 2018 Nov/Dec;33(6):1229-1239. doi: 10.11607/jomi.6921.</p>	1	1	1	3	Restoration of an implant.
12	<p><a href="#">Bacterial colonisation of interior implant threads with and without sealing.</a> Proff P, Steinmetz I, Bayerlein T, Dietze S, Fanghänel J, Gedrange T. <i>Folia Morphol (Warsz).</i> 2006 Feb;65(1):75-7.</p>	3	3	3	9	This in vitro trial produced no evidence that sealing with gutta percha is an effective means to prevent secondary bacterial colonisation in the implant interior.
13	<p><a href="#">A new system of implant abutment connection: how to improve a two piece implant system sealing.</a></p>	2	2	1	5	Identify the capability of the implant to protect the internal space from the external environment

	Grecchi F, DI Girolamo M, Cura F, Candotto V, Carinci F. Oral Implantol (Rome). 2017 Nov 30;10(3):234-240. doi: 10.11138/orl/2017.10.3.234. eCollection 2017 Jul-Sep.					
14	<a href="#">A new implant-abutment connection for bacterial microleakage prevention: an <i>in vitro</i> study.</a> Tettamanti L, Cura F, Andrisani C, Bassi MA, Silvestrerangil J, Tagliabue A. Oral Implantol (Rome). 2017 Sep 27;10(2):172-180. doi: 10.11138/orl/2017.10.2.172. eCollection 2017 Apr-Jun.	2	2	1	5	Study on a specific implant.
15	<a href="#">Implant-abutment connections on single crowns: a systematic review.</a> Ceruso FM, Barnaba P, Mazzoleni S, Ottria L, Gargari M, Zuccon A, Bruno G, DI Fiore A. Oral Implantol (Rome). 2017 Jan 21;10(4):349-353. doi: 10.11138/orl/2017.10.4.349. eCollection 2017 Oct-Dec. Review.	2	2	1	5	Different kind of fixture-abutment connections and their clinical and mechanical advantages or disadvantages.
16	<a href="#">Fluids and microbial penetration in the internal part of cement-retained versus screw-retained implant-abutment connections.</a> Piattelli A, Scarano A, Paolantonio M, Assenza B, Leghissa GC, Di Bonaventura G, Catamo G, Piccolomini R. J Periodontol. 2001 Sep;72(9):1146-50.	2	2	1	5	Study on two specific implants.

17	<p><a href="#">Efficacy of a new <b>implant</b>-abutment connection to minimize microbial contamination: an <i>in vitro</i> study.</a> Mancini GE, Gianni' AB, Cura F, Ormanier Z, Carinci F. Oral Implantol (Rome). 2016 Nov 13;9(3):99-105. doi: 10.11138/orl/2016.9.3.099. eCollection 2016 Jul-Sep.</p>	2	2	1	5	Study on a new specific implant efficacy in reducing bacterial leakage.
18	<p><a href="#">Microleakage into and from two-stage <b>implants</b>: an in vitro comparative study.</a> Teixeira W, Ribeiro RF, Sato S, Pedrazzi V. Int J Oral Maxillofac <b>Implants</b>. 2011 Jan-Feb;26(1):56-62.</p>	2	2	1	5	Compare the leakage rates of two different types of implant-abutment connections.
19	<p><a href="#">Three-Dimensional Nonlinear Finite Element Analysis and Microcomputed Tomography Evaluation of Microgap Formation in a Dental <b>Implant</b> Under Oblique Loading.</a> Jörn D, Kohorst P, Besdo S, Borchers L, Stiesch M. Int J Oral Maxillofac <b>Implants</b>. 2016 May-Jun;31(3):e32-42. doi: 10.11607/jomi.4179.</p>	2	1	1	4	Compare two methods for investigating microgap formation in a loaded dental implant
20	<p><a href="#">In vitro analysis of the microbiological sealing of tapered <b>implants</b> after mechanical cycling.</a> Alves DCC, de Carvalho PSP, Elias CN, Vedovatto E, Martinez EF. Clin Oral Investig. 2016 Dec;20(9):2437-2445. doi: 10.1007/s00784-016-1744-0. Epub 2016 Feb 20.</p>	2	2	1	5	Evaluate the mechanical behavior and bacterial microleakage at the implant/abutment-tapered interface following mechanical cycling.
21	<p><a href="#">Implant-abutment leaking of replace conical connection nobel biocare® <b>implant</b> system. An <i>in vitro</i> study of the microbiological</a></p>	2	2	1	5	Study on a new specific implant.

	<p><a href="#">penetration from external environment to implant-abutment space.</a> El Haddad E, Gianni AB, Mancini GE, Cura F, Carinci F. Oral Implantol (Rome). 2016 Nov 13;9(2):76-82. doi: 10.11138/orl/2016.9.2.076. eCollection 2016 Apr-Jun.</p>					
22	<p><a href="#">Efficacy of antibacterial sealing gel and O-ring to prevent microleakage at the implant abutment interface: an in vitro study.</a> Nayak AG, Fernandes A, Kulkarni R, Ajantha GS, Lekha K, Nadiger R. J Oral Implantol. 2014 Feb;40(1):11-4. doi: 10.1563/AAID-JOI-D-10-00167. Epub 2011 May 16.</p>	3	3	3	9	Sealing ability of O-ring (in addition to polysiloxane) and GapSeal (an antibacterial sealing gel) was evaluated.
23	<p><a href="#">Determination of inner implant's volumes: a pilot study for microleakage quantification by stereomicroscopy and spectrophotometry.</a> Berberi A, Tehini G, Tabaja Z, Kobaissi A, Hamze K, Rifai K, Ezzedine M, Badran B, Chokr A. J Contemp Dent Pract. 2013 Nov 1;14(6):1122-30.</p>	2	2	1	5	Determine the volumes of inner parts of three dental implant systems with the same interface and to evaluate the microleakage phenomenon
24	<p><a href="#">Development of novel implant abutments using the shape memory alloy nitinol: preliminary results.</a> Pautke C, Kolk A, Brokate M, Wehrstedt JC, Kneissl F, Miethke T, Steinhäuser E, Horch HH, Deppe H. Int J Oral Maxillofac Implants. 2009 May-Jun;24(3):477-83.</p>	2	2	1	5	Study on a new specific implant.

25	<a href="#">Peri-implant microflora of implants with cemented and screw retained suprastructures.</a> Keller W, Brägger U, Mombelli A. Clin Oral <b>Implants Res.</b> 1998 Aug;9(4):209-17.	2	2	1	5	Compare the leakage rates of different types of implant-abutment connections.
26	<a href="#">Tightening of healing abutments: influence of torque on bacterial proliferation risk, an in vitro investigation.</a> Bousquet P, Bennasar IC, Tramini P, Jacquemot M, Cuisinier F. Biomed Tech (Berl). 2014 Dec;59(6):495-500. doi: 10.1515/bmt-2013-0142.	2	2	1	5	Compare the leakage rates and the tightening of the abutments.
27	<a href="#">Microleakage at the abutment-implant interface of osseointegrated implants: a comparative study.</a> Gross M, Abramovich I, Weiss EI. Int J Oral Maxillofac <b>Implants.</b> 1999 Jan-Feb;14(1):94-100.	2	2	1	5	Compare the leakage rates of different types of implant-abutment connections.
IMPLANT AND GAP AND MICROBIAL AND LEAKAGE AND SEAL						
1/2/3/4	articles already analyzed					
ELASTOMER AND SILVER AND DENTAL IMPLANT						
1	<a href="#">In vitro comparisons of casting retention on implant abutments among commercially available and experimental castor oil-containing dental luting agents.</a> Pinelli LA, Fais LM, Ricci WA, Reis JM. J Prosthet Dent. 2013 May;109(5):319-24. doi: 10.1016/S0022-3913(13)60308-X.	2	2	1	5	Comparison of dental luting agents.

2	<a href="#">A comparison of two solder registration materials: a three-dimensional analysis.</a> Rubenstein JE, Lowry MB. J Prosthet Dent. 2006 May;95(5):379-91.	2	2	1	5	Comparison of the use of 2 indexing materials, autopolymerizing acrylic resin and light-polymerized composite resin.
3	<a href="#">Implant-retained thumb prosthesis with anti-rotational attachment for a geriatric patient.</a> Goiato MC, Garcia-Júnior IR, Magro-Filho O, dos Santos DM, Pellizzer EP. Gerodontology. 2010 Sep;27(3):243-7. doi: 10.1111/j.1741-2358.2009.00283.x. Epub 2009 Nov 30.	1	1	1	3	New specific implant.
4	<a href="#">Predicting the clinical success of restorative dental materials.</a> Reisbick MH. Biomater Med Devices Artif Organs. 1979;7(1):89-98.	1	1	1	3	Is not updated to the current state of the art. (1979)
5	<a href="#">[Comparative analysis of tissue reaction to acrylic resin materials in studies on Wistar strain rats].</a> Sobolewska E. Ann Acad Med Stetin. 1999;45:253-64. Polish.	1	1	1	3	Study on rat tissue reaction to operatively inserted implants of different acrylic resin materials used in prosthetic dentistry.
6	<a href="#">[Animal model for the study of the biocompatibility of root filling materials].</a> Körner D, Palluck E. Dtsch Z Mund Kiefer Gesichtschir. 1991 Sep-Oct;15(5):395-400. German.	1	1	1	3	Is not updated to the current state of the art. (1991)
<b>SILVER, ABUTMENT, SEAL</b>						
<b>1</b>	<a href="#">Use of Silver Nanoparticles Reduces Internal Contamination of External Hexagon Implants by Candida albicans.</a>	<b>2</b>	<b>2</b>	<b>2</b>	<b>6</b>	Evaluation of the capacity of Ag to prevent the contamination of the implant internal surface by Candida albicans, caused by the



	Matsubara VH, Igai F, Tamaki R, Tortamano Neto P, Nakamae AE, Mori M. Braz Dent J. 2015 Oct;26(5):458-62. doi: 10.1590/0103-644020130087.					implant/abutment microgap infiltration.
2	<a href="#">Immobilization of Ag nanoparticles/FGF-2 on a modified titanium implant surface and improved human gingival fibroblasts behavior.</a> Ma Q, Mei S, Ji K, Zhang Y, Chu PK. J Biomed Mater Res A. 2011 Aug;98(2):274-86. doi: 10.1002/jbm.a.33111. Epub 2011 May 27.	2	1	2	5	Study of a rapid and firm soft tissue sealing around dental implants that resists bacterial invasion.