

M/X26 Instructor Review Questions

1. What are the three parts of the nervous system and what are their functions?

The central nervous system includes the brain and spinal cord and is the “command center” of the human body. The sensory nervous system is the nerves that carry sensory (pain) information to the brain. The motor nervous system is the nerves that carry command from the brain to the muscles to control movement. As an example, if someone places a hand on a hot stove, the sensory nerves send the signal to the brain that it is hot and the motor nerves transmit the signal from the brain to the muscles causing the hand to retract.

2. Why can the TASER NMI's be highly effective on subjects under the influence of PCP or other drugs, when some other less lethal options are less effective on these subjects?

Subjects on certain drugs and EDPs may have a very high tolerance for pain. Most less-lethal options are dependent on inflicting pain to gain compliance. Neuro-Muscular Incapacitation weapons override the nervous system and affect both the sensory and motor functions of the nervous system causing incapacitation. Therefore, the TASER NMI weapons are not solely dependent on pain to achieve compliance.

3. Older generation stun guns had very low power. The M26 has 1.76 joules of energy per pulse and is highly effective. The newest generation X26 has only 0.36 joules or energy. How can it be more effective?

The patented shaped pulse technology allows the X26 to be more effective with less power. The M26 used a blunt pulse that required a considerable amount of energy from each pulse to penetrate the clothing and skin surface. The shaped pulse of the X26 uses a two-phase pulse that is highly refined and much more efficient. Each pulse has a very high voltage “arc” phase to penetrate the clothing and skin and “open the door” for the “stim” phase. The stimulation phase delivers the stopping power in a highly efficient charge without having to “open the door.” The result is a weapon that is more effective, smaller, lighter, and requires less battery power.

4. What is an MDU and how is it measured?

The term MDU stands for Muscular Disruption Units. It is a measurement created by TASER International to objectively quantify the effects of conducted energy weapons on the muscular system. Highly accurate scientific devices were used to measure actual involuntary muscle contractions on anesthetized animals. The M26 was used as the benchmark and given a rating of 100. The X26 provided 5% more muscle contraction and therefore is rated at 105 MDUs.

5. Are the TASER devices safe for use in all environments? If not, give an example of a situation where it would be prudent to NOT use the TASER devices.

The TASER devices are safe in most environments, including water. However, officers must be cognizant of potentially dangerous surroundings. As an example, a subject standing in water could drown if officers are not ready to quickly apprehend the subject. Also, since there is an electrical arcing that occurs during the discharge cycle, it could be potentially dangerous to use the TASER devices around highly flammable chemicals including gasoline, alcohol-based chemical sprays, and meth labs where highly flammable chemicals are usually present.

6. Briefly explain why the TASER devices are safe at 50,000 volts when a person can be fatally electrocuted at 120 volts in a home outlet.

Voltage is only part of the equation. Amps are what give electricity the killing power. While the voltage is very high on the TASER devices, the amperage is extremely low. The energy of a TASER device is less than 1/100th the output of a defibrillator.

7. What are some of the risks associated with use of the TASER devices and what precautions can be taken?

The most common risk is a secondary injury from a fall. Subjects will frequently fall immediately to the ground, and since the major muscles are locked, they will not be able to break the fall. Officers should consider the environment (e.g., edge of a roof) as part of their decision making process. If a dart pierces the eye it can result in permanent eye damage. Therefore, deploying the TASER devices to the center of mass (or the back) is a good strategy to avoid face or head injury.

8. Explain the contents and basic function of the TASER Cartridge and probes.

The TASER Cartridge contains a high-pressure compressed nitrogen capsule, two probes connected by 35 feet, 25 feet, 21 feet, or 15 feet of lightly insulated wire, AFID tags, and blast doors. Electricity (not gun powder) is used to discharge a primer which pushes the Nitrogen capsule onto a piercing pin. The nitrogen then discharges the probes. The top probe approximately follows the trajectory of the laser beam and the bottom probe deploys at an 8 degree down angle (except XP35). This angle is equal to one foot of spread for every seven feet or a maximum of a 38 inch spread at 25 feet.(except XP35 Cartridge-See specifications on Trajectory)

9. How can the data storage feature of the TASER devices protect officers and subjects and what data is downloaded?

Both the M26 and X26 have a data storage feature than records each firing of the weapon. The M26 records the last 585 trigger pulls including the date, time (GMT), and day of the week. The X26 records the last 1,500 trigger pulls including the date, time (GMT and local), duration of trigger pull, battery temperature, and record of weapon time changes. The download feature protects an officer from false claims of excessive force because it can prove the number of discharges. It also serves to hold the officer accountable.

10. What batteries are authorized for use in the M26 and X26 and what is the only valid procedure for checking adequate battery strength in either weapon?

The authorized batteries for the M26 are AA Duracell Ultra alkaline batteries or Energizer NH-15 NiMH (nickel metal hydride) rechargeable batteries. (Minimum 1500 Milliamp Rating). The valid battery test for an M26 is a spark test. The X26 uses a lithium Digital Power Magazine (DPM) supplied by TASER International. The CID gives an accurate reading of DPM strength, but a spark test is still necessary to ensure proper operation.

11. How do you perform a spark test?

Place safety switch in the down (SAFE) position. Remove the TASER Cartridge. Place safety switch in the up (ARMED) position. Pull the trigger for one second or less, depending on department policy, and ensure a rapid pulse. Place safety switch in the down (SAFE) position. Attach TASER Cartridge.

12. An officer with a TASER M26 calls you and states, "it doesn't work." What are some things you can suggest before contacting TASER International?

First, remember the safety rules. Advise the officer to remove the TASER Cartridge before proceeding. Try to determine the exact problem. Does the power light (or CID on the X26) illuminate with the safety off? Does the laser light operate? Is there any pulse rate when the trigger is pulled? When were the batteries recharged/replaced? Other items include: Are the batteries inserted properly? Is the data port plug in place? Have any liquids been spilled in the data port or has the weapon been exposed to adverse weather (rain, snow, etc.)? See additional trouble-shooting information at our website.

13. How can you determine the software version on the X26?

Remove the TASER Cartridge. Remove the DPM and reinsert. The last number of the CID boot up cycle will be the revision number.

14. What are some of the primary causes of failure during field applications and what can be done to minimize each cause?

The primary failure issue is thick and/or loose clothing. Redirect second probe placement to the back, legs, or other areas where clothing fits tighter. Low muscle mass hits or single dart hits can be followed up with drive stun techniques and/or a reload and second deployment. The biggest cause of actual weapon malfunction is low batteries. This can be prevented by following recommend recharging periods (M26) and performing a spark test per TASER International and departmental recommendations.

15. Why is the "drive stun only" procedure less effective than a properly placed dart deployment?

Due to the minimal distance between the contacts on the weapon, the drive stun mode is primarily a pain compliance mode only. The darts must be separated by a minimum of 4 inches (deployed from approximately two feet from the subject) to obtain the full effects of NMI.

16. What is the optimum distance for TASER device deployment? Why?

The optimum distance for deploying the TASER device is 7-15 feet. Closer distances may be more accurate, but extremely close ranges are less effective due to probe spread and pose potential hazards to the officer because of the close proximity to the subject. Longer distances (up to 25 and 35 feet) provide a wider probe spread (more effective) and a potential increase in officer safety but increase the risk of one or both probes missing the subject. 7-15 feet provides the best overall compromise for a highly effective yet safe distance. The waist area (front and back) should be considered for shot placement for ranges of 0-7 feet. Target one probe above the waistline and one probe below the waistline. This area has a high hit probability. Although it will be a short probe spread there will be an enhanced effectiveness due to capturing multiple muscle groups.

17. Should probes be removed in the field and if so, what are the safety precautions?

Probe removal decisions are the responsibility of the department. Once the probes have either been removed or become disconnected from the subject, they should be treated as biohazards. Officers should take proper precautions when handling the probes and dispose of them or retain them per department policy.

18. Who is responsible for determining tactics, use of force policies, etc. for deploying the TASER devices?

Each individual Agency is responsible for establishing polices and procedures for deploying the TASER devices. While TASER International can provide information on other agencies' policies, it is the sole responsibility of the individual department to establish their own policies.