Actinomyces spp. Gleimia spp. Schaalia spp. Winkia spp. (LTR79375)

Edit Approved By: Naidu, Prenilla (07/25/2023) **Revision: 5.00**

Organism

Actinomyces spp.

- *A. bovis*
- *A. dentalis*
- *A. gerencseriae*
- *A. graevenitzii*
- *A. israelii*
- *A. johnsonii*
- *A. meyeri*
- *A. naeslundii*
- *A. oris*
- *A. slackii*
- *A. urogenitalis*
- *A. viscosus*

Gleimia spp. (formerly *Actinomyces spp.)*

- *G. europaeus*

Schaalia spp. (formerly *Actinomyces spp.)*

- *S. georgiae*
- *S. odontolyticus*
- *S. radingae*
- *S. turicensis*

Winkia spp. (formerly *Actinomyces spp.)*

- *W. neuii*

Clinical

These organisms are part of the normal flora of the gastrointestinal, genitourinary, and upper respiratory tracts. These organisms may be involved in polymicrobial infections, especially chronic wounds/abscesses and draining sinus tracts. They may cause bacteremia and intrauterine contraceptive device related pelvic infections. Actinomycosis (cervicofacial, thoracic, or abdominal) may be caused by several species including most commonly *Actinomyces israelii and A. gerencseriae* but also *A. naeslundii, A. viscosus, Schaalia meyeri and S. odontolyticus.*

Several species have been associated with genitourinary infections and skin related abscesses *(Gleimia europaea, Schaalia radingae, S. turicensis and Winkia neuii).*

Usual susceptibility pattern

These organisms are usually susceptible to penicillin and carbapenems. Susceptibility to clindamycin, erythromycin, and tetracyclines is variable. These organisms are resistant to metronidazole. Quinolones do not have reliable activity.

Actinomyces spp. Gleimia spp. Schaalia spp. Winkia spp., Continued

Susceptibility method

Etest method using Laked Blood Agar incubated anaerobically at 35° C for 48-72 hours, depending on growth characteristics. (Clindamycin – read at 48 hours).

Actinomyces spp. can grow in various atmospheric conditions (anaerobic, CO_2, O_2). In spite of this, susceptibility testing should be performed under anaerobic conditions.

Note: Use 1.0 McFarland suspension in pre-reduced, enriched, thioglycollate broth.

Susceptibility reporting

	CSF/ Brain	Blood	Other	Comments
Amoxicillin/ clavulanate		2	2	2nd line if co-isolated with beta-lactamase positive organism(s) If pen S – report amox-clav S If pen I/R – do amox-clav Etest
Clindamycin			✓	
Meropenem	✓	2	2	2nd line if pen I/R. Consult microbiologist if I/R
Penicillin	✓	✓	✓	Consult microbiologist if I/R
Tetracycline			✓	Do not report in patient < 8y.
Metronidazole	R	R	R	

Note: Consult microbiologist regarding the need for susceptibility testing.
Susceptibility testing is recommended if organism is sole isolate from sterile body site. For other sites, or if isolated with other organisms, clinical correlation and correlation with Gram stain is required. Generally, susceptibility testing is not recommended if multiple organisms isolated.

Urine Isolates: For sterile urine isolates, add comment: "This organism is generally susceptible to amoxicillin" &amx2

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Interpretation For Etest, report actual MIC result. For interpretation (S, I, or R) report according to the nearest higher doubling dilution **(Appendix 1)**

Antibiotic	Interpretive document	Interpretation (µg/mL)			Add comment
		S	I	R	
Amoxicillin/ clavulanate	CLSI: Anaerobes	≤4/2	8/4	≥16/8	
Clindamycin	EUCAST: Gram-positive anaerobes	≤4		≥8	21178
Meropenem	EUCAST: Gram-positive anaerobes	≤2	4-8	≥16	21178
Penicillin	EUCAST: Gram-positive anaerobes	≤0.25	0.5	≥1	21178 + Penicillin interpretation applicable to parenteral use only. (free text)
Tetracycline	CLSI: Anaerobes	≤4	8	≥16	
21178: Interpretation is based upon EUCAST breakpoints.					