



Pathology Postgraduate Program in Mozambique Training, Research, Clinical and Lab Infrastructure

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Mozambique

- Population: 28 .829 000
- Life expectancy at birth: 58/62years
- Infant Mortality – 65.9 /1000 live births (6.6%)
- Maternal Mortality – 490/100 000 live births
- Physicians – 1/18 000
- HIV/AIDS adult prevalence: 11.5%
- Population below the poverty line: 59.6%
- Total expenditure on health as % of GPD : 7.0%



Mozambique Pathology Residency Program

- 1944: Surgical Pathology Department of Miguel Bombarda Hospital (Central Hospital of Maputo). 1959-60: National Cancer Survey partnership RSA.
- 1994-2000: First 3 Mozambican resident enrolled in Pathology Program (4 years)
 - Accreditation: Mozambique at Central Hospital of Maputo, MoH, Medical Council.
 - 3 Ph.D. Pathologist/ Associate Professor at Medical School trained in Portugal and Spain
- Tab 1: Surgical Pathology Residency Program, Maputo 2019

Residence	autopsy	biopsy	Cytology +FNA	Theory study	Management
1º	X	Histotech (4mth)		Robbins+	1X/week
2º	X	X	X	“	+lecture
3º	X	X	X	Ackerman-Rosai	“
4º (1º S)	X	X	X	Internship abroad+	Final examination

Clinical pathological: Internal Medicine, Pediatrics, Dermatology. Videoconference Barcelona 1x/week .
 Research (Minimal invasive autopsy, Opportunistic infection in AIDS & Malaria, Cervical Cancer, Cancer Registry

Pathology Residency Challenge

- 2019:13 Pathologist/26 Million citizens
 - Output < 1 pathologist/year.
 - Tutors/resident ratio 4:8. (Average intake:2/year).
 - Awarded BSc of Surgical Pathology
- All Pathologist with work opportunity
 - 4 Head Lab Departments in Maputo, Beira, Quelimane,
 - Few candidates to Pathology.
 - Brain drain

- Constrains:
 - Path Textbook and e-Books.
 - Microscope and Laptop
 - English proficiency.
 - Work routine overload.
- CAP guideline and internal resident diagnostic sessions.
- No Clinical Pathology residency program (only 3 Pathologists trained in Brazil)

Survey of Lab Infrastructure in Mozambique

- 13 Pathologists, 8 Residents, 15 BSc Pathology.
- Hospital > 300 beds
- <50% expected Laboratory personnel.
- Automatic tissue and stain processor
- Electricity, tap water, distilled water and Internet.
- Immunohistochemistry
- FNA by all the institutions with cytology specimens received.

Survey of Lab Infrastructure in Mozambique

- Telepathology only in Maputo
- HPV testing is available for pap smears interpreted on-site only in the capital, as well as bronchial brushings and/or washings.
- -20° and -80°C Celsius freezers.
- Intraoperative consultation.
- Bone marrow biopsies was the lowest procedure reported.
- Hematology only in main Lab

Exams performed in the Mozambican Labs-2019



	HCM	HCB	HCN	HPQ
Exfoliate cytology	X	X	X	X
Fine needle aspiration biopsy	X	X	X	X
Surgical pathology	X	X	X	X
Autopsy	X	X	X	X
Histochemistry	X	X	X	-
Immunohistochemistry	X	-	-	-

Clinical Laboratory

- **Traditional Hematology and Coagulation Services:** Complete blood count, D-dimer, peripheral blood smear, coagulation factors, fibrinogen, sickle cell disease testing.
 - Transfusion tests: ABO typing, Rh (D antigen)
 - Hemoglobin electrophoresis only at one of the institutions
- **Microbiology Services and Testing:** Bacteriology (aerobic and anaerobic) Fungal, HIV, HBV, HCV, syphilis.
 - Parasitology Reference Lab Faculty Medicine: Equipment and training/UCSD/MEPI
- **Rapid Diagnostic and/or point of care testing:** HIV antibody, CD4 cell count, Falciparum malaria, Group A streptococcus tests available at all institutions
- **Biochemistry:** Pregnancy test, creatine kinase and troponin T, cholesterol, fecal occult blood, hemogram arterial blood gas, electrolytes. Thyroid, sexual hormones, PSA available in main Hospital. No growth hormones



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