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Supplemental Table 1. Publications using nucleic-acid based diagnostic strategies										
Study	Country	Year published	Category	Seq type	Sequenced Nucleic Acid	Target Gene	Sequencing Technology	Infection diagnosis	Sample site	Level of Evidence
Grif et al ¹	Austria	2012	Septic arthritis	16S & 18S rRNA gene PCR	DNA	16S & 18S	Real-time & Sanger Sequencing	Positive culture	hip, knee	II
Suda et al ²	Germany	2013	PJI	16S rRNA gene PCR	DNA	16S	Endpoint PCR & Sanger Sequencing	Surgeon judgement	hip, knee	II
Gallo et al ³	Czech Republic	2008	PJI	16S rRNA gene PCR & RFLP	DNA	16S	Endpoint PCR	MSIS variant	hip, knee, elbow	II
Chen et al ⁴	Taiwan	2019	PJI	16S rRNA gene PCR	DNA	16S	Endpoint PCR	MSIS	hip, knee	II
Cazanave et al ⁵	United States	2013	PJI	RT-FRET	DNA	16S	Real-time	MSIS	hip, knee	II
Gomez et al ⁶	United States	2012	PJI	16S rRNA gene PCR	DNA	16S	Real-time & Sanger Sequencing	MSIS	hip, knee	II
Rak et al ⁷	Slovenia	2013	PJI	16S rRNA gene PCR	DNA	16S	Real-time & Sanger Sequencing	MSIS	hip, knee	II
Omar et al ⁸	Germany	2018	PJI	16S rRNA gene PCR	DNA	16S	Endpoint PCR & Sanger Sequencing	MSIS	hip, knee	II
Borde et al ⁹	Germany	2015	PJI	RT-PCR, Sanger sequencing, Multiplex PCR (Unyvero-ITI)	RNA	16S	Endpoint PCR & Sanger Sequencing	IDSA	hip, knee	II
Bereza et al ¹⁰	Poland	2013	PJI	16S rRNA gene PCR	DNA	16S	Sanger Sequencing	Surgeon judgement	hip, knee	II
Omar et al ¹¹	Germany	2016	Fx	16S rRNA gene PCR	DNA	16S	Endpoint PCR &	MSIS	hip, knee	II

							Sanger Sequencing			
Palmer et al ¹²	United States	2014	Nonunion	Multiplex PCR (Ibis)	DNA	many	Endpoint PCR	Positive culture	fracture nonunion	II
Bemer et al ¹³	France	2014	PJI	16S rRNA gene PCR	DNA	16S	Real-time & Sanger Sequencing	MSIS	hip, knee, shoulder, elbow	II
Rak et al ¹⁴	Slovenia	2016	PJI	16S rRNA gene PCR	DNA	16S	Endpoint PCR & Sanger Sequencing	MSIS	hip, knee	II
Stylianakis et al ¹⁵	Greece	2018	PJI	16S rRNA gene PCR	DNA	16S	Endpoint PCR & Sanger Sequencing	MSIS variant	hip, knee	II
Kuo et al ¹⁶	Taiwan	2018	PJI	16S/28S rRNA gene sequencing	RNA	16S & 28S	Endpoint PCR & Sanger Sequencing	MSIS	hip, knee	II
Ivy et al ¹⁷	United States	2018	PJI	metagenomic shotgun seq (Illumina HiSeq)	DNA	metagenomic	Next Generation	IDSA	hip, knee	II
Thoendel et al ¹⁸	United States	2018	PJI	metagenomic shotgun seq (Illumina HiSeq)	DNA	metagenomic	Next Generation	IDSA	hip, knee	II
He et al ¹⁹	China	2021	PJI	mNGS	DNA		Next Generation	MSIS	hip, knee	II
Huang et al ²⁰	China	2020	PJI	mNGS	DNA	metagenomic	Next Generation	MSIS	hip, knee	II
Lazic et al ²¹	Germany	2021	PJI	Multiplex PCR (Unyvero)	DNA	many	Endpoint PCR	Zimmerli criteria	hip, knee	II
Portillo et al ²²	Spain, Switzerland	2012	PJI	Multiplex PCR (Roche-SeptiFast)	DNA	many	Endpoint PCR	MSIS variant	hip, knee, shoulder, elbow	II
Jacobs et al ²³	Netherlands	2021	PJI	Multiplex PCR (Unyvero-ITI)	DNA	many	Endpoint PCR	aseptic	hip, knee	II
Renz et al ²⁴	Germany	2017	PJI	Multiplex PCR (Unyvero-i60)	DNA	many	Endpoint PCR	MSIS	hip, knee, shoulder, elbow	II
Lausmann et al ²⁵	Germany	2017	PJI	Multiplex PCR (Unyvero-ITI)	DNA	many	Endpoint PCR	MSIS	hip, knee	II

Morgenstern et al ²⁶	Germany	2018	PJI	Multiplex PCR (Unyvero-ITI)	DNA	many	Endpoint PCR	EBJIS	knee, hip	II
Suren et al ²⁷	Germany	2020	PJI	Multiplex PCR (Unyvero-ITI)	DNA	many	Endpoint PCR	MSIS	hip, knee	II
Kildow et al ²⁸	United States	2021	PJI	NGS (MicroGen)	DNA	16S & ITS	Next Generation	MSIS	hip, knee	II
Tarabichi et al ²⁹	United States	2018	PJI	NGS (Ion Torrent)	DNA	16S & ITS	Next Generation	Positive culture and alpha defensin	hip, knee	II
Namdari et al ³⁰	United States	2019	PJI	NGS (454)	DNA	16S	Next Generation	Frangiamore criteria	Shoulder	II
Rao et al ³¹	United States	2020	PJI	NGS (MicroGen)	DNA	16S & ITS	Next Generation	Positive culture	Shoulder	II
Torchia et al ³²	United States	2020	PJI	NGS (MicroGen)	DNA	16S & ITS	Next Generation	Aseptic	knee	II
Flurin et al ³³	United States	2021	PJI	NGS (Illumina MiSeq)	DNA	16S	Next Generation	IDSA	elbow	II
Askar et al ³⁴	United Kingdom	2019	PJI	PMA PCR	DNA	spp. Specific	Endpoint PCR	MSIS	hip, knee	II
Clarke et al ³⁵	United States	2004	PJI	PCR	DNA	16S	Endpoint PCR	Aseptic	hip	II
Metso et al ³⁶	Finland	2014	PJI	PCR & microarray (Prove-it)	DNA	gyrB & mecA	Endpoint PCR	MSIS	hip, knee	II
Jacovides et al ³⁷	United States	2012	PJI	ESI-TOF-MS (Ibis T5000) & NGS (454)	DNA	16S	Next Generation	Surgeon judgement	hip, knee	II
Melendez et al ³⁸	United States	2016	PJI	RT-FRET	DNA	many	Real-time	MSIS	knee	II
Moshirabadi et al ³⁹	Iran	2019	PJI	RT-PCR & RFLP	DNA	16S	Real-time & Endpoint PCR	MSIS	hip, knee	II
Bergin et al ⁴⁰	United States	2010	PJI	RT-qPCR	RNA	16S	Real-time	MSIS variant	knee	II
Ryu et al ⁴¹	United States	2014	PJI	RT-FRET	DNA	many	Real-time	MSIS variant	knee	II
Yang et al ⁴²	China	2020	PJI	RT-PCR	DNA	16S	Real-time	ICM	hip, knee	II
Yang et al ⁴³	China	2021	PJI	RT-qPCR	RNA	16S	Real-time & Sanger Sequencing	MSIS	hip, knee	II

Fink et al ⁴⁴	Germany	2018	PJI	UMD-Universal PCR	DNA	16S & 18S	Endpoint PCR & Sanger Sequencing	Positive culture	Knee	II
Kildow et al ⁴⁵	United States	2020	PJI	NGS (MicroGen)	DNA	16S & ITS	Next Generation	IDSA	knee hip	III
Miyamae et al ⁴⁶	Japan	2012	PJI	RT-PCR	DNA	16S	Real-time	Positive culture	hip, knee	III
Legend: DNA: deoxyribonucleic acid; ESI-TOF: Electrospray Ionization Time-of-Flight; IDSA: Infectious diseases society of America; mNGS: metagenomic next-generation sequencing; MS: Mass spectrometry; MSIS: Musculoskeletal infection society; NGS: Next-generation sequencing; PCR: polymerase chain reaction; PMA-PCR: propidium monoazide-based PCR; PJI: prosthetic joint infection; qPCR: Quantitative PCR; RFLP: restriction fragment length polymorphism; RNA: ribonucleic acid; rRNA: ribosomal RNA; RT-FRET: real-time fluorescence resonance energy transfer; RT-PCR: real-time PCR; UMD: Universal microbial diagnostics; 16S: small subunit of bacterial ribosome; 18S: small subunit of eukaryotic ribosome; 28S: large subunit of eukaryotic ribosome										

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