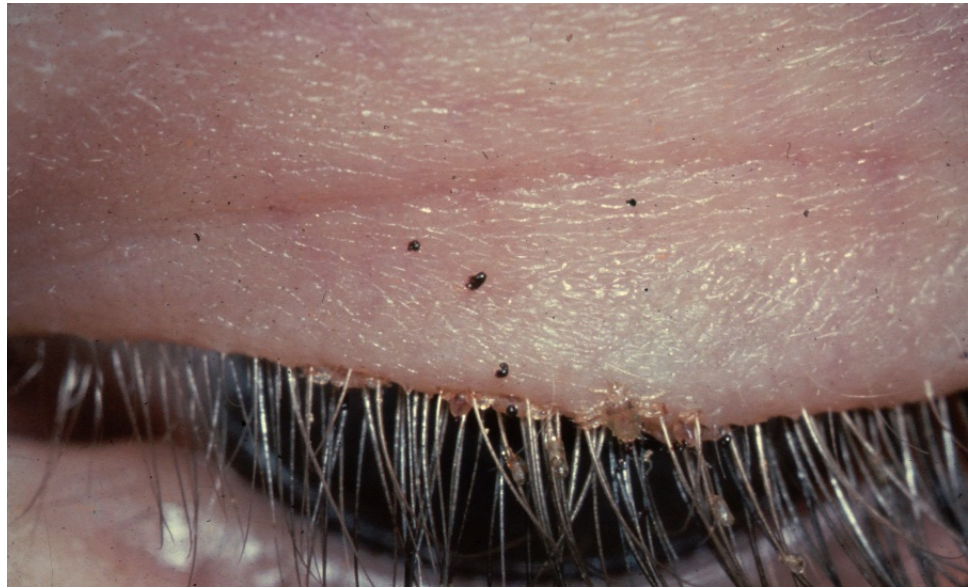


## STDs

This section discusses:

- 1) sexually transmitted infections (STIs) which are transmitted by microbes like bacteria, viruses, or protozoa
- 2) sexually transmitted diseases (STDs) which are not caused by microbes, and
- 3) male genital diseases or conditions that may not be contagious.



**Figure 1** Pubic lice visible on eye lashes.

[https://commons.wikimedia.org/wiki/File:Pubic\\_lice\\_on\\_eye-lashes.jpg](https://commons.wikimedia.org/wiki/File:Pubic_lice_on_eye-lashes.jpg)  
KostaMumcuoglu at the English Wikipedia, CC BY-SA 3.0  
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### 1) Crabs:

This contagious disease is caused by **Lice**, which may be detected by the presence of their tiny white egg sacks on the pubic hair. Lice are tiny but visible **insects** that cause intense itching and the feeling of something moving your hair.

**2) Scabies:** This contagious disease is caused by tiny **arachnids** (8 legs) called **Mites**. They burrow into the host's skin and lay eggs. This creates a tiny red spot that itches.

**3) Molluscom Contagiosum:** This contagious disease is caused by a **virus**. It may be diagnosed by the small round skin bumps with a **dimple** in the middle.

**4) Jock Itch:** Like Athletes Foot, Jock Itch is caused by a contagious **fungus** and can be treated like one.

**5) Warts:** Warts are caused by a family of contagious viruses called **Human Papilloma Virus (HPV)**. Some strains can cause cancer of the cervix or throat, so treatment should be immediate. Better yet, **prevent infection by getting vaccinated** while you are young. (Many people are exposed to HPV early in life, so the expensive vaccines are not recommended for people over 40 without consulting a doctor). Treatment of warts is usually by burning, freezing, or cutting the warts off. Once you get the virus in a skin cell, it's in that cell's DNA until the cell dies or is removed. However, most people quickly develop antibodies to their particular wart viruses, and live wart-free lives without infecting others. Warts typically look like small

brownish or pink raised **bumps that feel rough to the touch**. Buschke Lowenstein tumors are also caused by HPV, but can grow much larger. They are often slightly pink or flesh colored and have the texture of cauliflower. They grow slowly and rarely metastasize but are considered malignant.

**6) Lymphogranuloma venereum:** LGV is caused by a contagious **bacterium**. It produces a **painful ulcer** and may produce abscesses near lymph nodes. Curable with antibiotics.

**7) Chancroid** (pronounced “**shank** royd”): Caused by the contagious **bacterium** Haemophilus ducreyi. Symptoms (**painful ulcer**) like LGV. Curable with antibiotics.

**8) Syphilis:** Caused by a contagious **bacterium**. Earliest symptom is a **painless ulcer** called a chancre (pronounced **shang** kr). Easily treated early with Penicillin. Disastrous if not treated early.



**9) Herpes:** Caused by a contagious **virus** that lives in the sensory nerve ganglia. Occasionally, the virus wakes up, makes more virions, ships them along the nerve axon, and small painful blisters appear, create an ulcer that crusts over, and heals. Definitely contagious when blisters are present and bursting. Not contagious after the ulcer heals.

**10) Chlamydia:** Caused by contagious **bacteria**. **If** symptoms appear, they resemble Gonorrhea: vaginal or penile discharge and burning pain during urination. Like most bacterial STDs, Chlamydia is easy to treat with antibiotics, **but you must be tested between partners**, because you may not yet have experienced symptoms. Chlamydia may permanently damage female reproductive organs so that first symptoms may not be observed until pregnancy is attempted or achieved.

**11) Gonorrhea:** Caused by contagious **bacteria**. Symptoms are probable, and consist of **vaginal or urethral discharge and pain during urination**. Some strains are difficult to treat due to drug resistant bacteria.

**14) Candidiasis:** Caused by a contagious **yeast** called candida albicans, which is a **fungus**. In women, it causes irritation, redness, burning, and pain in vulva and vagina. In men, it is most common under the foreskin. It appears as **shiny red spots or patches**. It is treated with prescription antifungals.

**15) Fournier's Gangrene:** Caused by various contagious **bacteria**, and indicates a lack of blood flow. Appears as dead black skin, and should be treated by a physician right away.

**16) Abscess:** A red swollen bump with pus indicates that potentially contagious **bacteria** are contained within. This needs medical attention.

**17) Varicocele:** This condition is not caused by bacteria or viruses, and is **not infectious**, but can reduce sperm & testosterone production. It presents as a lump inside the scrotum, above



**Figure 3** Gonorrhea urethral discharge.  
[https://commons.wikimedia.org/wiki/File:Bonjour-Tropfen\\_Tripper\\_am\\_Tag-21\\_nach\\_erstem\\_Symptom\\_\(Gonorrhoe\\_Gonorrhea\\_SUPERBUG\).jpg](https://commons.wikimedia.org/wiki/File:Bonjour-Tropfen_Tripper_am_Tag-21_nach_erstem_Symptom_(Gonorrhoe_Gonorrhea_SUPERBUG).jpg)  
Sicherintim, CC BY-SA 4.0  
<<https://creativecommons.org/licenses/by-sa/4.0/>>, via Wikimedia Commons



the testicle, caused by an obstruction in the venous blood flow back to the body from the testicle<sup>1</sup>.

**18) Testicular Cancer:** There is no easy blood test. It is found only by palpation and biopsy. It is not an STI.

### STIs Without Symptoms in Men

**19) Trichomoniasis:** Trich is caused by a contagious single-celled parasitic protozoan, and causes a greenish vaginal discharge. Does not produce symptoms in men, but does in women. Men must be tested in order to know whether they have it.

**20) Gardnerella:** Caused by a bacterium and produces vaginal itching and odor. Easy to diagnose and treat. Does not produce symptoms in men, but does in women. Men must be tested in order to know whether they have it.

**21) Ureaplasma and Mycoplasma:** These bacteria are common and transmissible, but are not often found because they don't produce obvious symptoms in men or women. Ureaplasma produces no symptoms. Both are easy to diagnose and treat, but you must be tested for them in order to know whether you have them. Another view would be that these aren't diseases, just infections one lives with.

### HOMEWORK

Sketch a penis and scrotum with at least 15 diseases or conditions. Describe symptoms and cause for each.

Name 4 STIs that you may have without knowing, i.e. without symptoms.

---

<sup>1</sup> *The venous blood flows through a network of small veins that surround the spermatic artery. Blood in the veins cools the arterial blood flowing to the testicle. This network of veins is called the Pampiniform Plexus, and it is contained within the spermatic cord, along with the spermatic artery and the nerves for the testicle, all of which are contained within an out-pouching of the perineal membrane of the abdomen (where the testes originate embryologically). The **Cremaster muscle** that raises and lowers the testes forms a layer of muscle around the spermatic cord, yet inside a layer of fascia.*

Draw lines to connect Description with correct Name, and Name with correct Cause.

| SYMPTOM / DESCRIPTION                 |  | DISEASE NAME         |  | CAUSE                 |
|---------------------------------------|--|----------------------|--|-----------------------|
| Tiny white beads on pubic hair        |  | Abcess (infection)   |  | Bacteria              |
| Tiny red spots under skin itch        |  | Candida              |  | Bacteria              |
| Small bumps with center dimple        |  | Chlamydia            |  | Bacteria              |
| Pink itchy area                       |  | Crabs (Lice)         |  | Bacteria              |
| Rough raised bump (brownish)          |  | Fournier's gangrene  |  | Bacteria (Spirochete) |
| Painful ulcer (chancroid)             |  | Gardnerella          |  | Fungus                |
| Open sore                             |  | Gonorrhea            |  | Insects               |
| Painless ulcer (chancre)              |  | Herpes               |  | Arachnids (Spiders)   |
| Painful clear tiny blister            |  | HIV, Hepatitis B & C |  | Parasite              |
| Shiny red patch under foreskin        |  | HPV                  |  | Usually bacterial     |
| Dead black skin                       |  | HPV                  |  | Usually bacterial     |
| Red swelling with pus                 |  | Jock itch            |  | Usually bacterial     |
| Often no symptoms, but may cause      |  | Lymphogranuloma      |  | Virus                 |
| Often no symptoms, but may cause      |  | Molluscum            |  | Virus                 |
| Greenish vaginal discharge.           |  | Scabies (Mites)      |  | Virus                 |
| Vaginal itchiness and odor.           |  | Syphilis             |  | Virus                 |
| Typically frozen, burned, or cut off. |  | Trichomoniasis       |  | Virus                 |
| No early symptoms                     |  | Ulcer                |  | Yeast                 |
| Whitish yuck under foreskin           |  | Smegma               |  | Poor hygiene          |



You might need more practice. This is the same test, but I've mixed up the order of the elements.

| SYMPTOM / DESCRIPTION  |  | DISEASE NAME             |  | CAUSE                 |
|--|--|--------------------------|--|-----------------------|
| Dead black skin  |  | HPV                      |  | Usually bacterial     |
| Greenish vaginal discharge.  |  | Scabies (Mites)          |  | Virus                 |
| No early symptoms  |  | Ulcer                    |  | Yeast                 |
| Often no symptoms, but may cause white, yellow or green discharge. |  | Lymphogranuloma venereum |  | Usually bacterial     |
| Often no symptoms, but may cause white, yellow or green discharge. |  | Molluscum contagiosum    |  | Virus                 |
| Open sore  |  | Gonorrhea                |  | Arachnids (Spiders)   |
| Painful clear tiny blister   |  | HIV, Hepatitis B & C     |  | Fungus                |
| Painful ulcer (chancroid)  |  | Gardnerella              |  | Insects               |
| Painless ulcer (chancre)   |  | Herpes                   |  | Bacteria              |
| Pink itchy area  |  | Crabs (Lice)             |  | Usually bacterial     |
| Red swelling with pus  |  | Jock itch                |  | Bacteria (Spirochete) |
| Rough raised bump (brownish)                                       |  | Fournier's gangrene      |  | Parasite              |
| Shiny red patch under foreskin                                     |  | HPV                      |  | Bacteria              |
| Small bumps with center dimple                                     |  | Chlamydia                |  | Bacteria              |
| Tiny red spots under skin itch                                     |  | Candida                  |  | Bacteria              |
| Tiny white beads on pubic hair                                     |  | Abcess (infection)       |  | Virus                 |
| Typically frozen, burned, or cut off.                              |  | Trichomoniasis           |  | Virus                 |
| Vaginal itchiness and odor.  |  | Syphilis                 |  | Virus                 |
| Whitish yuck under foreskin  |  | Smegma                   |  | Poor hygiene          |

- 1 Lice are also called \_\_\_\_\_ but are actually \_\_\_\_\_.
- 2 Scabies is caused by \_\_\_\_\_ called \_\_\_\_\_.
- 3 Small round skin bumps with a dimple in the middle are caused by a \_\_\_\_\_ called \_\_\_\_\_ contagiosum.
- 4 Jock itch looks like \_\_\_\_\_ and is caused by a \_\_\_\_\_.
- 5 Warts are caused by (the acronym) \_\_\_\_\_ and can cause \_\_\_\_\_.
- 6 All the bacterial diseases can be treated with \_\_\_\_\_.

if diagnosed early. An exception might be \_\_\_\_\_.

7 The fungal diseases \_\_\_\_\_ also be treated.

8 A painful ulcer on the penis could be caused by  
LGV Haemophilus ducreyi Syphillis Chancroid Gangrene Herpes

9 A painless ulcer could be caused by  
LGV Haemophilus ducreyi Syphillis Chancroid Gangrene Herpes

10' Tiny blisters could be caused by  
LGV Haemophilus ducreyi Syphillis Chancroid Gangrene Herpes

11 A drip from a milked penis could be  
Chlamydia Gonorrhea Syphillis Trichomoniasis Gardnerella

12 Red spots or patches under a foreskin are probably caused by a \_\_\_\_\_  
named Candida \_\_\_\_\_.

13 Dead black skin indicates \_\_\_\_\_.

14 A swollen bump with pus is called an \_\_\_\_\_.

15 An extra lump in the scrotum could be  
Cancer Varicocele Hernia Extra testicle Pump for prosthetic penis

16 Even with no symptoms, a man can still have  
Ureaplasma Mycoplasma Gardnerella Trichomoniasis Chlamydia HIV

The following three pages present a typical lab analysis for ten common STDs. My clarifying annotations are in blue.

# Labcorp

|                       |                       |                       |   |
|-----------------------|-----------------------|-----------------------|---|
| Patient Name:         | STARR, JERRY          | Account Number:       | 42216020  |
| Patient Phone:        | (307) 760-7227        | Account Name:         | Analyte Health<br>11150 S Wilcrest Dr<br>Houston, TX 77099-4343<br>(800) 579-3914 |
| Date of Birth (Age):  | 01/12/1950 (73)       | Collection Date/Time: | 04/11/2023 14:33:00   |
| Sex:                  | Male                  | Received Date/Time:   | 04/11/2023 00:00:00   |
| Referring Dr (NPI #): | PATEL, K (1740628692) | Reported Date/Time:   | 04/13/2023 16:12:00   |
| Patient ID:           | 7FA9F75499            |                       |   |
| Specimen ID:          | 10184787930           |                       |   |

### General Comments and Additional Information

SRC:UR

Fasting: No

Total Vol:

Source: UR

| Result Name   | Flag | Result  | Range/Units  | Status | Lab |
|---|------|---|--------------|--------|-----|
| <b>183194 Chlamydia/GC Amplification</b>  |      |   |              |        |     |
| 1   |      | Chlamydia trachomatis, NAA  | Negative     | Final  | 01  |
| 2   |      | Neisseria gonorrhoeae, NAA  | Negative     | Final  | 01  |
| <b>144050 HCV Antibody RFX to Quant PCR (Hepatitis C)</b>                             |      |   |              |        |     |
| 3   |      | HCV Ab  | Non Reactive | Final  | 02  |
| <b>144030 Interpretation:</b>   |      |   |              |        |     |
|   |      | Interpretation:   |              | Final  | 02  |
|   |      | Not infected with HCV unless early or acute infection is suspected (which may be delayed in an immunocompromised individual), or other evidence exists to indicate HCV infection. |              |        |     |
| <b>012005 RPR. Rfx Qn RPR/Confirm TP (Syphilis)</b>                                   |      |   |              |        |     |
| 4   |      | RPR   | Non Reactive | Final  | 02  |
| <b>083935 HIV Ab/p24 Ag with Reflex</b>   |      |   |              |        |     |
|   |      | HIV Ab/p24 Ag Screen  | Non Reactive | Final  | 02  |
|   |      | HIV Negative  |              |        |     |
| 5/6   |      | HIV-1/HIV-2 antibodies and HIV-1 p24 antigen were NOT detected.   |              |        |     |
|   |      | There is no laboratory evidence of HIV infection.   |              |        |     |
| <b>163033 HSV-2 Type Spec Ab, IgG w/Rfx (Herpes Simplex Virus 2 {genital herpes})</b> |      |   |              |        |     |
| 7   |      |   |              |        |     |



# Labcorp

Result Status: Final

|                       |                       |                       |   |
|-----------------------|-----------------------|-----------------------|---|
| Patient Name:         | STARR, JERRY          | Account Number:       | 42216020  |
| Patient Phone:        | (307) 760-7227        | Account Name:         | Analyte Health<br>11150 S Wilcrest Dr<br>Houston, TX 77099-4343<br>(800) 579-3914 |
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| Patient ID:           | 7FA9F75499            |                       |   |
| Specimen ID:          | 10184787930           |                       |   |

| Result Name          | Flag | Result | Range/Units       | Status | Lab |
|----------------------|------|--------|-------------------|--------|-----|
| HSV 2 IgG, Type Spec |      | <0.91  | 0.00-0.90 / index | Final  | 02  |

Negative <0.91  
Equivocal 0.91 - 1.09  
Positive >1.09

Note: Negative indicates no HSV-2 antibodies detected.  
Positive indicates HSV-2 antibodies detected.  
Equivocal and low positive HSV-2 screens  
(Index 0.91-5.00) may be false positive and are  
reflexed to supplemental testing in accordance with  
CDC guidelines.

### 164897 HSV Type 1-Specific Ab, IgG

|   |   |                       |                   |       |    |
|---|---|-----------------------|-------------------|-------|----|
| 8 | HSV 1 IgG, Type Spec<br>(Herpes Simplex Virus 1<br>{cold sore virus - can be<br>genital}) | <0.91                 | 0.00-0.90 / index | Final | 02 |
|   |   | Negative <0.91        |                   |       |    |
|   |   | Equivocal 0.91 - 1.09 |                   |       |    |
|   |   | Positive >1.09        |                   |       |    |

Note: Negative indicates no antibodies detected to  
HSV-1. Equivocal may suggest early infection. If  
clinically appropriate, retest at later date. Positive

# Labcorp

**Result Status: Final**

|                       |                       |                       |   |
|-----------------------|-----------------------|-----------------------|---|
| Patient Name:         | STARR, JERRY          | Account Number:       | 42216020  |
| Patient Phone:        | (307) 760-7227        | Account Name:         | Analyte Health<br>11150 S Wilcrest Dr<br>Houston, TX 77099-4343<br>(800) 579-3914 |
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| Patient ID:           | 7FA9F75499            |                       |   |
| Specimen ID:          | 10184787930           |                       |   |

| Result Name | Flag | Result | Range/Units | Status | Lab |
|-------------|------|--------|-------------|--------|-----|
|-------------|------|--------|-------------|--------|-----|

indicates antibodies detected to HSV-1.

|  |  |          |          |       |    |
|--|--|----------|----------|-------|----|
| <b>006510 HBsAg Screen</b><br>9 (Hepatitis B)<br>HBsAg Screen    |  | Negative | Negative | Final | 02 |
| <b>006734 Hep A Ab, IgM</b><br>10 (Hepatitis A)<br>Hep A Ab, IgM |  | Negative | Negative | Final | 02 |

### Performing Lab

01 - Labcorp Phoenix, 5005 S 40th Street Ste 1200, Phoenix, AZ 85040-2969, (800) 788-9743, Collum, Earle S MD

02 - Labcorp Phoenix, 5005 S 40th Street Ste 1200, Phoenix, AZ 85040-2969, (800) 788-9743, Collum, Earle MD

For Inquiries, the physician may contact the performing lab.

END OF REPORT

Chlamydia  
Gonorrhea  
Syphilis  
Hepatitis A  
Hepatitis B  
Hepatitis C  
HIV 1  
HIV 2  
Herpes 1  
Herpes 2

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