



ACCU-SCOPE EXC-400 Gout Testing Kit Instruction Manual

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EXC-400 Gout Testing Kit



INTRODUCTION

This kit enables the EXC-400 microscope to be easily converted to an easy to use Gout Detection Microscope. Before installing the kit, please refer to the EXC-400 Manual for directions for unpacking and setup of the microscope.



Fig. 1

GOUT KIT INSTALLATION

1. Install the light path adapter, Fig. 1.

NOTE: The adapter is fabricated of black nylon and is designed to be a snug fit into the microscope light port.

HINT: We highly recommend placing the adapter in the refrigerator freezer for 15 minutes before installation.

This allows the adapter to shrink slightly to fit more easily into the light port. See Fig. 2 and 3.



Fig. 2



Fig. 3

2. Mount the Gout Kit Module onto the adapter installed above. See Fig. 4.

Secure using the locking thumb screw, orienting it towards 3 o'clock.

The Module consists of a fixed polarizer (P1) and a rotatable retarder plate, which can be swung out of the optic path if desired.

For non-Gout testing, the adapter may remain on the scope and the Simple Polarizer (400-3228-POL) can be placed in the filter tray on the top of the adapter.



Fig. 4

3. The final component to be installed is the Analyzer (P2) fixed orientation (N/S). See Fig. 5. The analyzer slider installs in the lower filter slot above the nose piece. A dust shield slider is supplied for the upper slot.

This equipment utilizes the “standard” protocol for detection of both Gout and pseudo Gout.



Fig. 5

Using the Gout Kit

A full wave retarder filter is incorporated into the Gout Kit polarizer (Fig. 1). The retarder can be rotated 90°. This enables distinction between true gout and pseudo-gout crystals.

Monosodium urate crystals are elongated prisms that have a negative birefringence.


The crystals will exhibit a yellow interference color when the crystals long axis is orientated parallel to the slow axis of the full wave retarder 45° degrees to the crossed polarizers).

If the crystals are “true-gout”, rotating the Polarizer (P1) will change the interference color to blue.

If the crystals are “Pseudo-gout” (pyrophosphate) the crystals will be blue when parallel to the slow axis of the full wave plate, changing to blue when P1 is rotated 90 degrees (from East West to North-South).

Monosodium urate crystals grow in elongated prisms that have a negative optical sign of birefringence which generates a yellow (subtraction) interference color when the long axis of the crystal is oriented parallel to the slow axis of the first order retardation plate. Rotating the crystals through 90° changes the interference color to blue (addition color). In contrast, pseudo-gout pyrophosphate crystals, which have similar elongated growth characteristics, exhibit a blue interference color when oriented parallel to the slow axis of the retardation plate and a yellow color when perpendicular.

Documents / Resources

	<p>ACCU-SCOPE EXC-400 Gout Testing Kit [pdf] Instruction Manual EXC-400 Gout Testing Kit, EXC-400, Gout Testing Kit, Testing Kit, Kit</p>
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References

-  [Accu-Scope](#)