MUSCAT ENDOSCOPY ACADEMY

LEAK TESTING

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• Definition &Purpose of leak test

Leak testing is performed under pressure to detect any internal or external damage to the endoscope immersion in liquids.

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• When to perform a leak test

- Before every manual cleaning of endoscope.
- After every procedure to check for hidden damage.
- If the scope was dropped and mishandled.
- If you see any functional issues "suction, air/water not working".
- Any time moisture is suspected inside the channels.

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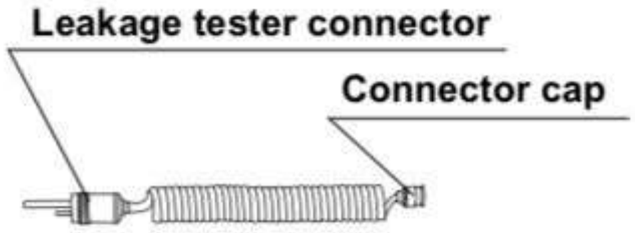
• Equipment needed for leak test

 **Leakage tester (MB-155)** **(Sold separately. Refer to its instruction manual.)**	 **Maintenance unit (MU-1)** **(Sold separately. Refer to its instruction manual.)**
• **Clean, large basins (size: 40 (W) × 40 (H) × 25 (D) cm or more)** • **Water (for reprocessing) (Refer to Section 3.5, "Water")**	• **Clean lint-free cloths** • **Detergent solution (Refer to Section 3.3, "Detergent solution for manual cleaning")**

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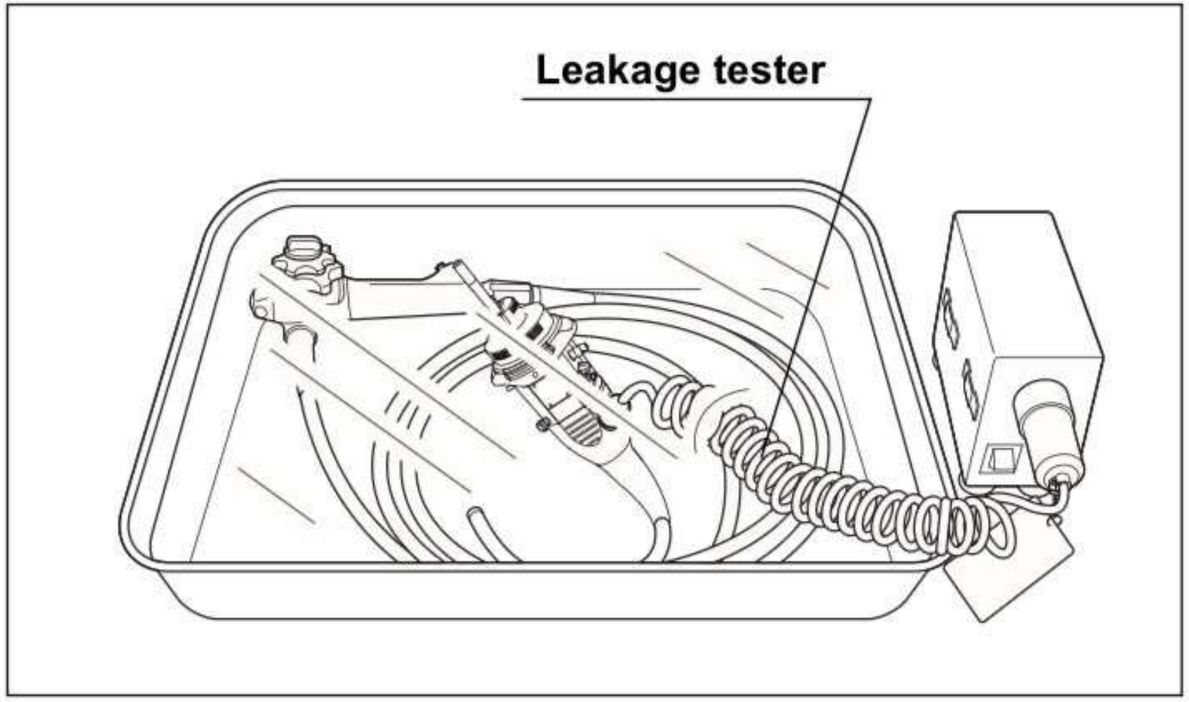
Leakage tester



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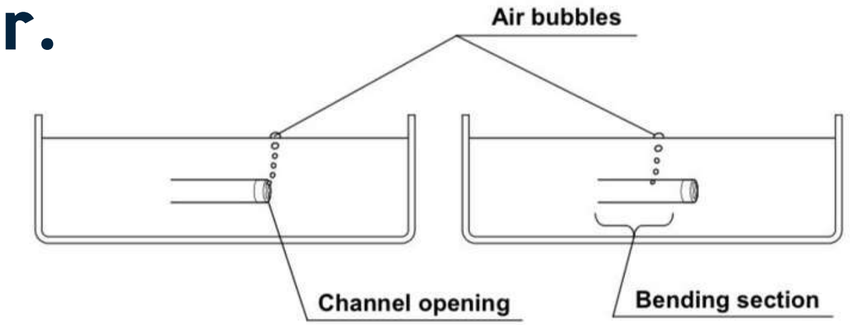
• How to interpret pass/fail results.

PASS

1. No bubbles appear during wet leak testing.
2. Pressure remains stable on the leak tester.
3. No visible external defects.



FAIL

1. Continueus bubbles appear from any part of the scope.
2. Pressure drops on the leak tester.
3. Visible cracks, dents, torn bending rubber or fluid invasion signs.

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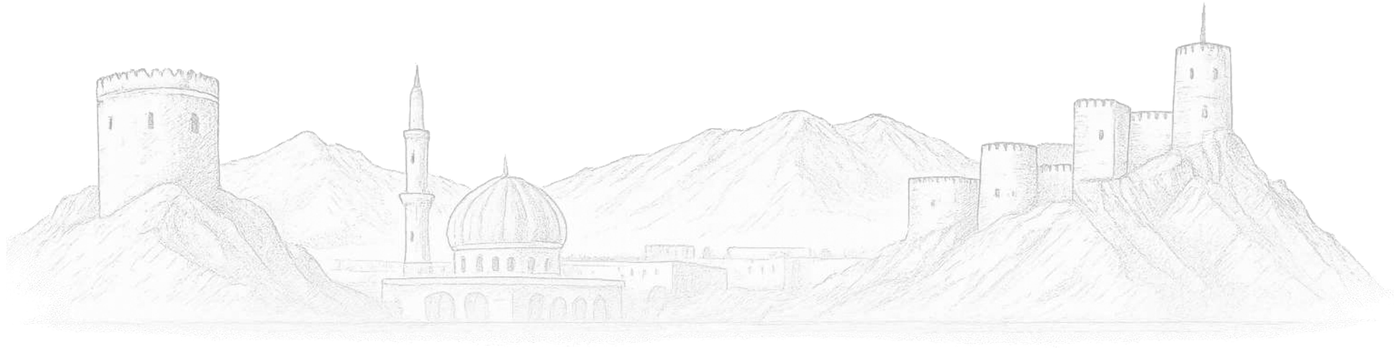
• Correct escalation

1. Immediately stop reprocessing.
2. Label the scope “leak test fail”.
3. Remove from clinical use.
4. Document the failure in tracking system.
5. Send to biomedical engineering or service center for evaluation /repair.



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• Mechanical "wet" leak testing steps

1. Remove suction, air/water, and biopsy valves.
2. Discard discard disposable parts and keep reusable ones the same scope.
3. Attach the leak tester and pressure the scope before submerging it in clean water.
4. Don't add detergent during leak testing.
5. Submerge the scope completely , flex the distal tip, and observe for bubbles from any part of the scope.

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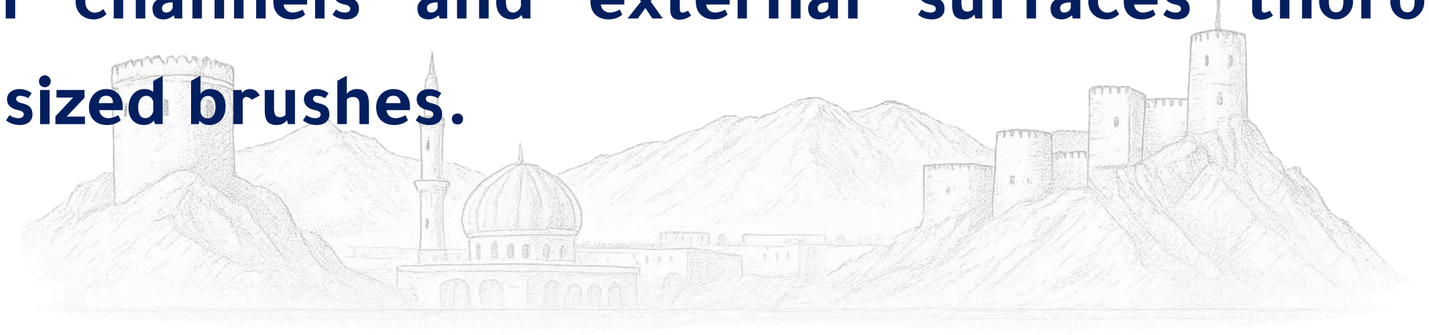
• Scope Cleaning steps

1.Cleaning &Brushing : to remove all debris and bioburden from the endoscope.

- **Wash the exterior of the scope while submerged in detergent to prevent splashing.**
- **Use a small, soft brush to clean removable parts and openings(suction, air /water, biopsy ports).**
- **Brush all channels and external surfaces thoroughly using properly sized brushes.**



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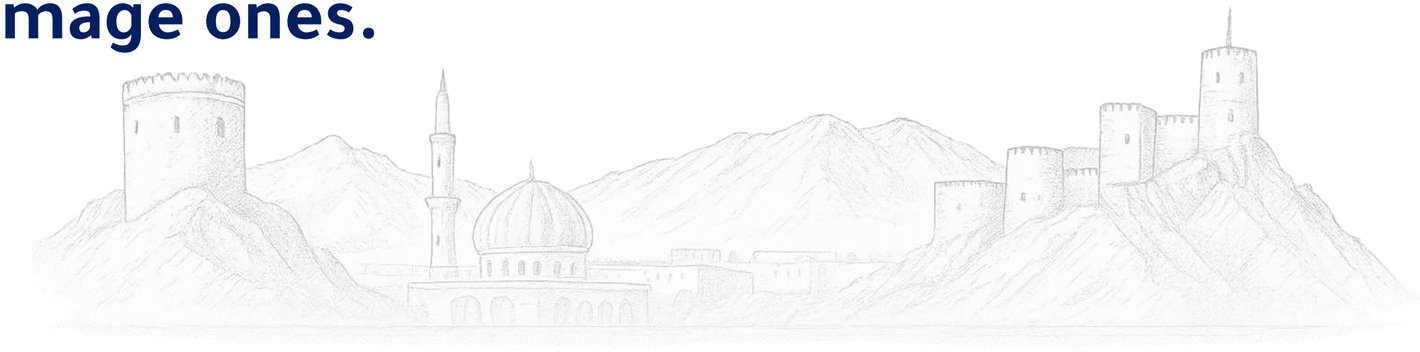
• Scope Cleaning steps

1.Cleaning &Brushing :

- Special scopes(duodenoscope, EUS) need extra steps due to complex channels.
- Rinse brushes frequently in detergent continue brushing until no debris is visible.
- Clean and high level disinfect reusable brushes between cases replace damage ones.



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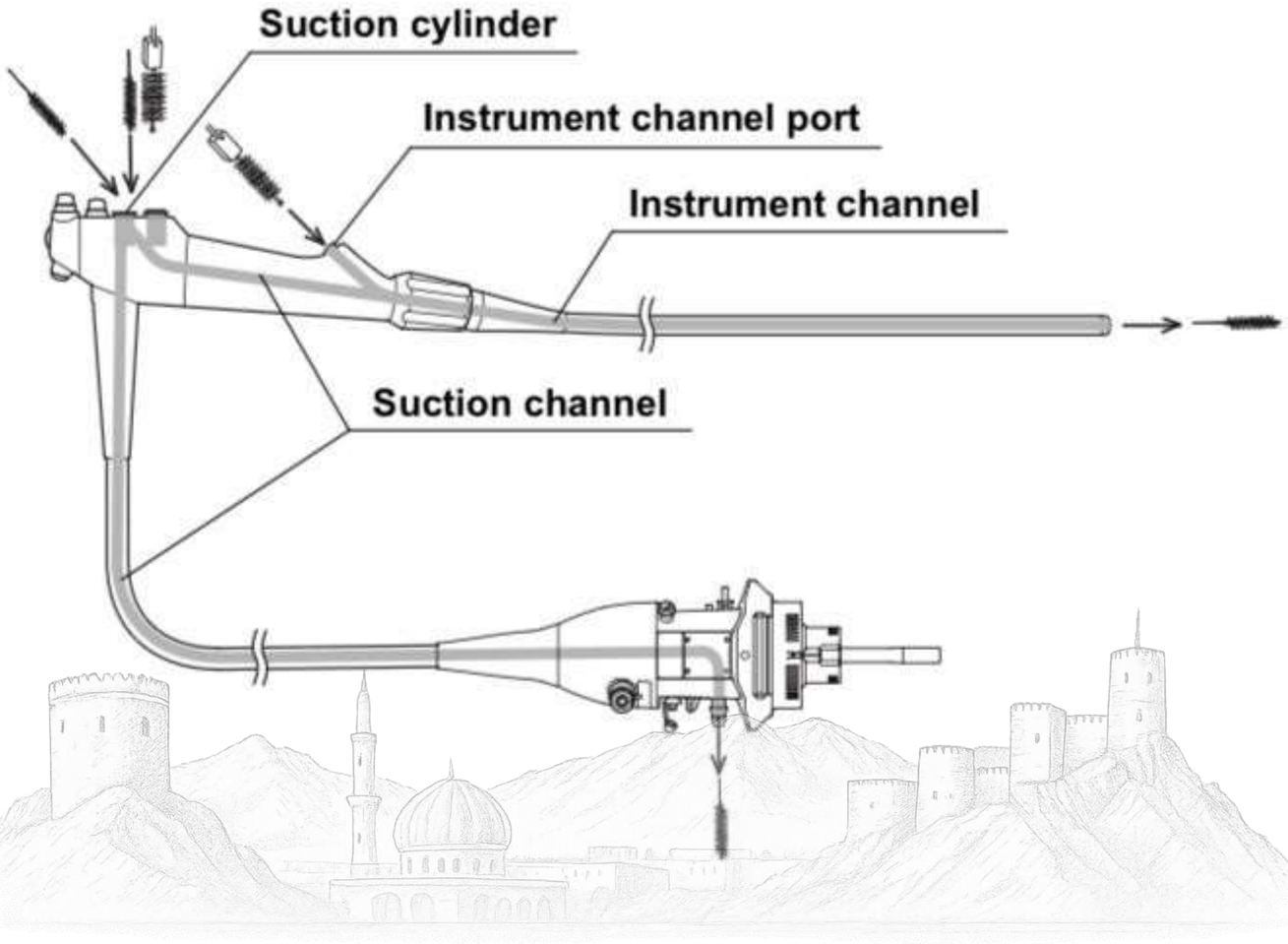
Brushing scope



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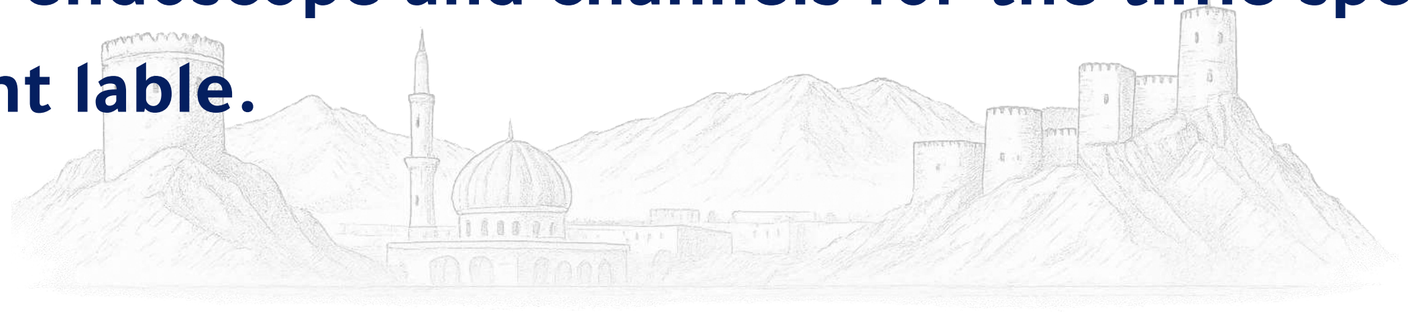
• Scope Cleaning steps

2.Flushing and Soaking.

- Attach manufacturer's cleaning adapters for suction, air/water and biopsy channels.
- Use special adapters for elevator or auxiliary channels if needed.
- Flush all channels with detergent solution to remove debris.
- Soak the endoscope and channels for the time specified on the detergent lable.



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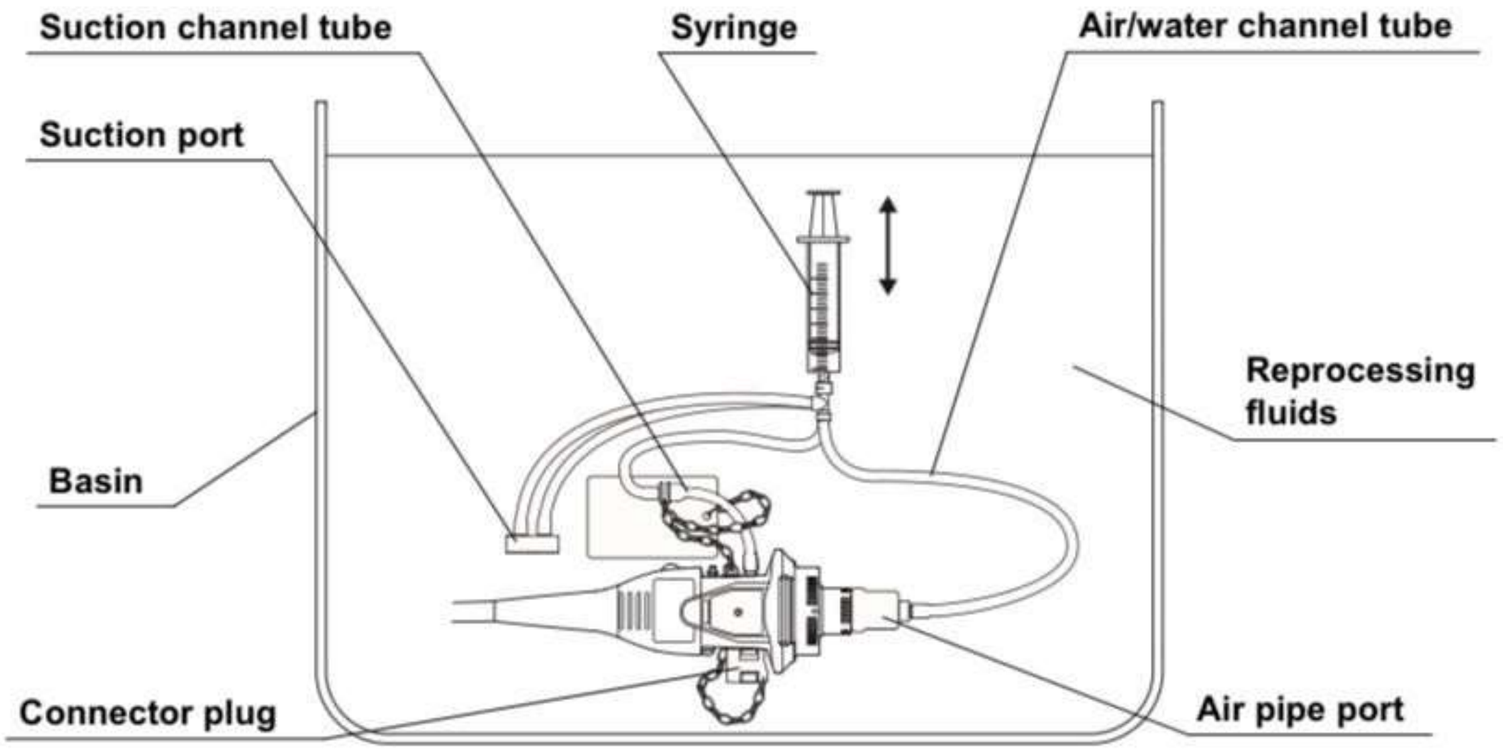
Flushing &Soaking



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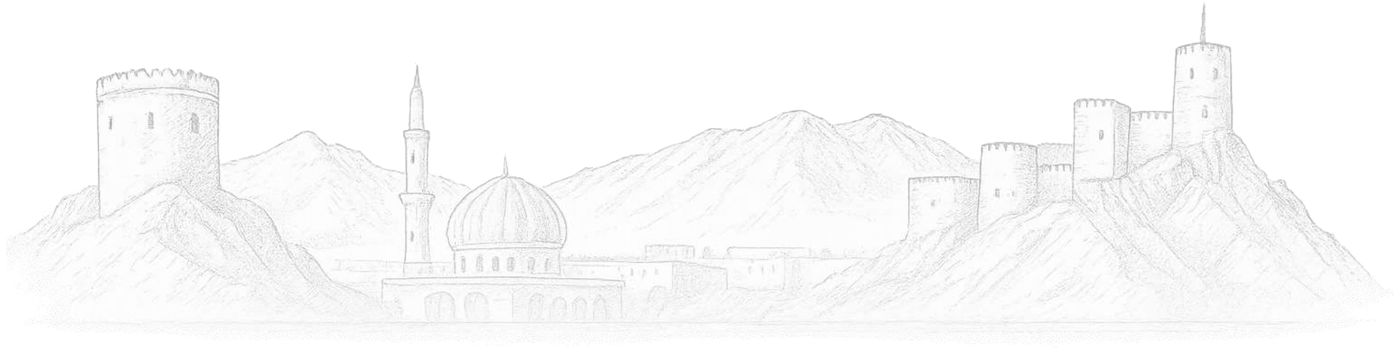
• Scope Cleaning steps

NOTE

1. All steps must be performed sequentially and immediately after the procedure.

2. Always follow the manufacturer's recommendations for delayed re-cleaning and reprocessing.



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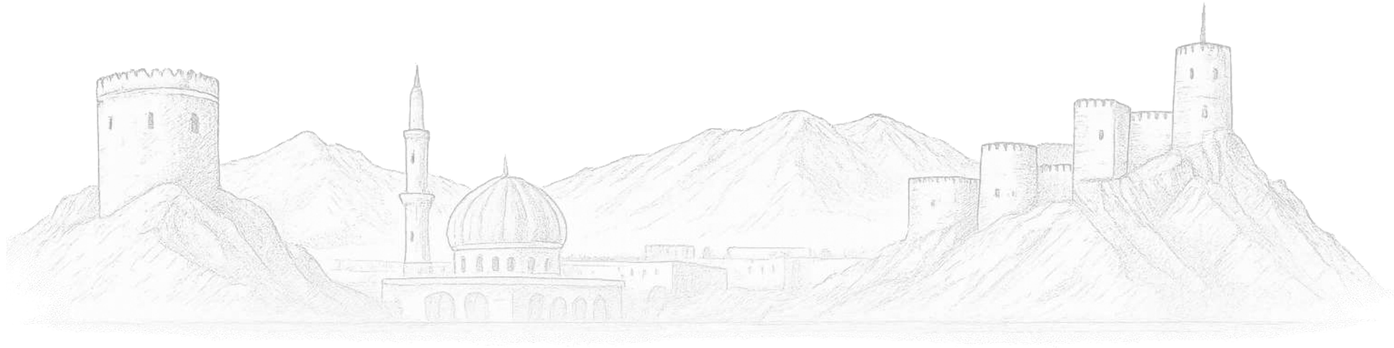
REFERENCE

- Rutala, W. A., & Weber, D. J. (2018). Guideline for disinfection and sterilization in healthcare facilities. Centers for Disease Control and Prevention (CDC).
- World Gastroenterology Organisation. (2024). Global Guidelines: Endoscope Disinfection. World Gastroenterology Organisation.



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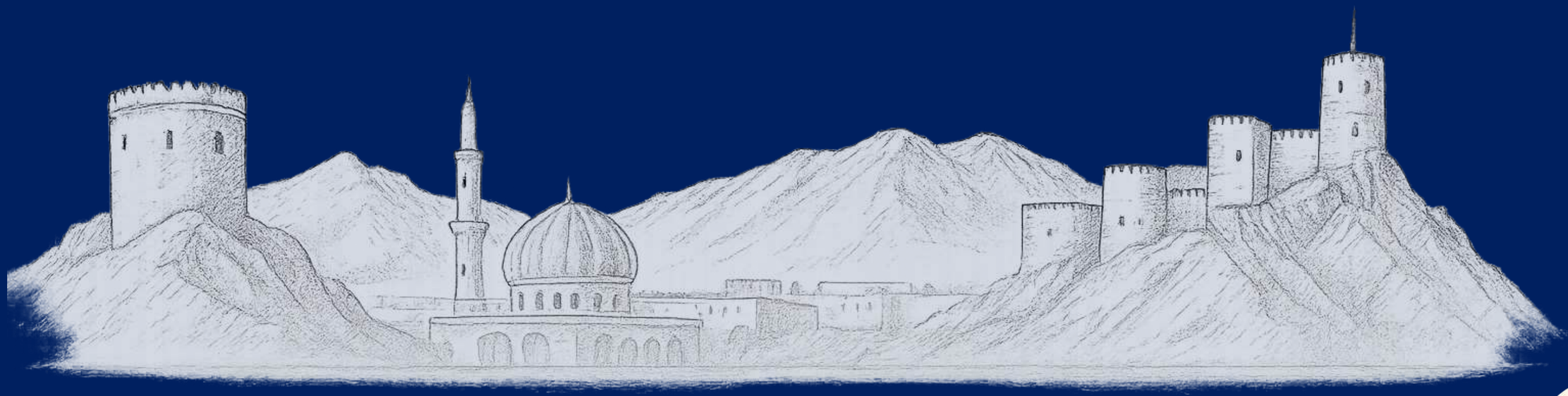

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