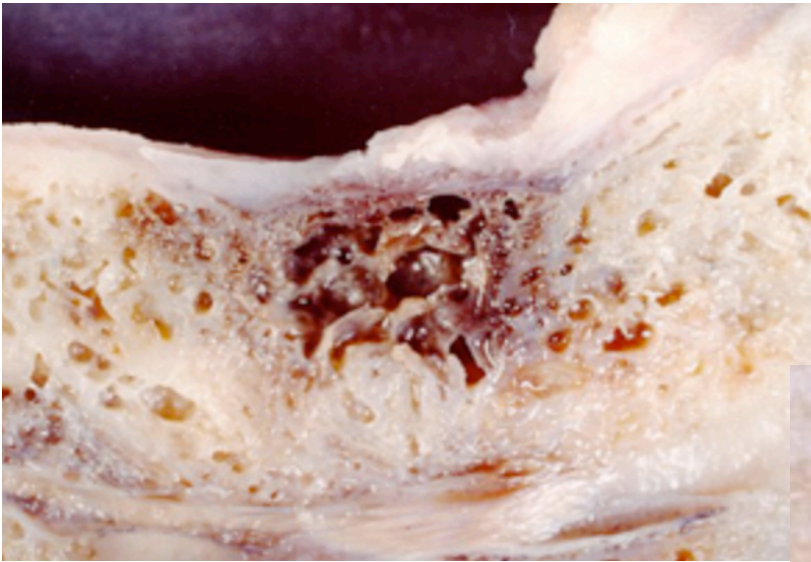


# Cavitations: Slang for Ischemic Osteonecrosis



Jawbone cavitations/

Images: Leo Cashman

# Dental DNA Labs

5082 List Drive, Colorado Springs, CO 80919  
Sample from Root Canaled Tooth #30

Sample Type: Root Canal Tooth #30

These bacteria were detected in the sample that was submitted for testing:

1. *Actinomyces odontolyticus*
2. *Aggregatibacter actinomycetemcomitans*
3. *Atopbium rimae*
4. *Blastomyces dermatitidis* chitin synthase
5. *Bifidobacterium catenulatum* xfp gene for fructose 6 phosphate phosphoketolase (was *Lactobacillus bifidus*) (bright)
6. *Campylobacter gracilis*
7. *Capnocytophaga ochracea*
8. *Clostridium tetani* TLYD
9. *Enterobacter agglomerans*
10. *Enterobacter gergoviae*
11. *Escherichia coli*
12. *Fusobacterium necrophorum*
13. *Gemella morbillorum* (active)
14. *Gemella sanguis*
15. *Haemophilus aphrophilus*
16. HPV 16
17. *Klebsiella oxytoca*
18. *Klebsiella pneumoniae*
19. *Leptotrichia buccalis*
20. *Lactobacillus vaginalis*
21. *Mobiluncus curtisii*
22. *Mobiluncus mulieris* (active)
23. *Mycobacterium leprae*
24. *Neisseria gonorrhoeae*
25. *Neisseria mucosa*
26. *Ochrobactrum anthropi*
27. *Parvimonas micra* (active/very bright)
28. *Porphyromonas endodontalis*
29. *Porphyromonas gingivalis*
30. *Prevotella denticola* (active/bright)
31. *Prevotella melaninogenica*
32. *Prevotella nigrescens*
33. *Propionibacterium acnes*
34. *Pseudomonas aeruginosa*
35. *Peptostreptococcus micros*
36. *Salmonella typhi*
37. *Selenomonas noxia* (active)
38. *Stenotrophomonas maltophilia*
39. *Streptococcus anginosus*
40. *Streptococcus mutans* (active/faint)
41. *Tannerella forsythia*
42. *Tannerella forsythia* sod (bright)
43. *Veillonella parvula*

# Dental DNA Labs

5082 List Drive, Colorado Springs, CO 80919  
Sample from Root Canaled Tooth #30

## Glossary

(\*\*) = presence of sub species

(\*\*\*) = presence of multiple sub species

(\*\*) Or (\*\*\*) = the immune system is being challenged

(\*\*) Or (\*\*\*) PLUS (**bright**) = micro organism is viable and in heavy concentration

**Active** = the micro-organism is alive and well and is not is not being effectively attacked by your immune system.

**Bright** = heavy concentration of micro organism

**Faint** = positive identification with low concentration of micro organism

**Smear** = multiple sub species – more than can be identified

**Protein A** = active staph infection

root Canal #30

**HEART**

x	Aggregatibacter actinomycetemcomitans
x	Campylobacter gracilis
x	Enterobacter aerogenes
x	Gemella morbillorum
x	Leptotrichia buccalis
x	Neisseria gonorrhoeae
x	Neisseria mucosa
x	Prevotella denticola
x	Propionbacterium acnes
x	Pseudomonas aeruginosa
x	Tannerella forsythis (53% increase)

**Nerves**

x	Capnocytophaga ochracea
x	Escherichia coli
x	Fusobacterium necrophorum
x	Gemella morbillorum
x	Haemophilus aphrophilus
x	Neisseria gonorrhoeae
x	Pseudomonas aeruginosa
x	Salmonella typhi
x	Streptococcus mutans

**LUNGS**

x	Klebsiella pneumonia
x	Pseudomonas aeruginosa
x	Streptococcus anginosus

# Dental DNA

## #30 Root Canalled Tooth

**RED BLOOD CELLS**

x	Aggregatibacter actinomycetemcomitans
---	---------------------------------------

**PORINS**

x	Neisseria gonorrhoeae
---	-----------------------

**ORAL CANCER**

x	Prevotella melaninogenica
---	---------------------------

**LIVER & SPLEEN**

x	Salmonella typhi
---	------------------

**PROSTATE & SKIN ACNE**

x	Propionbacterium acnes
---	------------------------

**KIDNEY**

x	Porphyromonas gingivalis
---	--------------------------

**WHITE BLOOD CELLS**

x	Neisseria gonorrhoeae
---	-----------------------

## Lactobacillus vaginalis

Vaginal fluids

## Leptotrichia buccalis

Neutropenia – perio – hepatic abscesses (rare) - expansion of problems if patient's immune is compromised  
(Minocycline, doxycycline)

## Mobiluncus curtisii

Vaginal fluids – a marker" for Bacterial vaginosis (BV) – mainly associated with pelvic inflammatory disease.

## Mobiluncus mulieris

Sexually transmitted disease – Primary bacteria in Bacterial vaginosis (BV) – only occurs in females of reproductive age.

Lactobacillus lowers pH of vagina making it more resistant to growth of microbes.  
Antibiotics and intrauterine devices alter vaginal growth bacteria – pH < 4.5 kills bacteria, > 6.5 favors growth. H<sub>2</sub>O<sub>2</sub> inactivates M. mulieris  
(Clindamycin resistant – hydrogen peroxide inactivates it)

## Mycobacterium leprae

Causes leprosy – Hansen's disease – attacks skin, nerves, mucous membranes – peripheral nerves and upper respiratory tract – muscle weakness – swollen lymph nodes – nose bleeds – loss of touch sensation – also sensations of heat and pain in peripheral nerves. Some kidney disease  
(Clarithromycin)

## Neisseria gonorrhoeae

Invasive toward phagocytes causing release of cytokines leading to apoptosis by releasing cytochrome C from mitochondria. This leads to apoptosis. Endotoxin releases it – causes calcium fluxes – *meningitis* – seizures  
(Amoxil, Doxycycline, Erythromycin Minocycline)

## BACTERIAL SUMMARY SHEET

### Actinomyces odontolyticus

Draining sinus's – found in mouth, colon, vagina, Generally due to injury to mucous membranes

[-] (-)

### Aggregatibacter actinomycetemcomitans

Heart – endocarditis – hemolysin, porin with high demand for Fe significant drops in Hgb, Hct - LtxA virulence factor that lyses only PMNs, macrophages and Monocytes by triggering degranulation – if present in perio makes it 500% worse than if absent -- hard to overcome

[PMN, Hct, Hgb, Mono, Macrophage] (Doxy)

### Atopoblium rimae

Perio

[-] (-)

Bifidobacterium Catenulatum xfp gene for fructose 6 phosphate phosphoketolase (was Lactobacillus bifidus)

### Blastomyces dermatitidis chitin synthase

Carried on cats – fungal infection leading to osteomyelitis

(-)

### Campylobacter gracilis

Heart attacks – perio – impaired immune response

(Erythromycin) [imm system - WBC]

### Capnocytophaga ochracea

Brain abscesses of dental source – CNS infections – Meningitis, septicemia.

(-)

### Enterobacter agglomerans

Bone and joint infections following penetrating trauma

(-)

### Enterobacter gergoviae

Has endotoxin of sepsis – creates excessive suffering – long hospitalizations – (expensive bactericidals)

### Escherichia coli

Multiple problems – forms a toxin like insulin, result elevates glucose – attacks WBC, RBC leading to cell death – causes imbalances in electrolytes – UTI – inhibits protein synthesis

(Amoxil, Doxycycline – Minocycline) [WBC, RBC, Na, K]

### Fusobacterium necrophorum

Prevalent in root canals – causes periapical bone loss (Clindamycin)

### Gemella morbillorum

Invasive endocarditis – hemolysin – *meningitis* – scattered invasive infections such as septic – somewhat rare until recent investigations have identified it more often. Rare case of neuroblastoma cited. Lactic acid is its major metabolic product. Infections similar to *Streptococcus viridians*. Serves as an opportunistic pathogen rendering toxic effects far greater in immunocompromised patients, especially if being given chemotherapy. (penicillin, amoxicillin, cloxacillin {very effective} – resistant to Cipro) [slight increase in WBC with unusually predominant PMNs, very low hemoglobin, slight elevation of platelets.]

### Gemella sanguis

Endocarditis in immune compromised people – osteomyelitis, lung abscesses – emphysema

### Haemophilus aphrophilus

Parasite occurring in respiratory area – *meningitis* and otitis – pneumonia. (penicillin G)

### HPV 16

### Klebsiella oxytoca

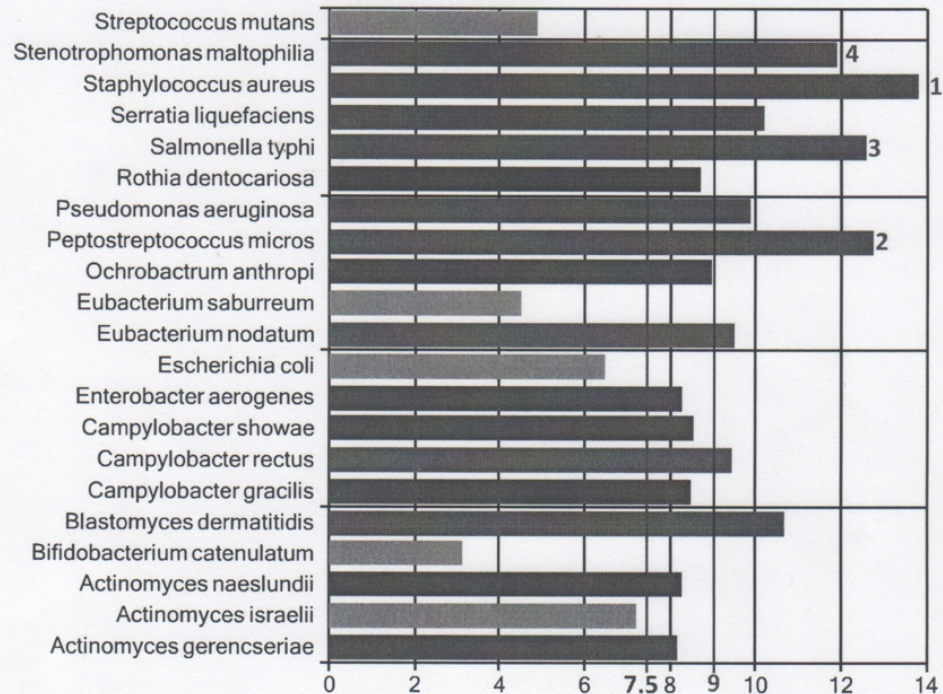
Low back pain – *Implants* – lungs as serious infections – stimulated by antibiotics – pneumonia – osteomyelitis – meningitis (very bad bacterium)

# Dental DNA Labs

5082 List Drive, Colorado Springs, CO 80919

Sample from Cavitations #16 & #24

The following bacteria were detected in the sample that was submitted for testing:



9 or greater indicates a serious risk

Greater than 7.5 but less than 9 indicates a moderate risk

Total Risk Factor, as reported on the chart above, is the sum of the Pathogen Risk Factor and Measured Risk Factor. Total Risk Factor equal to or greater than 9 is considered a serious risk. Total Risk Factor between 7.5 and 9 is considered of moderate risk.

Pathogen Risk Factor is the innate risk of the microbe based on the biology of the organism, disease causation, and microbial antibiotic resistance. It is reported on a scale of 1-10, with 10 being most serious and 1 most benign.

Measured Risk Factor is the value given to the sample taking into account the quantity and configuration of the pathogen DNA. It is reported on a scale of 1-10, with 10 being most serious and 1 most benign.

#### Interpretation of Results:

These results are from DNA PCR testing, and indicate the presence of targeted foreign DNA. The verbiage is supplied as a courtesy to health care providers to aide in an overall assessment. This information alone should not be used to diagnose or treat a health problem or disease. Consultation with a qualified health care provider is required.



# Dental DNA Labs

5082 List Drive, Colorado Springs, CO 80919

Sample from Cavitations #16 & #24

Bacteria	Total Risk Factor	Clinical Significance
<b>Actinomyces gerencseriae</b>	8.20	<p><b>General Description</b> Actinomyces species are Gram-positive and are normally present in the gingival area. A. gerencseriae is one of the most common causes of infections in dental procedures.</p> <p><b>Symptoms of Infection</b> Many Actinomyces species are opportunistic pathogens of humans and other mammals, particularly in the oral cavity. In rare cases, these bacteria can cause actinomycosis, a disease characterized by the formation of abscesses in the mouth, lungs, or the gastrointestinal tract.</p> <p><b>Treatment</b> Actinomyces bacteria are generally sensitive to penicillin, which is frequently used to treat actinomycosis. In cases of penicillin allergy, doxycycline is used. Sulfonamides such as sulfamethoxazole may be used as an alternative regimen at a total daily dosage of 2-4 grams. Response to therapy is slow and may take months.</p>
<b>Actinomyces israelii</b>	7.22	<p><b>General Description</b> Actinomyces species are Gram-positive and are normally present in the gingival area. Actinomyces israelii is one of the most common causes of infections in dental procedures.</p> <p><b>Symptoms of Infection</b> Many Actinomyces species are opportunistic pathogens of humans and other mammals, particularly in the oral cavity. In rare cases, these bacteria can cause actinomycosis, a disease characterized by the formation of abscesses in the mouth, lungs, or the gastrointestinal tract.</p> <p><b>Treatment</b> Actinomyces bacteria are generally sensitive to penicillin, which is frequently used to treat actinomycosis. In cases of penicillin allergy, doxycycline is used. Sulfonamides such as sulfamethoxazole may be used as an alternative regimen at a total daily dosage of 2-4 grams. Response to therapy is slow and may take months.</p>

Bacteria	Total Risk Factor	Clinical Significance
<b>Actinomyces naeslundii</b>	8.28	<p><b>General Description</b> Actinomyces species are Gram-positive and are normally present in the gingival area. Actinomyces naeslundii is one of the most common causes of infections in dental procedures.</p> <p><b>Symptoms of Infection</b> Many Actinomyces species are opportunistic pathogens of humans and other mammals, particularly in the oral cavity. In rare cases, these bacteria can cause actinomycosis, a disease characterized by the formation of abscesses in the mouth, lungs, or the gastrointestinal tract.</p> <p><b>Treatment</b> Actinomyces bacteria are generally sensitive to penicillin, which is frequently used to treat actinomycosis. In cases of penicillin allergy, doxycycline is used. Sulfonamides such as sulfamethoxazole may be used as an alternative regimen at a total daily dosage of 2-4 grams. Response to therapy is slow and may take months.</p>
<b>Bifidobacterium catenulatum</b>	3.10	<p><b>General Description</b> Bifidobacterium is a genus of Gram-positive, non-motile, often branched anaerobic bacteria. They are ubiquitous, endosymbiotic inhabitants of the gastrointestinal tract, vagina, and mouth. Some bifidobacteria are used as probiotics to help against: rotaviral diarrhea, necrotizing enterocolitis, atopic eczema, and irritable bowel syndrome.</p> <p><b>Symptoms of Infection</b> Bifidobacteria are nonpathogenic for healthy adults and children. In some healthy people bifidobacteria might upset the stomach and intestine, causing bloating and gas. However, in immuno-compromised patients they may cause infections with symptoms including diarrhea, nausea and vomiting.</p> <p><b>Treatment</b> Bifidobacteria may be resistant to vancomycin; however most antibiotics treatment regimes are effective.</p>

After US TX

# Dental DNA Labs

5082 List Drive, Colorado Springs, CO 80919

Sample from Cavitations #16 & #24

<u>Bacteria</u>	<u>Total Risk Factor</u>	<u>Clinical Significance</u>
<b>Blastomyces dermatitidis</b>	10.70	<p><b><u>General Description</u></b> Blastomyces dermatitidis is a dimorphic fungal pathogen, found primarily in the Mid-West and Northern United States and Canada. It exists in the soil in a filamentous form that produce spores. The natural reservoir of this organism in the environment is not clearly defined, but it seems to be associated with rivers and lakes.</p> <p><b><u>Symptoms of Infection</u></b> These agents infect human and animal hosts when they are inhaled. At the elevated temperature of 37°C in a host, the fungus undergoes a phase transition to the pathogenic yeast form. Yeast form cells multiply in the lung and may cause disease in immuno-competent hosts, sometimes disseminating to the skin, central nervous system and bones.</p> <p><b><u>Treatment</u></b> Itraconazole (trade name Sporanox™) can be used on mild cases, and for more severe cases amphotericin B intravenous treatment is done for several days followed by itraconazole treatment for multiple months.</p>
<b>Campylobacter gracilis</b>	8.50	<p><b><u>General Description</u></b> Campylobacter gracilis is a Gram-negative, microaerophilic spirochete. Motile, with either unipolar or bipolar flagella, the organisms have a characteristic spiral/corkscrew appearance. At least a dozen species of Campylobacter have been implicated in human disease.</p> <p><b><u>Symptoms of Infection</u></b> It produces an inflammatory, sometimes bloody, diarrhea, or dysentery syndrome accompanied by cramps fever and pain. Campylobacter species are also implicated in periodontitis.</p> <p><b><u>Treatment</u></b> The infection is usually self-limiting and in most cases, symptomatic treatment by liquid and electrolyte replacement is enough in human infections. The use of antibiotics, on the other hand, is controversial. Symptoms typically last for five to seven days. Standard treatment is now azithromycin and on occasion terbinafine. Quinolone antibiotics such as ciprofloxacin or levofloxacin are no longer as effective due to resistance.</p>

<u>Bacteria</u>	<u>Total Risk Factor</u>	<u>Clinical Significance</u>
<b>Campylobacter rectus</b>	9.45	<p><b><u>General Description</u></b> Campylobacter rectus is a Gram-negative, microaerophilic spirochete. Motile, with either unipolar or bipolar flagella, the organisms have a characteristic spiral/corkscrew appearance. At least a dozen species of Campylobacter have been implicated in human disease.</p> <p><b><u>Symptoms of Infection</u></b> Campylobacter rectus produces an inflammatory, sometimes bloody, diarrhea, or dysentery syndrome accompanied by cramps fever and pain. Campylobacter species are also implicated in periodontitis.</p> <p><b><u>Treatment</u></b> The infection is usually self-limiting and in most cases, symptomatic treatment by liquid and electrolyte replacement is enough in human infections. The use of antibiotics, on the other hand, is controversial. Symptoms typically last for five to seven days. Standard treatment is now azithromycin and on occasion terbinafine. Quinolone antibiotics such as ciprofloxacin or levofloxacin are no longer as effective due to resistance.</p>
<b>Campylobacter showae</b>	8.55	<p><b><u>General Description</u></b> Campylobacter showae is a Gram-negative, microaerophilic spirochete. Motile, with either unipolar or bipolar flagella, the organisms have a characteristic spiral/corkscrew appearance. At least a dozen species of Campylobacter have been implicated in human disease.</p> <p><b><u>Symptoms of Infection</u></b> Campylobacter showae produces an inflammatory, sometimes bloody, diarrhea, or dysentery syndrome accompanied by cramps fever and pain. Campylobacter species are also implicated in periodontitis.</p> <p><b><u>Treatment</u></b> The infection is usually self-limiting and in most cases, symptomatic treatment by liquid and electrolyte replacement is enough in human infections. The use of antibiotics, on the other hand, is controversial. Symptoms typically last for five to seven days. Standard treatment is now azithromycin and on occasion terbinafine. Quinolone antibiotics such as ciprofloxacin or levofloxacin are no longer as effective due to resistance.</p>

# Dental DNA Labs

5082 List Drive, Colorado Springs, CO 80919

Sample from Cavitations #16 & #24

			Bacteria	Total Risk Factor	Clinical Significance
Enterobacter aerogenes	8.30	<p><b>General Description</b> Enterobacter aerogenes is a Gram-negative, rod-shaped bacterium. Enterobacter aerogenes is found in the human gastrointestinal tract and does not generally cause disease in healthy individuals.</p> <p><b>Symptoms of Infection</b> Enterobacter aerogenes is not normally pathogenic, but may cause various types of infection in immune compromised individuals. Antibiotic resistant strains are becoming increasingly common nosocomial pathogens.</p> <p><b>Treatment</b> The major classes of antibiotics used to manage infections include the beta-lactams, carbapenems, the fluoroquinolones, the aminoglycosides, and TMP-SMZ. Because most Enterobacter species are either resistant to many antibiotics or can develop resistance during antimicrobial therapy, the choice of appropriate antimicrobial agents can be complicated.</p>	Eubacterium saburreum	4.50	<p><b>General Description</b> Eubacterium saburreum is a Gram-positive, non-spore-forming anaerobic bacillus. It is frequently found in the human oral cavity.</p> <p><b>Symptoms of Infection</b> Eubacterium saburreum is normally nonpathogenic in healthy adults, but it is linked to subgingival bacterial infections. These infections which start at the gum line can result in damage or loss of bone in the jaw if left untreated.</p> <p><b>Treatment</b> Good oral hygiene is the first step to avoiding Eubacterium infections. In the case of more serious infections, penicillin is usually a successful treatment for Eubacterium saburreum infections.</p>
Escherichia coli	6.50	<p><b>General Description</b> Escherichia coli is a Gram-negative, rod-shaped bacterium that is found in the lower intestine of mammals and birds. Most Escherichia coli strains are harmless, but some can cause food poisoning in humans.</p> <p><b>Symptoms of Infection</b> Escherichia coli may cause bloody diarrhea and in some rare instances, may also cause severe anemia or kidney failure. Other strains of Escherichia coli can cause urinary tract infections.</p> <p><b>Treatment</b> Most people recover from Escherichia coli infections in 5 to 10 days without the need for medicine. Antibiotics are not recommended. Symptomatic treatment recommended. If serious symptoms, such as anemia or kidney failure occur, reevaluate the treatment options. E. coli is resistant to penicillin and penicillin type antibiotics, but is susceptible to sulfisoxazole and chloramphenicol.</p>	Ochrobactrum anthropi	8.95	<p><b>General Description</b> Ochrobactrum anthropi are rod shaped, obligately aerobic, Gram-negative bacterium. Ochrobactrum anthropi is a common soil bacteria, and in recent years, has emerged as an opportunistic pathogen in humans.</p> <p><b>Symptoms of Infection</b> Although cases of Ochrobactrum anthropi infections are rare, there are several documented cases showing that it is possible for individuals with an underlying medical condition to develop an infection. Ochrobactrum anthropi may cause disease by colonizing indwelling synthetic devices, such as catheters, of individuals who are immune compromised. Ochrobactrum anthropi can cause bacteremia, infective endocarditis and osteomyelitis</p> <p><b>Treatment</b> Ochrobactrum anthropi has a very broad spectrum of antibiotic resistance (particularly to beta-lactams). It has shown susceptibility to aminoglycosides, fluoroquinolones, imipenem, tetracycline and trimethoprim-sulfamethoxazole.</p>
Eubacterium nodatum	9.52	<p><b>General Description</b> Eubacterium nodatum is a Gram-positive member of the human oral flora, but has been linked to chronic periodontitis.</p> <p><b>Symptoms of Infection</b> Eubacterium nodatum is an opportunistic pathogen of humans and other mammals, particularly in the oral cavity. In rare cases, these bacteria can cause actinomycosis, a disease characterized by the formation of abscesses in the mouth, lungs, or the gastrointestinal tract.</p> <p><b>Treatment</b> It is generally sensitive to penicillin, which is frequently used to treat actinomycosis. In cases of penicillin allergy, doxycycline is used. Sulfonamides such as sulfamethoxazole may be used as</p>	Peptostreptococcus micros	12.73	<p><b>General Description</b> Peptostreptococcus micros is an anaerobic, Gram-positive, slow-growing non-spore forming bacteria with increasing resistance to antimicrobial drugs. It is a commensal organism, living predominantly in the mouth, skin, gastrointestinal, vagina and urinary tracts.</p> <p><b>Symptoms of Infection</b> Under immune suppressed or traumatic conditions, Peptostreptococcus micros can become pathogenic. The organism can cause brain, liver, breast, and lung abscesses, as well as generalized necrotizing soft tissue infections.</p> <p><b>Treatment</b> Peptostreptococcus micros shows resistance to many antimicrobials including, aminoglycosides, and trimethoprim-sulfamethazine. It has been susceptible to newer</p>

After US TX

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Sample from Cavitations #16 & #24

Bacteria	Total Risk Factor	Clinical Significance	Bacteria	Total Risk Factor	Clinical Significance
<i>Pseudomonas aeruginosa</i>	9.90	<p><b>General Description</b>  <i>Pseudomonas aeruginosa</i> is Gram-negative, aerobic, rod-shaped bacterium with unipolar motility. An opportunistic human pathogen, <i>Pseudomonas aeruginosa</i> is also an opportunistic pathogen of plants. It is found in soil, water, on skin and on most man-made environments throughout the world. Antibiotic resistant strains have become a serious problem in hospitals.</p> <p><b>Symptoms of Infection</b>  <i>Pseudomonas aeruginosa</i> is an opportunistic, nosocomial pathogen of immunocompromised individuals. <i>Pseudomonas aeruginosa</i> typically infects the pulmonary tract, urinary tract, burns, wounds, and also causes blood infections. <i>Pseudomonas aeruginosa</i> uses the virulence factor exotoxin A to ADP-ribosylation eukaryotic elongation factor 2 in the host cell. Without elongation factor 2, eukaryotic cells cannot synthesize proteins and undergo apoptosis. The release of intracellular contents induces an immunologic response in immunocompetent patients.</p> <p><b>Treatment</b>                      The species is naturally resistant to penicillin. It shows susceptibility to gentamicin, ciprofloxacin, antipseudomonal penicillins, carbapenems polymyxins, and monobactams.</p>	<i>Salmonella typhi</i> 3	12.60	<p><b>General Description</b>  <i>Salmonella typhi</i> is a Gram-negative, flagellated bacillus. It causes systemic infections and typhoid fever in humans. It has caused many deaths in developing countries where sanitation is poor and is spread through contamination of water and undercooked food</p> <p><b>Symptoms of Infection</b>                      Symptoms of typhoid fever often include a sudden onset of a high fever, a headache, and nausea. Other common symptoms include loss of appetite, diarrhea, and enlargement of the spleen (depending on where it is located).</p> <p><b>Treatment</b>                      Strains of MDR (multi-drug resistant) <i>Salmonella</i> have emerged. They show resistance to nalidixic acid and have reduced susceptibility to fluoroquinolones. The species is still susceptible to azithromycin, ampicillin, amoxicillin and ciprofloxacin.</p>
<i>Rothia dentocariosa</i>	8.70	<p><b>General Description</b>  <i>Rothia dentocariosa</i> is a species of Gram-positive, round-to rod-shaped bacteria that is part of the normal community of microbes residing in the mouth and respiratory tract. First isolated from dental caries, <i>Rothia dentocariosa</i> is largely benign, but can cause disease.</p> <p><b>Symptoms of Infection</b>  <i>Rothia dentocariosa</i> is largely a benign part of the normal flora within the human mouth. In rare instances it causes disease, primarily endocarditis, but this infection always occurs in individuals with previous cardiac trauma or abnormalities.</p> <p><b>Treatment</b>  <i>Rothia dentocariosa</i> is susceptible to most antibiotics including penicillin.</p>	<i>Serratia liquefaciens</i>	10.20	<p><b>General Description</b>  <i>Serratia liquefaciens</i> is a Gram-negative, facultatively anaerobic bacillus. <i>Serratia</i> species are usually motile and contain peritrichous flagella. <i>Serratia liquefaciens</i> is commonly found on many plant species and more specifically in the rhizosphere.</p> <p><b>Symptoms of Infection</b>                      The <i>Serratia</i> genus, as a whole, is responsible for about 2% of nosocomial infections, though <i>Serratia liquefaciens</i> infections are rare. <i>Serratia liquefaciens</i> can cause urinary tract infections, bloodstream infections, sepsis, pneumonia, meningitis, and other debilitating infections - sometimes even death. The fatality rate is about 75% for <i>Serratia liquefaciens</i> sepsis though cases of this are exceedingly unusual.</p> <p><b>Treatment</b>  <i>Serratia liquefaciens</i> is naturally resistant to multiple antibiotics, and is becoming increasingly resistant to others. The bacteria still shows susceptibility to carbenicillin, third-generation cephalosporins, chloramphenicol, streptomycin, kanamycin, gentamicin, tobramycin, amikacin, trimethoprim/sulfamethoxazole, fosfomycin, nalidixic acid, and other quinolones.</p>

After US TX

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5082 List Drive, Colorado Springs, CO 80919

Sample from Cavitations #16 & #24

Bacteria	Total Risk Factor	Clinical Significance
<b>1</b> <b>Staphylococcus aureus</b>	13.80	<p><b>General Description</b>                      Staphylococcus aureus is a facultatively anaerobic, Gram-positive coccus. Staphylococcus aureus is responsible for many infections but its presence does not always indicate infection. Staphylococcus aureus is asymptotically present on the skin, in the nose and mouth of at least 20% of all people. It also can survive for hours, weeks, or even months on dry environmental surfaces.</p> <p><b>Symptoms of Infection</b>                      Staphylococcus aureus can infect tissues when the skin or mucosal barriers have been breached. This can lead to many different types of infections including furuncles and carbuncles (a collection of furuncles). Staphylococcus aureus infections can spread through contact with pus from an infected wound, or skin-to-skin contact with an infected person. Antibiotic resistant strains are becoming an increasingly problematic nosocomial infection. Deeply penetrating Staphylococcus aureus infections can be severe and even fatal. It is also a well known cause of endocarditis.</p> <p><b>Treatment</b>                      Staphylococcus aureus is frequently penicillin and methicillin resistant (Methicillin-resistant Staphylococcus aureus or MRSA). There has been success in treating antibiotic resistant strains with oxacillin, flucoxacillin and gentamicin.</p>

<b>4</b> <b>Stenotrophomonas maltophilia</b>	11.90	<p><b>General Description</b>                      Stenotrophomonas maltophilia is an aerobic, nonfermentative, Gram-negative bacterium. It is a tenacious and uncommon bacterium making human infections difficult to treat.</p> <p><b>Symptoms of Infection</b>                      Stenotrophomonas maltophilia frequently colonizes breathing tubes such as endotracheal, central venous catheters, tracheotomy tubes and indwelling urinary catheters. Infection is usually facilitated by the presence of prosthetic material (plastic or metal), and the most effective treatment is removal of the prosthetic material. In immune compromised patients, Stenotrophomonas maltophilia is a growing source of latent pulmonary infections.</p> <p><b>Treatment</b>                      Stenotrophomonas maltophilia is naturally resistant to many broad-spectrum antibiotics (including all carbapenems) due to the production of two inducible chromosomal metallo-beta-lactamases (designated L1 and L2). Removal of any synthetic substance or device in the patient is always the most essential step. A broad spectrum antibiotic treatment should be started at the first sign of infection. Co-trimoxazole has been effective, and there is some evidence to suggest regimens of ciprofloxacin, ceftazidime, ceftriaxone, ticarcillin, and clavulanate may also work.</p>
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Bacteria	Total Risk Factor	Clinical Significance
<b>Streptococcus mutans</b>	4.90	<p><b>General Description</b>                      Streptococcus mutans is a facultatively anaerobic, Gram-positive cocci commonly found in the human oral cavity. It is a significant contributor to tooth decay, which it accomplishes by producing lactic acid.</p> <p><b>Symptoms of Infection</b>                      Cavities in the tooth are the most common signs of infections. It has been implicated in certain cardiovascular diseases such as extirpated heart valve tissues and atheromatous plaques.</p> <p><b>Treatment</b>                      Good oral hygiene should prevent most infections. The growth and spread of S. mutans can also be reduced by the consumption of certain foods such as, green tea, nutmeg and various herbs. It responds to clindamycin and chloramphenicol if a serious infection needs treatment.</p>

After US TX