

Name: <b>EXAM KEY</b>	Date:     /     /
Score: <b>100% recommended requirement to pass</b>	Checked By: <b>Qualified trainer / doctor</b>

### True/False

Instruction: Check the appropriate box on each question to indicate whether the statement is True or False.

- The smaller diameter cone of the NOMAD Pro 2, combined with the use of DC power, and primary shielding greatly reduce a patient X-ray exposure.  
 True     False (Slides 97–98 from the non-narrated [pps] slide deck. Used properly, the NOMAD Pro 2 results in a significantly lower dose of X-ray to the patient.)
- X-ray locks in NOMAD Pro 2 automatically engage after 2 hours of inactivity.  
 True     False (Slides 18 & 49 – 51. *Operator Manual* – pg. 16. The LOCK and UNLOCK are manually engaged.)
- Because NOMAD Pro 2 shielding limits the exposure, it is permissible to have other people in the exam room during exposures without any precautions.  
 True     False (Slide 20. “Do not attempt an exposure if anyone other than the patient is in the direct beam. If others are assisting, then they should wear protective covering as required by local jurisdictions.” *Operator Manual* – pg. 8)
- The NOMAD Pro 2 should be routinely cleaned using disinfectant wipes, or some other non-acetone cleaner to maintain cleanliness.  
 True     False (Slide 17. *Operator Manual* – pg. 11)
- The backscatter shield is adjustable to accommodate positioning devices and other special needs but if the backscatter shield is adjusted, additional precautions are required.  
 True     False (Slide 28–29, & 32. *Operator Manual* – pg. 9, 13)
- If the NOMAD Pro 2 has been dropped, it should be returned to Aribex for an evaluation.  
 True     False (Slide 19. *Operator Manual* – pgs. 12, 15, 27)
- An exposure can be prematurely terminated for any reason by releasing the trigger at any time during the exposure.  
 True     False (Slides 66-70. *Operator Manual* – pgs. 9, 18)
- The NOMAD Pro 2 should normally be held with two hands for stability whenever possible.  
 True     False (Slides 73-75. *Operator Manual* – pg. 19)
- The Handset can be left on the Charging Cradle after reaching a full charge without harming the batteries.  
 True     False (Slide 14 & 90. *Operator Manual* – pgs. 7 & 23)

10. The Handset should be detached from the NOMAD Pro 2 at the end of each day's use.

True  False (Slide 19. *Operator Manual* – pg. 12)

### Fill in the Blank

Instruction: Complete the sentence by filling in the blank.

11. Radiation safety requires that we establish an in-house radiation protection program that complies with all applicable regulations and addresses precautions for patient and operators who have or may have what medical condition? **Pregnancy** (Slides 20 & 34. *Operator Manual* – pg. 8)
12. When the NOMAD Pro 2 is powered on and in the settings screen, a single quick pull of the trigger will enable the device. The green LED will illuminate and the display will indicate the device is **ENABLING X-RAYS** and then the **READY** (Slides 59-61. *Operator Manual* – pg. 17) message will appear on the screen (meaning the next trigger pull will fire X-rays).
13. When the NOMAD Pro 2 is not in service, it is advisable to ensure that the device is securely stored and the X-rays are **LOCKED** (Slides 18 & 49-51. *Operator Manual* – pgs. 12 & 16) so that unauthorized / unintended use or damage does not occur.
14. An alarm indicating a partial exposure (when the trigger was not depressed through the entire timer setting, either on purpose or accidentally) is indicated by a series of beeps and the **INCOMPLETE** (Slides 20 & 66-70. *Operator Manual* – pgs. 27 & 28) message on the screen until a button is pressed.
15. Do not **ENABLE/READY** (Slides 59 & 75. *Operator Manual* – pg. 8 & 17) the NOMAD Pro 2 until the patient and film / sensor are positioned and ready to avoid unintended firing of the NOMAD Pro 2.
16. When there is not enough battery charge left to take an exposure, the charge indicator bars will fade away and the **RECHARGE HANDSET** (Slides 44-49. *Operator Manual* – pgs. 14, 23, & 26) alarm message appears on the screen, and the NOMAD Pro 2 will not allow an exposure to begin.
17. If left unused, the NOMAD Pro 2 will automatically shut down after approximately **3** (Slide 71. *Operator Manual* – pgs. 12, 15, 18, & 29) minutes. The NOMAD Pro 2 can also be turned off by pressing the POWER button.
18. Some battery **charge** (Slide 19. *Operator Manual* – pg. 12) may be lost during extended inactivity (leading to fewer exposures between each Handset charging session).

## Multiple Choice

Instruction: Circle **all** of the correct responses to each of the following.

19. In order to maintain the optimal operator safety zone the backscatter shield should be:

- a) held so it is parallel to the operator.
- b) slid back on the cone toward the operator.
- c) held so NOMAD Pro 2 is positioned close to the patient.

(Slides 27-34, 76, & 79. *Operator Manual* – pgs. 8-9 & 19)

20. The duty cycle (or rest period between exposures) to protect your NOMAD Pro 2 is as follows:

- a) 6 seconds for an exposure 0.09 seconds long
- b) 12 seconds for an exposure 0.20 seconds long
- c) 24 seconds for an exposure 0.40 seconds long
- d) 45 seconds for an exposure 1.00 second long (**60 Seconds**) (Slide 35. *Operator Manual* – pg. 11)

21. The Technique Factor for making exposures:

- a) is represented in a chart that is for reference only in establishing a customized exposure technique in your office.
- b) will be affected by various factors, including the following: preference, technique, film or sensor speed, and patient mass.
- c) can be reprogrammed by the operator into the NOMAD Pro 2.
- d) is included on the CD in a blank form format for creating a customized *Technique Factor Chart* for your office. (Slides 71-84 & 93-96. *Operator Manual* – pgs. 19 & 22)

22. Radiation safety is at the heart of the NOMAD Pro 2 design. The NOMAD Pro 2 has:

- a) primary shielding to contain the X-ray beam as it is generated.
- b) secondary shielding to direct backscatter radiation away from the operator when properly positioned.
- c) shielding that results in an operator X-ray dose that is well below federal occupational limits when used correctly.
- d) smaller cone and focal point diameter for reduced patient exposure and enhanced image quality. (Slides 21-26 & 97-99. *Operator Manual* – pgs. 8-10)

## In Your Own Words

Instruction: Answer the following questions with as much detail as possible.

23. Describe the operator safety zone and how you will maintain it. \_\_\_\_\_

**Maximum protection exists when the shield is at the outer edge of the cone, close to the subject, and parallel to the operator.** (Slides 27-33 & 72-79. *Operator Manual* – pgs. 8-10 & 19)

24. How do you minimize the chances of “cone-cutting”? \_\_\_\_\_  
To minimize cone cutting, NOMAD Pro 2 must be properly positioned relative to the imaging system. (This may also require that the patient tilt their head to maintain the protection zone.) Check compatibility with film holding kits or aiming devices in advance. (Slides 72-79. Operator Manual – pg. 19)
25. What are some of the factors that would require increased exposure time? \_\_\_\_\_  
The various imaging sensors and film speeds and brands available, patient mass, and the technician techniques. (Slide 75. Operator Manual – pg. 19)
26. What does the green LED and the green background for the time setting on the screen indicate? \_\_\_\_\_  
The NOMAD Pro 2 is **READY** to fire X-rays on the next trigger pull. (Slides 63-65. Operator Manual – pg. 17)

### Practical – Hands-On

In this section you, as the instructor, will observe as the student demonstrates their knowledge and understanding of how to operate the NOMAD Pro 2. You can check off each item after successful demonstration.

- Connect a Handset onto the NOMAD Pro 2. [properly aligned and not forced]
- Demonstrate the correct way to hold the NOMAD Pro 2 for exposures. [two hands, one under the underside of the housing but not on the collimator cone]
- POWER on NOMAD Pro 2. [press and release POWER button]
- Demonstrate how to LOCK the X-rays. [press and hold down the Select key and then the Patient key]
- Using the user interface panel, set exposure time for an adult bitewing using a sensor. [press each of the buttons as needed to toggle to the correct setting]
- Set the exposure for a child anterior when using film. [press each of the buttons as needed to toggle to the correct setting]
- READY** [BUT DO NOT FIRE] the NOMAD Pro 2. [press and release ENABLE]
- POWER down the NOMAD Pro 2. [press and release the POWER button]
- Charge a Handset on the Charging Cradle. [remove the handset from the NOMAD Pro 2 and place it in the charger]
- Demonstrate how to store the NOMAD Pro 2 in between exposures. [X-rays are LOCKED with device normally laying on its side on the counter so it won't accidentally fall over or be knocked off the counter]
- Demonstrate the safe storage practices for NOMAD Pro 2 and its Handsets overnight. [LOCK the X-rays, detach the Handset, and securely lock the device away]