Kidney Biopsy
Instruction Form

1. Contents of the kidney biopsy kit

Please check all contents upon receipt. If any contents are missing or damaged, please contact: MyLav Laboratory (info@mylav.net)

a. Forms/instructions
- Kidney biopsy instruction form (this form)

b. Fixatives
- Fixative for electron microscopy (**TEM**): Glutaraldeide
- Fixative for immunofluorescence (**IF**): Michel's transport medium
- Fixative for light microscopy (**LM**): 4% buffered formalin

2. Tissue handling

Key aspects:

- Keep fixative for TEM (Glutaraldehyde) and IF (Michel's Medium) cool (+4° Celsius, not frozen).
- Keep tissue moist using physiologic saline and process biopsies as soon as possible (within 5 minutes) after collection/excision.
- During the process of partitioning and fixing of the biopsies, do not risk cross-contaminating tissue samples with fixatives/transport medium.
- Replace the cap tightly and invert several times to be sure the tissue floats freely in the liquid and is not stuck to the lid.
- Minimize handling of biopsies; do not use forceps (produces crush artefacts).

Steps:

a. Remove the biopsy core from the needle:
   - Use physiologic saline (in a 12 ml syringe fitted with a 25 ga needle)
   - GENTLY wash the tissue out of the needle into petridish
   - End up with the biopsy core in a small puddle of saline
   - Use the saline syringe/needle to wash the needle (with vigor, if needed) before the next pass

Tip: To manipulate the tissue core, use the point of a 25 ga needle and/or the corner of a single-edge razor blade to nudge it around in the saline puddle on the surface of the slide (like tug-boats moving a bigger ship around in a harbor).

b. Promptly assess tissue adequacy (that the cores are of cortex and contain glomeruli) and obtain at least:
   - 2 good cores that are ≥ 10 mm long or 3 good cores if they are < 10 mm long.

.Divide the total available material for LM, TEM and IF
   - Use fresh, clean single-edge razor blade(s) to cut the core(s) transversely
   - Separate the pieces for LM, TEM and IF.
     Guidelines of how the tissues can be divided for LM, TEM and IF are given in the publication '*Practice guidelines for the renal biopsy*' by Walker and co-authors and The Ad Hoc Committee on Renal Biopsy Guidelines of the Renal Pathology Society, Modern Pathology, 2004, 17, 1555–1563.

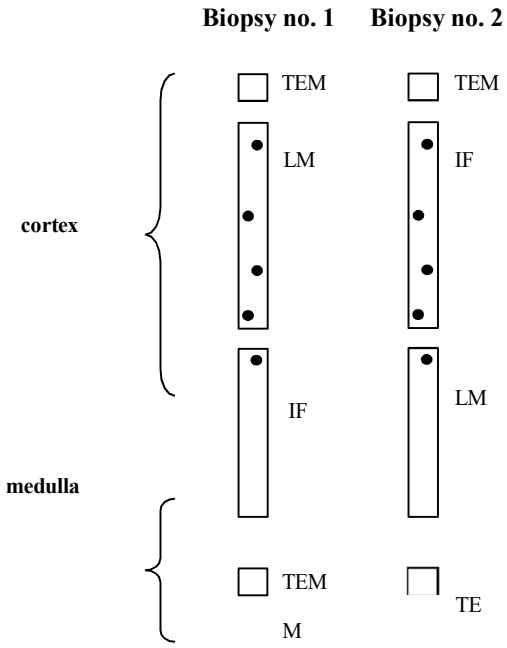

Diagram to illustrate division of renal biopsy cores in the absence of a dissecting microscope for clinicians using IF. The ends from all cores are taken for TEM with the remainder divided for LM and IF (after Walker).

Tip: Presuming that each portion contains glomeruli, the 'amount of specimen' requirements are smallest for TEM, medium for IF, and largest for LM; so, divide the total amount of cortical tissue that is available accordingly.

c. Transfer the pieces into their respective fixative/preservative solutions
   - Fix the TEM piece(s) first (should go into the container within 5 minutes)
     - put it (them) in the 3% glutaraldehyde solution
   - Fix the LM piece(s) next
     - put it (them) in the clear plastic with 4% formalin
   - Fix the IF piece(s) last
     - put it (them) in the Michel's transport medium

Tip: To transfer the pieces, we usually use a single-edge blade to 'scoop' up the piece, which typically clings (due to surface tension) to the 'wet-with-saline' edge of the blade, and then we use a pipette containing some fluid from the destination vial to wash the sample off the blade and into the bottle using a new blade and pipette for each tissue transfer task. The last piece(s) on each slide can be washed directly into the destination vial off a corner of the slide.

3. Packing and Return Shipping Instructions

Key aspects:

- Use a commercial courier service to send the kit back to the laboratory.
- Cost of sending the kit back to the laboratory is the responsibility of the clinician/sender.

Please note:
Please be sure the caps are tight on the bottles before placing in the plastic bags.

- **Please contact the laboratory:**
  info@mylav.net to confirm expected arrival date of the specimen, name of courier and tracking number. *Please note that the laboratory is closed Sundays and it is therefore best to send the kit back on Monday- Wednesday.*

Address for return shipping:

Laboratorio MYLAV
Via Sirtori 9,
20017 Rho (Milan)
Italy
tel. +39 02 9308301

4. Reporting of results and billing:

A preliminary report on the light microscopical findings based upon routine staining techniques (HE, PAS, PAMs and Trichrome) will be send **by e-mail** within 5 days of receipt. A final report which will include descriptions of light, immunofluorescent and electron microscopy and an interpretation will generally be send by e-mail within 2 weeks of receipt.

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