

Grade 6: Healthy Habits

Lesson 8: Think About It! Tattoos and Body Piercing: Protecting Your Blood and Circulatory System

Objectives:

1. Students will explain the **physiology** of tattoos.
2. Students will explain the **primary considerations** (including studio standards) **for getting a tattoo**.
3. Students will explain the **primary considerations** (piercing shop standards) **for getting a body piercing**.
4. Students will describe the **impact on blood vessels** for needle piercing and wounding.
5. Students will identify **three health risks** for getting a) a tattoo or b) a body piercing.

Materials:

- Posters
- Drawing pens (Crayola or Sharpie)
- Access to school and/or local library
- Internet search access
- Easel paper

Activity Summary:

In this lesson students will explore various considerations for tattoos and body piercings, including the potential impact on the blood vessels and other health risks. Students will apply decision-making and refusal skills to these choices.

Background Information for the Teacher:

Overview:

Body art is enjoying a resurgence of popularity. Tattoos and body piercings have been used throughout history in a wide variety of cultures as indicators of status and beauty. Body art is still very prevalent among many of the world's cultures today. In our society body art has a lot of allure for young people. Emulating celebrities, being different and daring, and acting independently from supervising adults are among some of the motivations that lead young people to consider getting a tattoo or body piercing.

While it may be a matter of personal taste to view body art as attractive or distasteful, it is useful to help young people understand the risks of getting a tattoo or body piercing. Providing them with accurate information and good decision-making skills is probably more useful than simply saying "No." Giving them the skills to evaluate choices and make smart decisions will ultimately be more valuable because eventually they will reach an age when they can and will make these choices for themselves.

TATTOOS

Tattoos are essentially puncture wounds in the dermis of the skin, in which the wounds are filled with ink. Tattoos are long-lasting primarily because the ink is injected into the second skin layer (the surface layer is the epidermis) so even though the epidermal cells are shed and reproduced throughout a person's life the dermal layer is very stable. Therefore the tattoo remains in the skin for many years, sometimes even throughout a person's lifetime.

These days, tattoos are done with a machine, and not manually as they used to be. Since tattoos need to be done with single-use sterilized needles to avoid cross-contamination, professional, reputable tattoo studios will ensure that equipment is clean and sterile, appropriate procedures are followed, and practitioners are well trained and licensed, if required.

Questions to Consider Before Getting a Tattoo:

1. Do you have your parents' or guardians' permission? In some areas, if you are under 18 a written consent may be required.

2. Personal Health Status:

- Are your immunizations up to date?
- Have you consulted your physician?
- Do you have heart disease, diabetes, skin conditions, or an autoimmune disorder or infection?

3. Tattoo Studio Standards:

- Is the studio clean?
 - Is all the equipment disposable? (Needles, gloves, masks, etc.)
 - Does the studio use an autoclave? (A specialized machine for sterilization.)
 - Does the studio follow Universal Precautions? These are health standards for procedures that deal with bodily fluids (such as blood) which are provided by the Occupational Safety and Health Administration (OSHA).
 - What are the qualifications of the tattoo artist?
- **NOTE: UNDER NO CIRCUMSTANCES** is it safe for anyone to tattoo him/herself or have a friend do it for them.

RISKS: The Mayo Clinic stresses that because a tattoo breaches the skin—the body's main protective barrier—skin infections and other skin reactions are possible. Also, because tattoo inks are classified as cosmetics, they aren't regulated or approved by the Food and Drug Administration (FDA). Therefore, the pigments and dyes used in tattoo inks aren't approved for injection under the skin and their long-term effects are unknown. **Specific risks of tattoos include:**

- **Blood-borne diseases:** If the equipment used to create your tattoo is contaminated with the blood of an infected person, you can contract a number of serious blood borne diseases. These include:
 - Hepatitis C
 - Hepatitis B
 - Tetanus
 - Tuberculosis
 - HIV (the virus that causes AIDS)
- **Skin disorders:** Your body may form bumps called granulomas around tattoo ink, especially if your tattoo includes red ink. Tattooing can also cause areas of raised, excessive scarring (keloids) if you're prone to them.
- **Skin infections:** Tattoos can lead to local bacterial infections. Typical signs and symptoms of an infection include redness, warmth, swelling and a pus-like drainage. The CDC has linked clusters of potentially serious antibiotic-resistant skin infections to unlicensed tattoo artists who don't follow proper infection-control procedures. Some antibiotic-resistant skin infections can lead to pneumonia, blood infections and a painful, flesh-destroying condition called necrotizing fasciitis.
- **Allergic reactions:** Tattoo dyes, particularly red dye, can cause allergic skin reactions, resulting in an itchy rash at the tattoo site. This may occur even years after you get the tattoo.
- **MRI complications:** Sometimes, although rarely, tattoos or permanent makeup may cause swelling or burning in the affected areas during magnetic resonance imaging (MRI) exams. In some cases—such as when a person with permanent eyeliner has an MRI of the eye—tattoo pigments may interfere with the quality of the image.
- **NOTE:** Medications may be necessary if you develop an allergic reaction, infection, or other skin disorder. In some cases, permanent tattoo removal is required to resolve the complication.

PROTECT YOURSELF (or at least decrease the possibility of complications) by looking for and asking about:

- **STATE & LOCAL LICENSING:** Regulation requirements and licensing standards vary from state to state, so be sure to check with your city, county or state health department for information on licensing and regulations in your area. Choose a reputable tattoo studio that is **CLEAN, TIDY and PROFESSIONAL**, and that staffs only properly trained employees.

- **AN AUTOCLAVE:** An autoclave is a heat sterilization machine that should be used to sterilize all nondisposable equipment after each use. Instruments and supplies that can't be sterilized with an autoclave (drawer handles, tables and sinks) should be disinfected with a commercial disinfectant or bleach solution after each use.
- **STERILE EQUIPMENT:** Watch the tattoo artist and make sure he or she removes a needle and tubes from a sealed package before your procedure begins. Any pigments, trays and containers should be unused as well.
- **GLOVES:** The tattoo artist must wash his/her hands and put on a fresh pair of latex gloves for *each* procedure. The tattoo artist should change gloves if he or she needs to touch anything else (such as a telephone) during the procedure.

Considerations for Tattoo Removal:

Before deciding to get a tattoo, you must realize that the body art you're choosing will be a part of you **for the rest of your life**. Tattoos are designed to be PERMANENT, so getting a tattoo with the idea that it can be removed when you want to do so is a big mistake.

Tattoo removal is more difficult, time-consuming and certainly more costly than getting the tattoo in the first place. According to the Mayo Clinic (www.mayoclinic.com), a common problem with tattoos is dissatisfaction. Some tattoos fade, and if the tattoo artist injects the color too deeply into your skin, the dye can "drift" and cause a blur in the design. Some people also decide at a later point in their life that the tattoo they chose earlier no longer fits their current image or has become dated. **Think twice** before tattooing someone else's name on your body.

The complete removal of a tattoo is a difficult and costly process, and although several removal techniques currently exist, scarring and variation in skin color will likely remain. The Mayo Clinic lists the following options:

- **LASER SURGERY:** The most common procedure for reducing the appearance of a tattoo, the laser directs light at specific tattoo color pigments, creating a low grade inflammation. The body's immune system then kicks in to remove the disturbed pigments, but how much of the tattoo can be taken off, how difficult the procedure is and how many times it must be repeated depends on the tattoo. Variables which impact the difficulty of removal include how old and how large the tattoo is, as well as what kind of ink was used. In any case, this procedure causes damage to skin layers, and the treatment may never completely erase the tattoo.

- **DERMABRASION:** In this procedure the tattooed area is chilled until it's numbed, then sanded down to deeper levels. While this isn't generally painful, it may leave a scar.
- **SURGICAL REMOVAL:** This procedure entails surgically removing the tattoo, then stitching the edges back together. This procedure can also leave a scar.

BODY PIERCING

Body piercing also involves a puncture wound to the skin, usually without anesthesia. Needles are used (or an ear-piercing gun), after which jewelry is inserted into the puncture. What was once mostly limited to pierced ears has now expanded to include pierced eyebrows, lips, tongue, nostrils, and navels.

Questions to Consider Before Getting a Body Piercing:

While body piercing is generally not as permanent or as difficult to undo as a tattoo, some of the same health hazards exist. According to the Mayo Clinic piercings do carry certain risks and can cause complications, so the following questions should be addressed:

1. Do you have your parents' or guardians' permission? In some areas, if you are under 18 a written consent may be required.
2. Personal Health Status:
 - Are your immunizations (especially tetanus and hepatitis) up to date?
 - Have you consulted with your physician?
 - Do you have any skin conditions, autoimmune disorders or infections? If your mouth or tongue is being pierced, do you have healthy gums and teeth?
 - What, if any, metal allergies do you have?
3. Piercing Shop Standards:
 - Is it clean?
 - Is all the equipment disposable? (Needles, gloves, masks, etc.)
 - Has the person doing the piercing used effective hand-washing techniques and germicidal soap?
 - Is the piercing done with new, disposable needles?
 - If an ear-piercing gun is used, is it a single-use, sterilized ear-piercing device or an ear-piercing gun with sterilized, disposable cartridges?

- Are the needles, gauze and other waste products handled and disposed of properly? (These are part of Universal Precautions.)
 - Are only non-toxic metals used? Only surgical steel, solid 14-karat or 18-karat gold (NOT gold plating), niobium, titanium or platinum are recommended.
- **NOTE: IT IS NOT SAFE** for anyone to pierce him/herself **or** have a friend do it. Piercings should only be done in a clean, safe environment by a professional.

GENERAL PRECAUTIONS: According to the Mayo Clinic, earlobe piercing is generally less risky than other body piercings due to improvements in safety procedures and equipment. However, **ANY TIME THE SKIN IS PUNCTURED, THERE IS A RISK OF INFECTION OR OTHER COMPLICATIONS.** These risks include:

- **Blood-borne diseases** – If the equipment used to do the piercing is contaminated with the blood of an infected person, you can contract a number of serious blood-borne diseases, including:
 - **Hepatitis C**
 - **Hepatitis B**
 - **Tetanus**
 - **HIV** (the virus that causes AIDS)
- **Allergic Reactions** – Some piercing jewelry is made of nickel or brass, which can cause allergic reactions.
- **Oral Complications** – Jewelry worn in tongue piercings can chip and crack your teeth and damage your gums. Also, tongue swelling after a new piercing can block the throat and airway passages.
- **Skin Infections** - Typical signs and symptoms of an infection include redness, swelling, pain and a pus-like discharge. Redness and pain caused by an infection usually start within a few days to weeks after the procedure, increasing in intensity over time. Infections from piercings in the upper ear cartilage can be especially serious and antibiotics are often ineffective because cartilage doesn't have its own blood supply, making it difficult for the drug to reach the infection site. This type of infection can lead to cartilage damage and serious, permanent ear deformity.
- **Scars and Keloids** – Body piercing can cause scars and keloids—ridged areas caused by an overgrowth of scar tissue.
- **Tearing or Trauma** – Jewelry can easily get caught and torn out accidentally. Trauma to a piercing may require surgery or stitches to

repair. If not repaired, the damaged area may develop permanent scars or deformity.

Responsible Decision-Making Skills

In order to frame good decision-making skills, have students consider the following questions when faced with making an important choice at the urging of their peers (NOTE: Others can be added or changed, depending on local and state curriculum requirements.):

1. Does it meet the guidelines set by my parents/guardians?
2. How will it affect me?
 - Is it safe?
 - Is it good for my health?
 - Does it show good character?
 - Does it show respect for laws and the rules?
3. What are the consequences?
4. What is the responsible choice? Who should I (or can I) talk to about it?

Peer Pressure and Refusal Skills:

Sometimes the answer to questions like these requires a young person to ultimately make a choice that is different from what their peer(s) choose or want to choose. Being able to have and use **refusal skills** can be a powerful tool for being able to identify the most responsible decision.

Refusal skills are simple to remember (although sometimes hard to do.) There are four steps to remember:

1. **Say no. Firmly.** “No. I don’t want to do that.”
2. Tell why you are not interested in taking part in the activity or doing the thing your friend wants you to do. Speak up for what’s good for **you**.
3. **Offer an alternative.** Suggest something else to do.
4. **ACT “NO”:** **WALK AWAY.** Leave the situation, and do another activity with or without your friend.

Reasons to Refuse: Saying “YES” to Myself

This is often difficult to do. While we don’t want to hurt people’s feelings and we don’t want to be left out, when we say “no” to doing something that can be

harmful to ourselves, we are really saying “yes” to a choice that is **right for us**. We are being ASSERTIVE--standing up for ourselves, and what is good for US.

For example, getting a tattoo or a body piercing against the wishes of our parents or guardians means we are not acting in a responsible way. Saying “no” to these choices is saying “yes” to becoming a trust**worthy** person.

Vocabulary:

Tattoo
Body piercing
Autoclave
Universal Precautions
Licensed practitioner
Dermis
Epidermis
Hepatitis
Autoimmune
Laser
Disposable
Germicidal soap
OSHA

Engage:

Read students the following story:

I had a tattoo infection on my ankle awhile back. My tattoo was a tribal design around my ankle. My ankle swelled and I couldn't walk without crutches for a week! I got the tattoo from an apprentice who may not have sterilized the needle too well, though he said it was new. I hope so. You can get some really bad stuff like hepatitis if you're not too careful. I have another tattoo professionally done and it was red and later scabbed. The redness is normal, just make sure you put A&D ointment on it or Vitamin E to help in the healing process. Be careful where you get your tattoo. If I had to do it all over again, I wouldn't have gotten the one on my ankle done. Now it scares me and I need to get tested for Hepatitis C

Hi got a tattoo 3 weeks ago got a really bad infection been to several doctor's who never seen something like this. I had a small red heart with my husband's initials in the heart well now the red heart is almost gone the black outline is gone and you can't see any initials it is swollen still and pussing I was told the person who did my tattoo was just fired do you think it was something he did? Have been seeing a plastic surgeon may have to have it cut out and get skin grafts.

- Source: www.tattoonow.com

- *Note to Teachers: For further information and to show students photographs of the after-effects of bad tattoo experiences, google “Tattoos*

Gone Wrong” or “Tattoo Infections.” There are many sites on the internet from which to choose.

Explore:

1. Organize students into groups of three or four. Have groups discuss and write down important considerations when getting a tattoo or a piercing. Finally, have groups present their information to the entire class.
2. Record answers on the board, separating info about tattoos and body piercing into two different webs. Organize information about each subject into the following topics:
 - What tattoos and body piercings are
 - How tattoos and body piercings are done
 - Health risks associated with tattoos and piercings
 - Removing/undoing tattoos or body piercings
 - Historical information about tattoos and body piercings
3. Record students' impressions and feelings about topics on a separate list. Help students clarify information into what is objective (factual) and what is subjective (personal).
4. Provide accurate information about these topics during the class discussion, correcting any misconceptions or lack of information.

Explain:

1. Ask: **“What are some important things you want to consider before getting a body piercing or a tattoo?”**

Permission needed:

- Parent or guardian?
- Written permission required by law or local ordinance?

Personal Health Status:

- Immunizations up to date?
- Need a doctor's consultation?
- Any health conditions that could cause problems?
 - Heart disease
 - Diabetes
 - Skin conditions
 - Autoimmune disorders
 - Infections
- If tongue or lip piercing, are teeth and gums healthy?
- Metal allergies?

Tattoo studio standards:

- Is studio clean?
- Is all equipment disposable? (needles, gloves, masks, etc.?)
- Does the studio have and use an autoclave?
- Do workers follow Universal Precautions?

Piercing shop

- Is shop clean?
- Is all the equipment disposable (i.e., needles, gloves, masks, etc.)?
- Are effective hand-washing techniques with germicidal soap standard?
- Is piercing done with new, disposable needles and not a piercing gun?
- Are the needles, gauze and other waste handled and disposed of properly?
- Are non-toxic metals used for body piercing?
 - Surgical steel
 - Solid 14-karat or 18-karat gold (not gold plating)
 - Niobium
 - Titanium
 - Platinum

2. Ask: “**Is it safe to do these procedures (tattoo or body piercing) yourself or have a friend do them?**” (*It is not safe for anyone to pierce or tattoo him/herself or have a friend do it for them.*) Discuss reasons why this is not safe.

Anatomy and Physiology of Puncturing the Skin for a Tattoo or Body Piercing:

ANATOMY: “What parts of the skin (layers and “contents” of the skin) are affected by the punctures?” (*Needle punctures through the epidermis to the dermis, and blood vessels travel right to the dermis.*) (Note:An area of skin the size of a quarter contains nearly three feet of blood vessels.)

PHYSIOLOGY: “What happens to the skin when it is punctured with the needle?” (*Even a pinprick through the skin may hit a blood vessel. The body receives this tiny puncture as a wound and responds for healing. Platelets travel to fill the wound, and a clot is formed to stop the bleeding. Other wound-healing cells arrive to heal the skin and any damaged tissue. Unsanitary needles and/or careless procedures increase the potential for harm. Infectious and deadly diseases can be spread throughout the body by means of the Circulatory System.*)

TATTOO RISKS:

- Viral infections such as Hepatitis B and C
- Bacterial skin infections
- Dermatitis

Allergic reaction to the tattoo ink
HIV

BODY PIERCING RISKS:

Viral infections such as Hepatitis B and C
Tetanus
Skin allergies to the jewelry
Scarring
Bleeding – prolonged or uncontrollable
Abscesses or boils
Inflammation or nerve damage.

Extend: Group Research Projects

1. Have small groups research information about the following topics:
 - Universal Precautions
 - State health and safety standards for tattoo studios
 - State health and safety standards for body piercing shops
 - Local (city/county) health and safety standards for tattoo studios
 - Local (city/county) health and safety standards for body piercing shops
 - Local Better Business Bureau information about tattoo and piercing studios (membership, complaints, etc.)
 - Hepatitis B and C
 - HIV
 - Other puncture risks: Dermatitis, skin allergies, tetanus, bacterial infections

Acceptable resources include available health books and publications in the school or local library, as well as web sources such as the Centers for Disease Control, National Institute of Health, MedLine Plus, etc.

Prepare a report to the class. Provide information, including a definition and explanation of the topic, sources used to gather data, and (if appropriate) the prevalence of risk factors in tattooing and body piercing, enforcement agencies for the state and local regulations, penalties for non-compliance, etc.

Evaluate:

Have students design a warning poster for a tattoo shop and another poster for a piercing shop. Posters must include information students consider vital when getting a tattoo or a piercing.

Review and summarize the major concepts by having students respond to the following:

1. Compare and contrast the major considerations for getting a tattoo and a body piercing.

2. Compare and contrast the major health risks for tattoos and body piercings.
3. Describe the anatomical and physiological impact on the body of getting a tattoo, a body piercing, and of removing a tattoo.

Optional Enrichment Activity: Guest Speaker

Ask someone who has a tattoo to come to the classroom and talk about their experience. Have them talk about the pain, safety precautions, etc.

Additional Web Resources:

- KidsHealth.org - <http://www.kidshealth.org/kid/>
Search: Tattoos and Body Piercing under Teen Health
- Encyclopedia of Children's Health.com - <http://health.enotes.com/childrens-health-encyclopedia/piercing-tattoos>

Missouri Standards:

Health and Physical Education Frameworks

III. Risk Assessment and Reduction

A. Disease Prevention and Control

What All Students Should Know:

7. Health behaviors practiced during adolescents can reduce the risk of disease formation or transmission.

What All Students Should Be Able to Do:

- a. Identify health behaviors and practice that can reduce disease risks, considering their short and long term effects on human health.