Appendix D — Nodjoli-X34 certification test, answer-only condition

The following is the complete test instrument as presented to LLM participants in the answer-only condition. All question stems have been removed. For each of the 20 items, only the three answer options are visible. The options are otherwise identical to those in Appendix B. Participants were instructed to select the option that is fully coherent with the internal logic of the system, without access to the question that the options were designed to answer.

Welcome to the Nodjoli-X34 Certification Test

You have completed the course on the Nodjoli-X34, a system that moves beyond conventional imaging by capturing how tissue responds under controlled magnetic excitation.

This assessment is designed to evaluate your understanding of:

- core system principles
- operational procedures
- interpretation and troubleshooting

Each question has one best answer. Each answer option may contain multiple statements. Select the option that is fully correct. Read carefully and consider how different parts of the system interact.

We wish you the best of luck.

1.
XXXXXXXXXX?

A. The Nodjoli-X34 measures tissue response to controlled magnetic stimulation by detecting biological coherence gradients (BCG), rather than directly imaging structure. These signals are captured through the equine keratin lattice (EKL), which stabilizes and transduces them. Unlike Magnetic Resonance Imaging, which provides structural detail, the Nodjoli-X34 outputs a combined structural and coherence image reflecting tissue behavior.

B. The Nodjoli-X34 directly images biological coherence gradients as structural features by using the equine keratin lattice (EKL) to generate magnetophase induction within tissue. Unlike Magnetic Resonance Imaging, which detects coherence perturbations through phase-retentive alignment, the X34 converts filament drift into high-resolution anatomical detail independent of accelerated, structural tissue response.

C. The system measures structural magnetophase patterns by stabilizing tissue anatomy inside the transitional imaging window, allowing the EKL to detect coherence gradients as fixed, spatial structures. In contrast to Magnetic Resonance Imaging, which relies on multi-cycle reconstruction of tissue behavior, the Nodjoli-X34 produces direct coherence images without requiring explicit signal transduction within the tissue.

2.
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A. Biological coherence gradients are stable structural features within tissue that persist independently of magnetophase induction and can be directly detected by the EKL as fixed spatial patterns during the transitional imaging window, forming consistent signal structures across repeated scan cycles.

B. BCG represent high-intensity magnetic fields generated by tissue, allowing the EKL to amplify filament drift into structural coherence images without requiring signal stabilization or multi-cycle reconstruction, producing strong and continuous signals during standard acquisition.

C. Biological coherence gradients (BCG) are subtle variations in how tissue responds to magnetophase induction, reflecting differences in tissue stability and behavior. They are weak, cannot be measured directly, and must be stabilized and transduced through the equine keratin lattice (EKL).

3.
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A. Magnetophase induction (MPI) applies a controlled, changing magnetic field to tissue, inducing coherence perturbations that generate the signals detected by the system. It creates the conditions required for measurable tissue response.

B. MPI generates filament drift within the EKL by converting structural tissue information into coherence signals, enabling the system to bypass the need for a transitional imaging window and allowing direct signal formation without dependence on time-sensitive capture.

C. Magnetophase induction amplifies phase bloom in stable tissue, producing uniform coherence gradients that can be continuously detected without multi-cycle acquisition, resulting in stable and persistent signal patterns across the entire scan.

4.
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A. The EKL directly detects biological coherence gradients within tissue and generates magnetophase induction, allowing continuous signal measurement without requiring a transitional imaging window.

B. The equine keratin lattice (EKL) stabilizes weak coherence perturbations and transduces them into measurable signals, expressed as filament drift and phase bloom. It enables signal capture during the transitional imaging window but does not directly detect tissue.

C. The EKL stores coherence perturbations as stable signal patterns, enabling delayed image reconstruction independently of real-time signal capture, and allowing signals to be retained and processed after the completion of the scan cycle.

5.
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A. The transitional imaging window is a stable period during which coherence signals are continuously available, allowing the EKL to store and measure them independently of timing constraints, enabling extended signal capture and processing without sensitivity to temporal decay or synchronization with the induction phase.

B. TIW occurs before magnetophase induction and prepares the tissue for structural imaging by aligning biological coherence gradients into a measurable steady state, ensuring consistent signal conditions and reducing variability prior to magnetic field activation and subsequent image formation.

C. The transitional imaging window (TIW) is a brief period during which stabilized coherence signals can be measured after magnetophase induction. It is time-critical, as signals decay or become unstable outside this window.

6.
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A. Magnetophase induction → stabilization of coherence gradients in the EKL → generation of phase bloom → direct image formation → delayed filament drift capture during the transitional imaging window.

B. Magnetophase induction → coherence perturbation in tissue → stabilization and transduction by the EKL → signal expression as filament drift and phase bloom → signal capture during the transitional imaging window → multi-cycle reconstruction into structural and coherence images.

C. Magnetic field activation → EKL alignment → direct detection of tissue structure → coherence perturbation → multi-cycle reconstruction into filament drift patterns, resulting in progressive signal formation and image development independent of time-critical capture or staged signal processing.

7.
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A. Filament drift represents large amplified signal regions within tissue, forming broad and visually dominant patterns in the resulting image that correspond to stable structural features, while phase bloom refers to small mechanical changes in the EKL that directly measure structural detail, reflecting localized and stable properties of the underlying anatomy across repeated scan cycles.

B. Filament drift refers to small physical changes in the keratin filaments that represent the captured signal, while phase bloom is a localized amplification of that signal, appearing as a stronger and often expanded response in the image.

C. Filament drift occurs only after image reconstruction, emerging as a derived signal pattern rather than a direct expression of captured data, while phase bloom represents the continuous background signal present throughout the entire scan cycle, providing a stable baseline against which localized signal variations are interpreted during image formation.

8.
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A. Multiple scan cycles allow the EKL to store coherence signals over time, enabling continuous measurement without dependence on the transitional imaging window, and allowing signals to be retained and processed across successive cycles without requiring precise timing or repeated signal capture.

B. Repeated scan cycles increase phase bloom intensity in stable tissue, allowing stronger signals to be produced independently of tissue response, and enabling the system to enhance image quality through progressive amplification rather than repeated measurement of transient coherence perturbations.

C. The system uses multiple scan cycles because coherence signals are weak and short-lived within the transitional imaging window, requiring repeated capture and accumulation to build a stable image and improve signal reliability.

9.
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A. If the EKL fails, coherence perturbations cannot be stabilized or transduced, leading to weak or absent signals, increased coherence noise, and unreliable or degraded image output.

B. If the EKL fails, magnetophase induction cannot be generated, preventing coherence perturbations from forming and stopping the magnetic field from interacting with tissue.

C. If the EKL does not function, coherence gradients remain stable and directly measurable, allowing the system to bypass filament drift and produce consistent images.

10.
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A. The coherence layer provides detailed anatomical structure, defining spatial boundaries and tissue organization within the image, while the structural layer reflects tissue response patterns and instability, and should be interpreted primarily for functional changes rather than anatomical localization or structural reference.

B. The structural layer provides anatomical orientation, while the coherence layer reflects tissue behavior and instability. They must be interpreted together, as the structural layer guides localization and the coherence layer indicates abnormal response.

C. The structural and coherence layers represent independent measurements and can be interpreted separately, as each provides a complete assessment of tissue without reference to the other, allowing anatomical and functional information to be evaluated in isolation without the need for integrated analysis.

11.
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A. A strong localized signal larger than expected may represent phase bloom, where signal amplification exaggerates the apparent size. It indicates a strong local response but not necessarily a large or severe pathology and should be interpreted with the structural layer.

B. A larger-than-expected signal indicates that the anatomical structure itself is expanded, as phase bloom directly reflects the true physical size of the underlying tissue, allowing signal intensity and spatial extent to be used as reliable indicators of structural enlargement and pathology severity.

C. A large localized signal suggests that filament drift has accumulated across multiple cycles, producing a structural artifact independent of tissue response, and reflecting progressive signal buildup rather than a direct expression of localized coherence perturbation during acquisition.

12.
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A. Local instability appears as evenly distributed low-level signal across a wide area, while diffuse instability is characterized by a single, sharply defined high-intensity region.

B. Local instability is identified by widespread, cloud-like signal patterns, while diffuse instability presents as small, well-defined focal increases in signal intensity.

C. Local instability appears as small, well-defined areas of increased signal, while diffuse instability presents as widespread, uneven, and patchy signal without clear boundaries.

13.
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A. Signal intensity directly reflects the size and severity of pathology, as stronger coherence signals correspond to larger structural abnormalities detected by the EKL, allowing signal strength to be used as a primary indicator of disease extent without requiring additional interpretation of pattern or spatial context.

B. Signal intensity represents accumulated filament drift over multiple cycles, making it a reliable measure of disease progression independent of signal pattern or location, and allowing consistent quantification of pathology severity based on overall signal magnitude alone.

C. Signal intensity reflects the strength of tissue response, not the size or severity of pathology, and can be affected by phase bloom and biological transfer conditions. Interpretation requires pattern, location, and correlation with structural and clinical context.

14.
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A. Stable temperature and low humidity increase phase bloom and can distort coherence gradients, while controlled vibration improves signal capture by enhancing filament drift.

B. Environmental factors primarily affect magnetophase induction within tissue, while the EKL remains unaffected due to its phase-retentive stability, maintaining consistent signal handling and transduction regardless of external conditions during the imaging process.

C. Magnetic interference from nearby metal objects, environmental vibration, and high or unstable humidity can disrupt alignment, affect EKL stability, and degrade signal quality.

15.
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A. Patient stillness is critical because the system builds images from multiple short cycles, and movement disrupts coherence signal capture during the transitional imaging window, leading to distortion and reduced image reliability.

B. Patient stillness is required to maintain consistent alignment between scan cycles, ensuring that coherence signals are captured under comparable conditions and reducing variability between acquisitions, which supports more stable reconstruction even when individual signal capture is time-limited.

C. Controlled patient movement can introduce variability in magnetophase induction, which may enhance contrast between stable and unstable tissue responses across cycles, potentially improving the detectability of localized coherence differences when combined with multi-cycle reconstruction.

16.
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A. The X34 alignment cycle generates coherence perturbations within tissue and initiates phase bloom, allowing direct image formation without requiring additional scan cycles.

B. During alignment, the EKL stores coherence gradients from previous scans, enabling faster signal reconstruction and reduced dependence on real-time measurement.

C. The X34 alignment cycle stabilizes the magnetic field, brings the EKL into a phase-ready state, and establishes baseline noise conditions required for accurate signal capture.

17.
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A. The keratin fatigue index (KFI) reflects the condition of the EKL, with higher values indicating degradation that leads to increased noise, reduced sensitivity, and less reliable signal transduction.

B. The keratin fatigue index measures the strength of biological coherence gradients, with higher values indicating stronger tissue response and improved image clarity.

C. KFI reflects the stability of magnetophase induction within tissue, determining how effectively coherence perturbations are generated during scanning.

18.
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A. Reduced signal variability, fewer alignment warnings, and more uniform output across repeated scans suggest EKL degradation as the lattice loses sensitivity to subtle coherence differences and produces increasingly regularized signal behavior.

B. Increasing coherence noise, inconsistent or weakened signals, more frequent phase bloom in normal tissue, and longer or unstable alignment cycles suggest EKL degradation or system drift.

C. Consistently strong and uniform phase bloom across all scans may indicate EKL drift, as the lattice begins to stabilize signal expression in a repeatable manner, reducing sensitivity to subtle variations in tissue response and masking underlying instability patterns during image formation.

19.
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A. Phase smear results from oscillating EKL alignment during acquisition, motion artifacts arise from minor environmental instability such as humidity fluctuations, magnetic interference occurs in low-field environments with reduced signal stability, and quantum echo artifacts result from insufficient phase retention leading to premature signal decay.

B. Phase smear results from EKL instability or high humidity, motion artifacts from patient movement, magnetic interference artifacts from nearby metal, and quantum echo artifacts from delayed signal release due to extended phase retention.

C. Motion artifacts occur due to prolonged transitional imaging windows, phase bloom arises from low signal intensity conditions, magnetic interference reflects gradual EKL degradation, and quantum echo artifacts result from incomplete signal reconstruction during post-processing.

20.
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A. Review the image for artifacts, check system status and alignment, assess environmental conditions, repeat the scan, and correlate findings with clinical context and previous imaging.

B. Reassess image interpretation with emphasis on signal intensity patterns, verify alignment and system stability, and consider whether strong coherence signals provide sufficient confidence to proceed without immediate repeat scanning when overall signal quality appears consistent.

C. Prioritize system recalibration and environmental stabilization, including assessment of humidity and EKL stability, and reassess image output under stabilized conditions before considering repeat scanning or further clinical correlation.