**Assignment for internal assessment**

(20 marks)

* Select the any one bacterial disease?
* Describe the etiology of Causative agent of that disease?
* Infection process and transmission of that pathogen?
* Name the Biochemical test used for it?
* Effective antibiotic drug used for it.

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**Bacterial skin infections**

Bacterial skin infections often begin as small, red bumps that slowly increase in size. Some bacterial infections are mild and easily treated with topical antibiotics, but other infections require an oral antibiotic. Different types of bacterial skin infections include:

* [cellulitis](https://www.healthline.com/health/cellulitis)
* [impetigo](https://www.healthline.com/health/impetigo)
* [boils](https://www.healthline.com/symptom/boil)
* [leprosy](https://www.healthline.com/health/leprosy)

Skin is the largest human organ which is the point of contact with the world. The most diverse populations of microbes present in human live on the skin. There are atleast 1,000 different species of bacteria, fungi, viruses and other microbes which live on the skin. Most of which are harmless or even beneficial to human host. Symbiotic microorganisms occupy a wide range niches and protect against invasion by more pathogenic or harmful organisms. Some and cause no harm, such as some Staphylococcus species, Corynebacteria spp., Brevibacterium spp and Acinetobacter. Propionibacteria live in the hair follicles of adult skin and contribute to [acne](https://dermnetnz.org/acne/). See DermNet's page on the [microorganisms found on the skin](https://dermnetnz.org/topics/microorganisms-found-on-the-skin/).Some bacteria invade normal skin, broken skin from [eczema/dermatitis](https://dermnetnz.org/dermatitis/dermatitis.html) or [wounds](https://dermnetnz.org/reactions/wounds.html) (causing [wound infection](https://dermnetnz.org/bacterial/wound-infection.html)). Bacteria, like [viruses](https://dermnetnz.org/viral/), may also sometimes result in [exanthems](https://dermnetnz.org/viral/exanthem.html) (rashes).

**CAUSES:** This occurs when bacteria enter the body through a break in the skin, such as a cut or a scratch. Getting a cut or scratch doesn’t necessarily mean you’ll develop a skin infection, but it does increase your risk if you have a weakened immune system.

Bacterial diseases are caused by harmful bacteria (pathogenic bacteria). The vast majority of bacteria do not cause disease, and many bacteria are actually helpful and even necessary for good health. Bacterial diseases occur when pathogenic bacteria get into an area of the body that is normally sterile, such as the bladder, or when they crowd out the helpful bacteria in places such as the intestines, vagina or mouth. Less common, bacterial infections can occur when healthy bacteria multiply uncontrollably.

### Various ways pathogenic bacteria can enter the body

Pathogenic bacteria can enter the body through a variety of means including:

* Contamination of bites, cuts, rashes, abrasions and other breaks in the skin, gums and tissues
* Eating  contaminated food
* Getting bitten by an infected insect
* Having sexual contact with an infected person
* Inhaling contaminated air-borne droplets into the nose and lungs
* Kissing an infected person
* Sharing needles for tattooing or drug use
* Through the eyes, ears or urethra
* Touching infected feces or body fluids, and not washing your hands before eating or touching your mouth, eyes or nose.

**Biochemical test used for it**

Various tests are carried out in a laboratory to establish or confirm the diagnosis of a [bacterial skin infection](https://dermnetnz.org/topics/bacterial-skin-infections/). Although a thorough history and examination of the patient are vital, laboratory tests can help the clinician to reach a diagnosis.The culture of the bacterial species with [antibiotic](https://dermnetnz.org/topics/antibiotics/) sensitivity testing is considered the gold standard laboratory test.

## Skin samples for bacterial testing

Skin samples can be collected in the following ways.

* A dry sterile cotton-tip swab is rubbed on the suspicious skin site, for example, blistered or dry skin lesions or pustules.
* A moist swab is taken from a mucosal surface, such as inside the mouth.
* Aspiration of fluid/pus from a skin lesion using a needle and syringe (this is more likely than a swab to yield the organism)
* A [skin biopsy](https://dermnetnz.org/topics/skin-biopsy/): a small sample of skin removed under [local anaesthetic](https://dermnetnz.org/topics/local-anaesthesia/).

**Effective antibiotic drug used for it.**

* [Antibiotics](https://www.webmd.com/cold-and-flu/rm-quiz-antibiotics-myths-facts): Oral [antibiotics](https://www.webmd.com/cold-and-flu/video/josephson-antibiotics) are used to treat many skin conditions. Common antibiotics include [dicloxacillin](https://www.webmd.com/drugs/2/drug-10328/dicloxacillin+oral/details), [erythromycin](https://www.webmd.com/drugs/mono-15-ERYTHROMYCIN+BASE%2c+ERYTHROMYCIN+STEARATE+-+ORAL.aspx?drugid=3959&drugname=erythromycin+oral), and [tetracycline](https://www.webmd.com/drugs/2/drug-5919/tetracycline+oral/details).
* Antifungal agents: Oral antifungal drugs include [fluconazole](https://www.webmd.com/drugs/mono-5052-FLUCONAZOLE+-+ORAL.aspx?drugid=3780&drugname=fluconazole+oral) and[itraconazole](https://www.webmd.com/drugs/2/drug-128-2179/itraconazole-oral/itraconazole---oral/details). These drugs can be used to treat more severe [fungal infections](https://www.webmd.com/content/article/117/112607.htm).

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