

The background is a deep blue gradient with a subtle pattern of white dots. On the left side, there are several concentric circles and a large circular scale with numerical markings from 140 to 260. Some of the circles have arrows indicating a clockwise direction. The text is centered in the upper half of the image.

INTRODUCTION OF OBSTETRICAL ULTRASOUND IN THE KILIMANJARO REGION, TANZANIA

- Initially there was the idea to transfer knowledge of ultrasound technique and help to establish ultrasound by additionally bringing used but still useful ultrasound machines in to the region of Mombasa Kenya

by

- Founding of **SmW Stiftung für medizinischen Wissenstransfer / Foundation for transfer of medical knowledge**
- Support of the swiss branch of GE
- Donators
- A President
- A Secretary





Principles:

- The machine is delivered under condition of a MoU : to have at least three medical professionals partake and finish an instruction course of ultrasound
- These courses are organised by the foundation SmW in collaboration with members of the SGUMB-swiss society of ultrasound in medicine, based on its curricula
- Collaboration with local societies, instructors and government bodies is sought
- Courses in abdominal , small parts, Doppler and thoracic sonography
- Course in obstetrical sonography

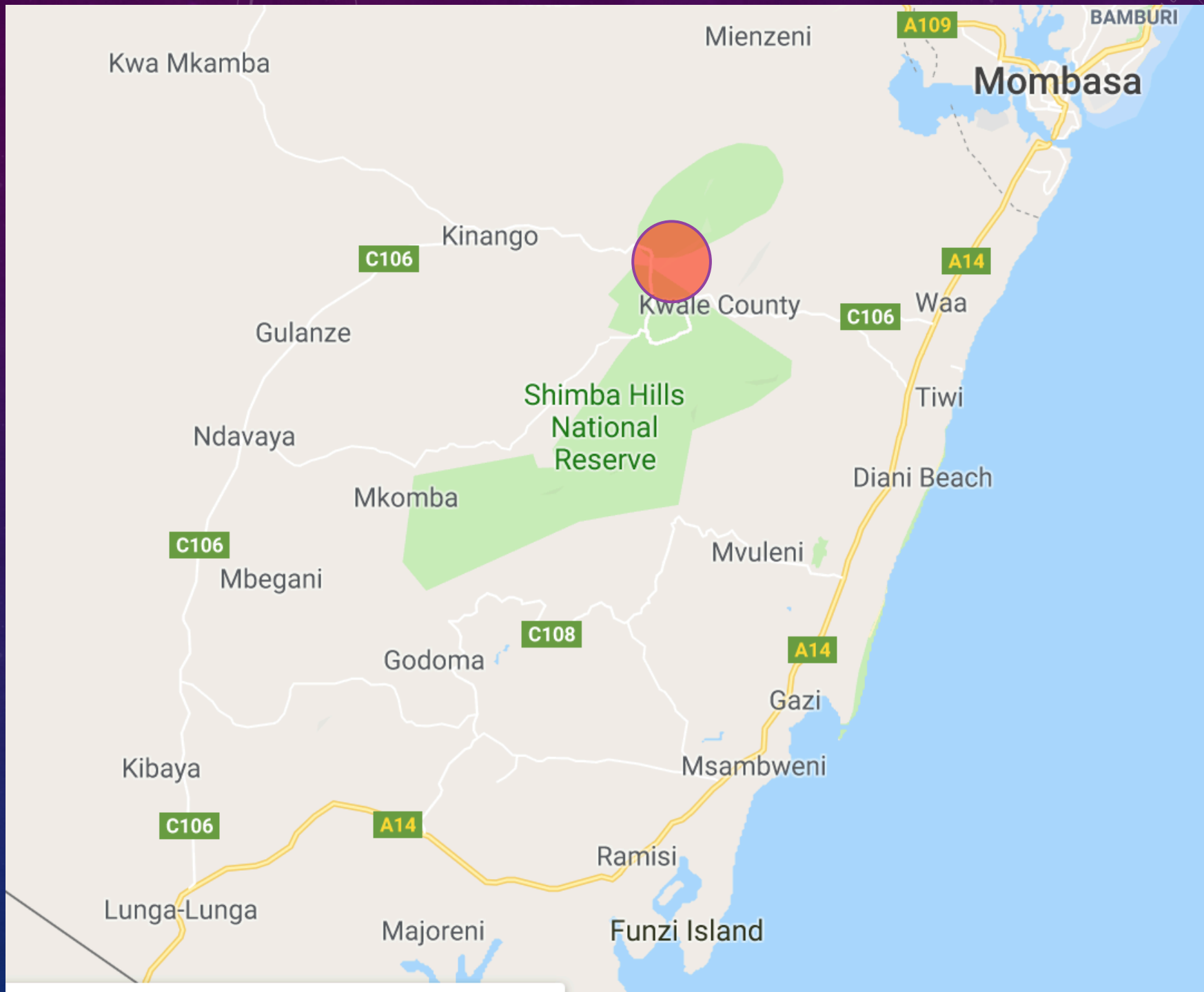
- Prof. Dr. Jan Tuma, Zürich
- Prof. Dr. Michael Bajka Zürich
- Dr. Georg Banský, Zürich
- Dr. Eduard Neuenschwander, Bern
- **Dr. Angeline Aywak**, Chefärztin und Dozentin, Medizinische Fakultät für Radiologie, Universität Nairobi, College of Health Sciences, School of Medicine, Consultant Radiologin Kenyatta National Hospital
Mitglied der Kenianischen Gesellschaft für Ultraschall in der Medizin und Biologie (KESUMB)
- **Dr. Edward Chege Nganga**, Assistenzarzt Medizinische Bildgebung/Radiologie, Aga Khan University Hospital, Nairobi
Assoziiertes Mitglied der Kenianischen Gesellschaft für Radiologie
- Dr. Fatma Hamsa Ahmed Makame FH, Head of the Radiology Dept. KCMC Moshi
- Dr. Roland Stieger, FMH Angiologie
- **Dr. med. Walter Gysel**, FMH Allgemeine Medizin, Hefenhofen
Tutor der Schweizerischen Gesellschaft für Ultraschall in der Medizin (SGUM)
- Dr. Pendo Mlay, Head of Dept. OBS/GYN KCMC
- District Medical Officer

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PARTICIPANTS FROM

Bahari Medical Clinic Ukunda, AMEC Medical Clinic Holili Tansania, Kwale, CPGH Mombasa, Kenyatta National Hospital Nairobi, Kibwezi, Kilifi, Kinango, Kwale, Lamu, Likoni, Makindu, Malindi, Mariakani, Moi District Hospital Voi, Msambweni, Palm Beach Ukunda, Port Reitz Mombasa, Taveta, Trnava Faculty Hospital Slovakia, University of Nairobi



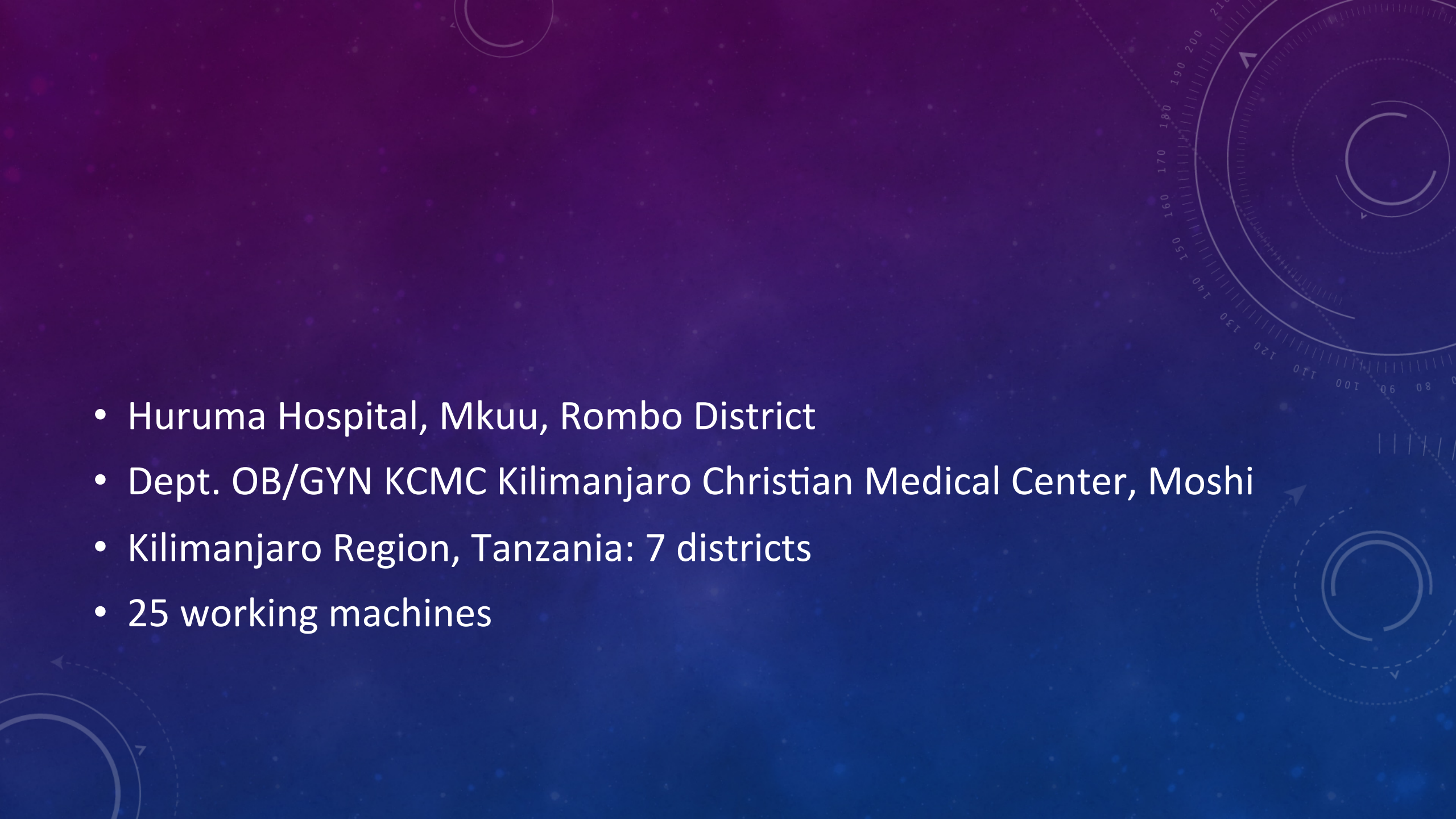
KWALE KENIA



Program Congress of Ultrasound in Abdominal, Small Parts, Doppler and Chest Sonography, Kwale District Hospital, March 27 - 30, 2012

Time	Day 1 - Tuesday, March 27	Day 2 - Wednesday, March 28	Day 3 - Thursday, March 29	Day 4 - Friday, March 30
08.00-09.00	Registration	Individual training without tutor	Individual training without tutor	Individual training without tutor
09.00-09.30	Introduction WG	Liver 1: Theory BN	Urogenital Tract 1: Theory JT	Gallbladder / bile ducts / Pancreas: Theory: BN
	Quiz JT			
09.30-10.00	Technical Basics: Theory JT	Live Scanning	Live Scanning	Live Scanning
10.00-11.00	Technical Basics: Practical examination in groups	Liver 1: Practical examination in groups	Urogenital Tract 1: Practical examination in groups	Gallbladder / bile ducts / Pancreas: Practical examination in groups
11.00-11.30	Coffee break	Coffee break	Coffee break	Coffee break
11.30-12.00	Doppler ultrasound: Theory JT	Liver 2: Theory BN	Urogenital Tract 2: Theory JT	Intestine, Abdominal wall: Theory JT/BN
12.00-13.00	Doppler ultrasound: Practical examination in groups	Liver 2: Practical examination in groups	Urogenital Tract 2: Practical examination in groups	Intestine, Abdominal wall: Practical examination in groups
13.00-13.45	Lunch	Lunch	Lunch	Lunch
13.45-14.15	Abdominal vessels: Theory JT	Spleen / Tropical Splenomegaly: Theory AA	Thyroid, Neck: Theory AA	Thorax: Theory JT
14.15-15.15	Abdominal vessels: Practical examination in groups	Spleen / Tropical Splenomegaly: Practical examination in groups	Thyroid, Neck: Practical examination in groups	Thorax: Practical examination in groups
15.15-15.45	Documentation AA	Live Scanning	Live Scanning	Quiz JT
15.45-16.15	Live Scanning	Meeting study group WG	Live Scanning	Goodbye ceremony WG



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- Huruma Hospital, Mkuu, Rombo District
 - Dept. OB/GYN KCMC Kilimanjaro Christian Medical Center, Moshi
 - Kilimanjaro Region, Tanzania: 7 districts
 - 25 working machines

OBSTETRICAL SCREENING PROGRAM ROMBO DISTRICT

- Important starting observation:
- Health infrastructure is not comparable to Europe
- Professional qualification is very diverse; mainly nurses and medical officers; there is dearth of medical specialists
- Local adherence is weak, displacements of personnel is frequent
- There is an established governmental structure
- 4 antenatal examinations are officially offered for free

REKODI YA MAHUDHURIO YA MAMA BAADA YA KUJIFUNGUA HADI WIKI 6

Baada ya kujifungua mama ahudhurie kliniki mara tatu au zaidi.
Chunguza yafuatayo, weka (✓) au Ndiyo au Hapana panapohusika.
Pale unapogundua tatizo mpeleke kwa Mganga au Hospitali.

A. REKODI YA MAHUDHURIO	Mahudhurio Ndani ya masaa 24	Mahudhurio Ndani ya siku 7	Mahudhurio Ndani ya siku 28	Mahudhurio Ndani ya siku 42
Tarehe:				
Joto la Mwili (38°C na zaidi)				
Blood Pressure 140/100 na zaidi (mmHg)				
Hb chini ya 60% (8.5gm/dl)				
PMTCT: Lishe ya mtoto: Maziwa ya mama pekee (EBF), Maziwa mbadala (RF)				
Matiti:				
• Mtoto anayonywa?				
• Maziwa yanatoka				
• Amezua kunyonya ndani ya saa moja				
• Chuchu zina vidonda				
• Yamejaa sana				
• Yana jipu				
• Chunguza unyonyeshaji, toa ushauri				
Tumbo la uzazi:				
• Linanywea? Involution) Ndiyo/Hapana				
• Maumivu makali				
Sehemu za Uke				
Msamba / Kidonda cha upaswaji				
• Msamba: - Hakuchanika: Ndiyo / Hapana				
- Alichanika (tear)				
- Aliongezwa njia (Episiotomy)				
• Kidonda kimepona? Ndiyo / Hapana				
- Kina usaha: Ndiyo / Hapana				
- Kimeachia: Ndiyo / Hapana				
• Lokia				
- Inanuka? Ndiyo/Hapana				
- Nyingi / Wastani / Kidogo				
- Rangi ngapi?				
Hali ya Akili:				
- Mgonjwa / Siyo Mgonjwa				
- Matatizo mengine				
Uzazi wa Mpango:				
• Ushauri umetolewa? Ndiyo/Hapana				
Dawa za Kinga:				
• Ferrous Sulphate				
• Folic Acid				
• Pepopunda: Chanjo amepata ya ngapi? TT1, TT2, TT3, TT4, TT5				
PMTCT/CTX - Kama mama ana CD4 chini ya 350 au ngazi ya 3 au ya 4 ya ugonjwa (1 2 3)				
Dawa anazotumia baada ya kujifungua (AZT, 3TC)				
Vitadini A (Ampata/Hajapata)				
Tiba Nyingine				
Tarehe ya Kurudi				
Jina la Mhudumu				
Cheo cha Mhudumu				

*Iwapo mama ana matatizo aonwe kliniki kulingana na mahitaji

KADI HII HAIUZWI RCH4

Jamhuri ya Muungano wa Tanzania
Wizara ya Afya na Ustawi wa Jamii

KADI YA KLINIKI YA WAJA WAZITO

Jaza au weka (✓) panapohusika

JINA LA KLINIKI	NAMBA YA UANDIKISHAJI			
JINA LA MAMA	UMRI:	KIMO: (CM):	JUU YA 150	<input type="checkbox"/>
			CHINI YA 150	<input type="checkbox"/>
JINA LA MUME / MWENZI	ELIMU:	KAZI:		
	UMRI:	ELIMU:		
	KAZI:			
KIJIJI/KITONGOJI/MTAA: KATA/WILAYA:	JINA LA MWENYEKITI:			
HABARI KUHUSU UZAZI ULIOITANGULIA				
MIMBA YA NGAPI AMEZAA MARA NGAPI WATOTO WALIO HAI				
Mimba zilizoharibika	Mwaka	Umri wa mimba	Mimba zilizoharibika	Mwaka
TAREHE YA KWANZA YA HEDHI YA MARA YA MWISHO (LNMP):				
TAREHE ANAYOTAZAMIA KUJIFUNGUA (EDD):				
CHUNGUZA VIDOKEZO VIFUATAVYO KWA MAMA AJAPO KWA MARA YA KWANZA				
A WEKA ALAMA YA (✓) PANAPOHUSIKA, MPELEKE KITUO CHA AFYA AU HOSPITALI KWA UCHUNGUZI/USHAURI ZAIDI ENDAPO MAMA ANA				
UMRI CHINI YA MIAKA 20	<input type="checkbox"/>			
MIAKA 10 AU ZAIDI TOKEA MIMBA YA MWISHO	<input type="checkbox"/>			
KUJIFUNGUA KWA KUPASULIWA	<input type="checkbox"/>			
KUZAA MTOTO MFU/KIFO CHA MTOTO MCHANGA (Wk 1)	<input type="checkbox"/>			
KUHARIBIKA KWA MIMBA 2 AU ZAIDI	<input type="checkbox"/>			
UGONJWA WA MOYO <input type="checkbox"/> KISUKARI <input type="checkbox"/> KIFUA KIKUU <input type="checkbox"/>				
B WEKA ALAMA YA (✓) PANAPOHUSIKA, MPELEKE KITUO CHA AFYA AU HOSPITALI KWA KUJIFUNGUA ENDAPO MAMA ANA:				
MIMBA YA 5 AU ZAIDI <input type="checkbox"/>	MIMBA YA KWANZA ZAIDI YA MIAKA 35	<input type="checkbox"/>		
KIMO CHINI YA CM 150 <input type="checkbox"/>	KUZALISHWA KWA KUPASULIWA AU VACUM	<input type="checkbox"/>		
KILEMA CHA NYONGA <input type="checkbox"/>	KUTOKA DAMU NYINGI BAADA YA KUJIFUNGUA	<input type="checkbox"/>		
	KONDO LA NYUMA KUKWAMA	<input type="checkbox"/>		
VIPIMO MAALUM VYA MAABARA:				
DAMU: GROUP	Rh	VDRL/RPR		
VIPIMO VINGINE:				

Toleo 2008

*Iwapo mama ana matatizo aonwe kliniki kulingana na mahitaji

REKODI YA MAHUDHURIO

CHUNGUZA VYOTE KILA MAHUDHURIO MPELEKE KITUO CHA AFYA /HOSPITALI IWAPO KIWANGO KINAZIDI AU KINAPUNGUA ILIYO KWENYE MABANO

Mimba isiyo na matatizo mama anahitaji mahudhurio 4: chini ya wiki 16, kati ya wiki 20-24, 28-32, 36-40*

TAREHE YA MUDHURIO				
UZITO (Kilo)				
BLOOD PREASURE (140/90mmHg)				
ALBUMIN KWENYE MKOJO (+)				
DAMU/Hb (8.5 gm/dl)				
SUKARI KWENYE MKOJO (-)				
UMRI WA MIMBA KWA WIKI				
KIMO CHA MIMBA KWA WIKI				
MLALO WA MTOTO				
KITANGULIZI (KUENZIA WIKI YA 36)				
MTOTO ANACHEZA BAADA YA WIKI 20 (NDIYO/HAPANA)				
MAPIGO YA MOYO WA MTOTO BAADA YA WIKI 20, YAPO (Y), HAKUNA (H)				
KUVIMBA MIGUU (Oedema) (++)				
Ferrous Sulphate (2 kila siku)				
*Folic Acid (1 kila siku)				
MALARIA: Sulphadoxine/Pyrimethamine (SP) vidonge 3 baada ya wiki 20, rudia dozi hii baada ya wiki nne				
Mebendazole (500gm start)				
PEPOPUNDA: Angalia chati kama amepata chanjo (jaza amepata ngapi) TT1, TT2, TT3, TT4, TT5				
MAMA AMESHAURIWA KUHUSU:				
• Dalili za Hatari				
• Uzazi wa Mpango				
• Maandalizi ya Kujifungua				
• Magonjwa yatokanayo na kujamiana na matumizi sahihi ya kondomu				
PMTCT:				
• PMTCT/ART (0-, 1, 2)				
• Dawa: (1N, 1Z, 1K)				
• CTX- Kama mama ana CD4 chini ya 350 au ngazi ya 3 au ya 4 ya ugonjwa (1 2 3)				
• Uhusiano na huduma ya CTC (EO, E1, 1R, kama ameandikishwa andika namba ya kadi ya CTC na tarehe				
• Ushauri juu ya lishe ya mtoto: Maziwa ya mama pekee (EBF), Maziwa mbadala (RF)				
• Ufuasi (Adherence): (P= Poor) (G = Good)				
Tarehe ya Kurudi				
Jina la Mhudumu				
Cheo cha Mhudumu				
C VIDOKEZO VYA MIMBA VYA KUANGALIA KATIKA KILA HUDHURIO. WEKA ALAMA (✓) PANAPOHUSIKA BA MPELEKE HOSPITALI KAMA ANA DALILI ZA HATARI				
BP 140/90 AU ZAIDI	<input type="checkbox"/>	UMRI WA MIMBA ZAIDI YA WIKI 40	<input type="checkbox"/>	
Hb Chini ya 60% (8.5gm/dl)	<input type="checkbox"/>	MTOTO KUFIA TUMBONI	<input type="checkbox"/>	
ALBUMIN KWENYE MKOJO	<input type="checkbox"/>	MTOTO AMELALA VIBAYA BAADA YA WIKI 36	<input type="checkbox"/>	
SUKARI KATIKA MKOJO	<input type="checkbox"/>	KUVIMBA MIGUU, USO/MIKONO	<input type="checkbox"/>	
KAMA ANAZO DALILI ZA HATARI	<input type="checkbox"/>	MAMA ANA MAPACHA	<input type="checkbox"/>	
KIMO CHA MIMBA KIKUBWA ZAIDI AU KIDOGO ZAIDI KULIKO UMRI WAKE	<input type="checkbox"/>			
MAMA ANASHAURIWA AZALIE WAPI:				

*Baada ya wiki 40 mama ahudhurie kliniki kila wiki.

REKODI YA UCHUNGU

JINA LA KITUO
 KULAZWA Tarehe Saa
 UCHUNGU UMEANZA: Tarehe Saa
 CHUPA IMEPASUKA: NDIYO/HAPANA: Tarehe Saa
 UMRI WA MIMBA: (Wiki) KIMO CHA MIMBA (Wiki)
 MLALO WA MTOTO KITANGULIZI
 MPIMAJI WA NYONGA: - Sacral Promontory inafikiwa? Ndiyo / Hapana
 - Ischial Spines zimejitokeza? Ndiyo / Hapana
 - Outlet: Finyu? Ndiyo / Hapana
 - Nyonga ni kubwa ya kutosha? Ndiyo / Hapana
 MAONI YA MPIMAJI:
 JINA LA MHUDUMU: CHEO

CHUNGUZA VIDOKEZO HIVI WAKATI WA KUMLAZA. WEKA ALAMA (✓) PANAPOHUSIKA. MPELEKE HOSPITALI AU MWARIFU DAKTARI HARAKA.			
KIDOKEZO A AU B KATIKA UJAUZITO	<input type="checkbox"/>	HOMA ZAIDI YA 38 Centigrade	<input type="checkbox"/>
CHUPA IMEPASUKA BILA UCHUNGU	<input type="checkbox"/>	KONDO LA NYUMA KUKWAMA	<input type="checkbox"/>
UCHUNGU KABLA YA WIKI 34	<input type="checkbox"/>	KIFAPA CHA MIMBA AU BP ZAIDI YA 140/90	<input type="checkbox"/>
NI ZAIDI YA SAA 12 TOKEA UCHUNGU	<input type="checkbox"/>	UPUNGUFU WA DAMU CHINI YA (8.5g/ml)	<input type="checkbox"/>
ULIPOANZA	<input type="checkbox"/>	NYONGA NYEMBAMBA UA MTOKO MKUBWA	<input type="checkbox"/>
MLALO TANGULIZI KIBAYA CHA MTOTO	<input type="checkbox"/>	MECONIUM	<input type="checkbox"/>
KUTOKA DAMU UKENI	<input type="checkbox"/>		
MAPIGO YA MOYO YA MTOTO YANABADILIKA			
BADILIKA (Chini ya 120 au zaidi ya 160 kwa dakika) <input type="checkbox"/>			
BAADA YA KUZA			
KUCHANIKI VIBAYA KWA MSAMBA	<input type="checkbox"/>	KUPOTEZA DAMU ZAIDI YA ML 500	<input type="checkbox"/>
DAWA YA MACHO (EYE OINTMENT) IMETOLEWA		VITAMINI A IMETOLEWA: NDIYO/HAPANA	

MAELEZO YA UZAZI

KUJIFUNGUA: Tarehe Saa
 NJIA YA KUJIFUNGUA
 KAMA AMEPASULIWA: SABABU ZA KUPASULIWA
 KONDO LIMETOKA: Tarehe Saa
 KONDO NA MEMBRENI ZIMETOKA KAMILI? NDIYO/HAPANA
 DAMU ILIYOTOKA ML ERGOMETRINE/OXYTOCIN I.I.M
 MSAMBA: HAUKUCHANIKI ☐ UMECHANIKI ☐ ULICHANWA (EPISIOTOMY) ☐
 JINA LA ALIYESHONA MSAMBA CHEO
 BP BAADA YA KUJIFUNGUA (mmHg)
 MUHTASARI: HATUA YA 1 Saa Dakika HATUA YA 2 Saa Dakika
 HATUA YA 3 Saa Dakika
 JINA LA MZALISHAJI SAINI
 MENGINEYO MUHIMU ARVs Baada ya kujifungua ☐ 1Z ☐ 1A ☐ Hakunywa
 MTOTO: Jinsia Uzito Kgs
 APGAR SCORE 1 dakika 5 dakika
 Kama mama ni PMTCT1, Je, mtoto amepewa ARVs ☐ N ☐ Z ☐ Hakunywa (ndani ya masaa 72)
 AZT dispensed ☐ 1 wk ☐ 4 wk
 Lishe ya mtoto: Maziwa ya mama pekee EBF ☐ Maziwa mbadala RF ☐ Huduma ya unasihwa
 kusaadila ulishaji wa watoto wachanga ☐
VIDOKEZO VYA HATARI KWA MTOTO BAADA YA KUZALIWA
***Weka alama ya (✓) panapohusika. Mpeleke hospitali**
 Uzito chini ya kilo 2.5 ☐ Homa kali zaidi ya digri 38°C ☐ Mtoto kushindwa kunyonya ☐
 Mtoto kushindwa kupumua vizuri (APGAR SCORE chini ya 5 baada ya dakika 5) ☐
 Chunguza maumbile ya mtoto tokea kichwani hadi miguuni

TAREHE SAA

MAPIGO YA MOYO WA MTOTO
 * Zaidi ya 160 au chini ya 120
 Mwarifu Daktari / Rufaa

Maji ya chupa (Liquor) (B, S, M)
 B. Bado kupasuka chupa (intact), S. Safi (clear), M. Meconium
 Kubonywa kichwa (Moulding) - Hakuna, + Wastani, ++ Sana

Weka alama
 x - Njia kutunguka (Cervix)
 - Kichwa kutemka (Descent)

Maumivu ya uchungu kila dakika 10

☐ Zaidi ya nukta 40
☐ Nukta 20 - 40
☐ Chini ya Nukta 20

Dawa zilizotolewa

Oxytocine Matone/ dakika

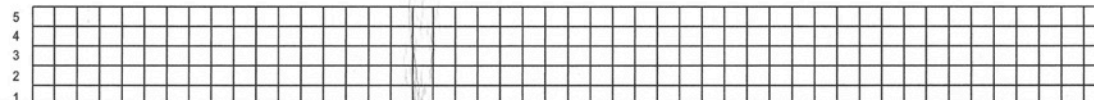
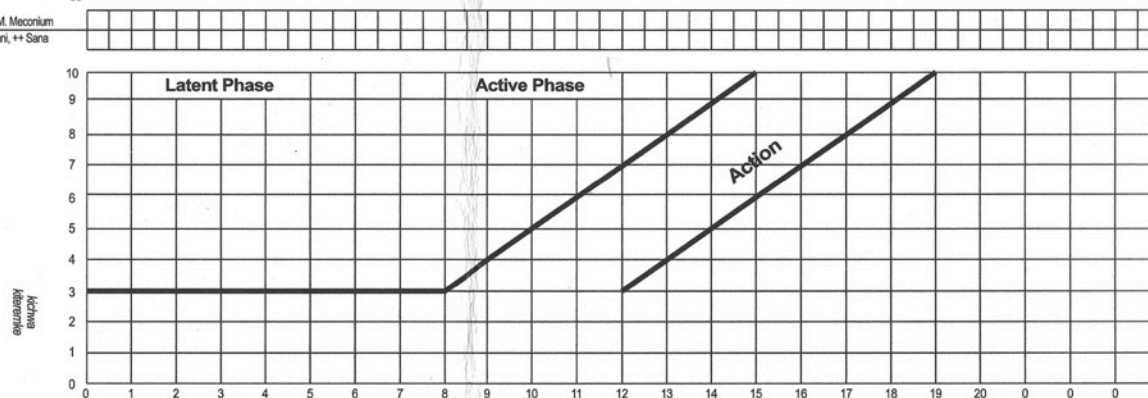
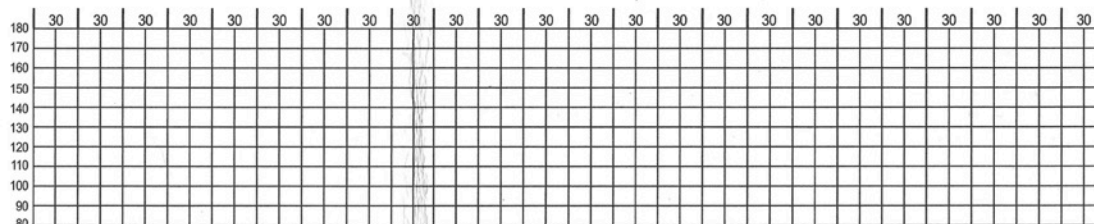
Mapigo ya moyo ya mama kwa dakika (Pulse)

Shinikizo la damu (Blood Pressure) mmHg

Mkojo Albumin +/-
 + Ipo Sukari +/-
 - Hakuna Acetone +/-

Joto la mwili (°C)

Grafu ya Uchungu





ULTRASOUND EXAMINATION IN PREGNANCY

ESSENTIAL FOR BETTER CARING IN
OBSTETRICS

MAIN CAUSES FOR MATERNAL AND NEONATAL MORBIDITY AND MORTALITY

- **Infections**
- **Malnutrition**
- **Intrauterine growth restriction**
- **Prematurity**
- **Postmaturity**
- **Complications during delivery: arrest, breech or transverse lay, multiples**
- **Placental pathology: low lying and praevia**
- ***Abruptio placentae***
- ***Bleeding post partum***
- ***malformations***

PARETO PRINCIPLE OR 80 TO 20 RULE

1906: richest 20% own 80% of land 1989: richest 20% earn 82.70% of world GDP

80% PERCENT OF PREGNANCIES WILL DELIVER WITHOUT COMPLICATION
20% WILL NEED SPECIAL MEASURES

PARETO EFFICIENCY

80% OF THE EFFECTS COME FROM 20% OF THE CAUSES

WITH 20 PERCENT EFFORT YOU CAN REACH 80 PERCENT OF RESULTS

CONCEPT: SCREENING ULTRASOUND 20 TO 24 WEEKS

- At least one antenatal ultrasound examination should be done in mid pregnancy, offered for free to every prospective mother

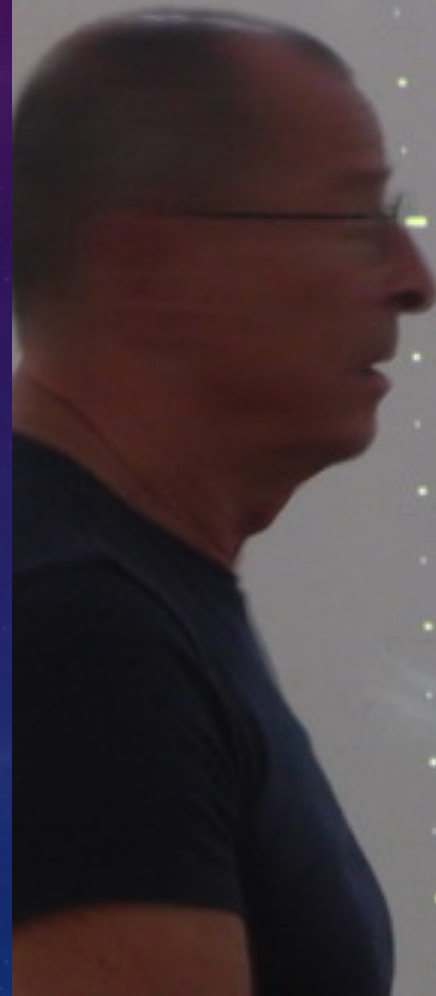
ULTRASOUND EXAMINATION

- DETERMINATION OF GESTATIONAL AGE - BIOMETRY
- LOCATION OF PLACENTA IN RELATION TO CERVIX
- DETERMINATION OF MULTIPLICITY
- AMNIOTIC FLUID
- FETAL GROWTH – BIOMETRY – *DOPPLER STUDY*
- FETAL POSITION
- **20% OF EFFORT - 80% OF RESULTS**
- FETAL MORPHOLOGY – MALFORMATIONS
- **80% OF EFFORT - 20% OF RESULTS**

Program 42nd Ultrasound Course of SmW, St. Francis Referral Hospital (SFRH), Ifakara, Tanzania, November 8./9. and 11./12., 2019					
Final Course in Obstetrical Sonography Level 1 and Pregnancy Screening Scan Week 20-24					
Time	Day 1 - Friday, November 8	Day 2 - Saturday, November 9	Day 3 - Monday, November 11	Day 4 - Tuesday, November 12	
07.30 - 08.30		Individual training/Meet the expert Dr. Walter Gysel	Individual training/Meet the expert Dr. Gilbert Krähenbühl	Individual training/Meet the expert Dr. Eduard Neuenschwander	
08.30 - 09.00	Registration KV	Theory EN Messmethode! Polyhydramnion/Oligohydramnion	Theory EN Follow up/Diagnostic scan/ Normal growth/IUGR/Macrosomia	Theory EN Early pregnancy and complications; acute abdominal pain	
09.00 - 10.30	Official opening session WG Theory EN	Practical exercises in groups	Practical exercises in groups		
10.30 - 11.00	Correct Reporting	Tea break	Tea break	Goodbye ceremony WG/KV	
11.00 - 11.30	Theory GK Physics/Buttons/Artefacts	Theory EN Fetal morphology 1	Theory EN Fetal wellbeeing/Doppler	Exam	
11.30 - 13.00	Practical exercises in groups	Practical exercises in groups	Practical exercises in groups	Certificate of Completion in Obstetrical Sonography Level 1 and Pregnancy Screening Scan Week 20-24	
13.00 - 14.00	Lunch	Lunch	Lunch	Discussion Results/Certificates	
14.00 - 14.30	Theory EN Screening sc. 20-24/ Calibration/Performance	Theory EN Fetal morphology 2	Theory EN Twin pregnancy and management	Exam	
14.30 - 16.00	Practical exercises in groups	Practical exercises in groups	Practical exercises in groups	Certificate of Completion in Obstetrical Sonography Level 1 and Pregnancy Screening Scan Week 20-24	
16.00 - 16.30	Live Scanning	Live Scanning	Live Scanning	Discussion Results/Certificates	
			Group colours/leaders		
	Audience	Referents/Instructors	GROUP RED	Equipment	
	23 trainees (reg.)	Dr. Eduard Neuenschwander EN, Chair	GROUP BLUE	Machine 1	Lecture Hall
		Dr. Gilbert Krähenbühl GK	GROUP YELLOW	Machine 2	Lecture Hall
	Equipment	Dr. Walter Gysel WG	GROUP GREEN	Machine 3	Echo Room
	5 Ultrasound machines	Instructors	GROUP BLACK	Machine 4	Sono CDCI1
		Sylvester M. Kasunga SK		Machine 5	Sono CDCI2
		Victor Myovela			
		Administration/Coordination			
		Martin Rohacek RH Ifakara			

Theory

Cerebellum



ULTRASOUND EXAMINATION

GOALS OF THIS COURSE: YOU SHOULD BE ABLE TO

- DETERM GESTATIONAL AGE BY CORRECT BIOMETRY
- LOCATE PLACENTA IN RELATION TO CERVIX
- DETERM NUMBER OF FETUS
- JUDGE THE AMOUNT OF AMNIOTIC FLUID
- ESTIMATE FETAL WEIGHT BY BIOMETRY
- BE CONVINCED, THAT EVERY PREGNANT WOMEN SHOULD AND COULD HAVE AT LEAST ONE ULTRASOUND EXAMINATION IN HER PREGNANCY

20% OF EFFORT -80% OF RESULTS

ULTRASOUND EXAMINATION

- DETAILED FETAL MORPHOLOGY – DIAGNOSIS OF MALFORMATIONS
- DOPPLER ULTRASOUND EXAMINATIONS
- PRENATAL DIAGNOSTIC PROCEDURES
- PRENATAL INTRAUTERINE THERAPY

80% OF EFFORT - 20% OF RESULTS

WWW.FETALMEDICINE.ORG/FMF-ADVANCES-COURSE

WWW.FETALMEDICINE.COM

GOOGLE

PRACTICAL TRAINING





Stiftung für medizinischen Wissenstransfer
Foundation for medical know-how transfer

Konzept „Free ultrasound examination for every pregnant mother“ im Rombo District, Tansania

Initiator: Dr. Eduard Neuenschwander, Bern
Vorsitz am 3teiligen SmW-Lehrgang in Afrika „Ultraschall in Geburtshilfe“

Bericht von Dr. Walter Gysel und Karin Villabruna – September/Oktober 2014



final meeting Huruma october 2014

Allocation of responsibilities-range of tasks

!

Responsible leader and coordinator in Tanzania

Dr. Peter Mandu, DMO, Rombo District, ptrmandu4@gmail.com, mobile 0255 753 726 180

- Information of the government and public about the ANC ultrasound screening
- Information of the hospitals health centers and staff of the 4 ultrasound centers
- Providing financial and human resources
- Providing regular meetings with involved staff for exchange of experiences

Responsible for training

James Mukoma Kieti, Amec Medical Clinic Holili, james_kieti@yahoo.com, mobile 0255 653 432 075

- Organisation of the weekly training sessions at the four ultrasound centers
- Organisation of the alternating supervision by an experienced sonographer of KCMC (every week in one of the 4 centers)
- Contact to Dr. Clement Kalambo, KCMC, who will designate the supervisor
- (Alfred Msaki or somebody else?)
- Supervision of the correct reporting in the 4 ultrasound centers using the new file designed by Dr. Eduard Neuschwander (will be forwarded with separate e-mail including using instruction through him within the next days)

Responsible for the implementation and supervision at Huruma Hospital

Dr. Wilbroad Kyejo, Medical doctor in charge, info@hurumahospital.co.tz, mobile 0255 784 397 487

Responsible for the implementation and supervision at AMEC Clinic Holili

James Kieti, Amec Clinic Holili, james_kieti@yahoo.com, mobile 0255 653 432 075

Responsible for the implementation at Ngoyoni Hospital and Karume Health Center

To be designated by Dr. Peter Mandu, DMO. Please let us know their names and e-mail addresses

Responsible for the reporting file design

Dr. Eduard Neuschwander, Gynaecologist, Bern, Switzerland, ed.neuen@bluewin.ch, Mobile +41 79 312 41 61

Responsible at SmW

Dr. Walter Gysel, President SmW, office@stiftung-smw.ch, mobile +41 78 649 53 89
Karin Villabruna, Communication/Administration SmW, office@stiftung-smw.ch

- Donation of ultrasound machines according MoU to be issued and signed
- Organisation of OBS Ultrasound Courses at Huruma Hospital

Responsible for diagnostic of unclear cases

Dr. Clement Kalambo, Head of Radiology Department, KCMC, Moshi cfkalambo@yahoo.com

COURSE IN OBSTETRICAL SONOGRAPHY - BASICS AND PREGNANCY SCREENING SCAN WEEK 20-24

INTRODUCTION OF A BASIC ULTRASOUND EXAMINATION INTO THE PRIMARY PREGNANCY CARE ALREADY IN PLACE IN TANZANIAN AND KENIAN DISTRICTS.

OFFERING A BASIC OBSTETRICAL TRAINING COURSE IN SCREENING SCAN 20-24 WEEKS OF PREGNANCY, OF 6 MONTHS DURATION, CONSISTING OF:

1ST COURSE OF FOUR DAYS:

INTRODUCTORY LECTURES:

- AIM OF SCREENING 20-24 WEEKS
- CONTENT OF SCREENING EXAMINATION
- DOCUMENTATION OF SCREENING SCAN

HANDS-ON TRAINING UNDER DIRECT SUPERVISION BY SPECIALISTS/LECTURERS IN SONOGRAPHY

FOLLOWED BY:

INDIVIDUAL TRAINING AT PARTICIPANTS WORKPLACE UNDER LOCAL SUPERVISION AND WEEKLY GROUP MEETINGS, ORGANIZED IN THE DISTRICT

WEEKLY REPORT OF SCREENING SCAN FINDINGS FOR EVALUATION

50 OWN EXAMINATIONS DONE

2ND COURSE OF FOUR DAYS:

LECTURES

HANDS-ON TRAINING AND REPETITION UNDER DIRECT SUPERVISION BY SPECIALISTS/ LECTURERS IN SONOGRAPHY

FINAL EXAM: ON SUCCESSFUL COMPLETION THE CANDIDATE GETS A

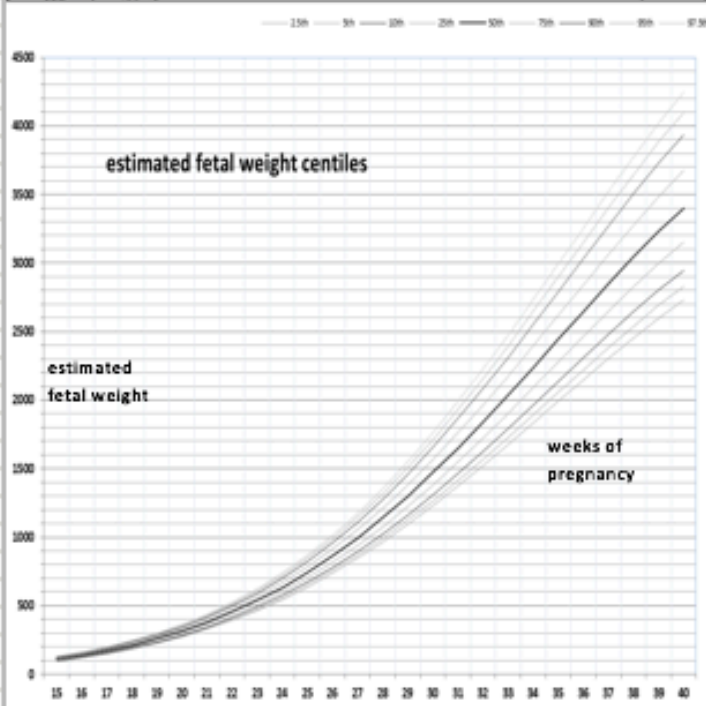
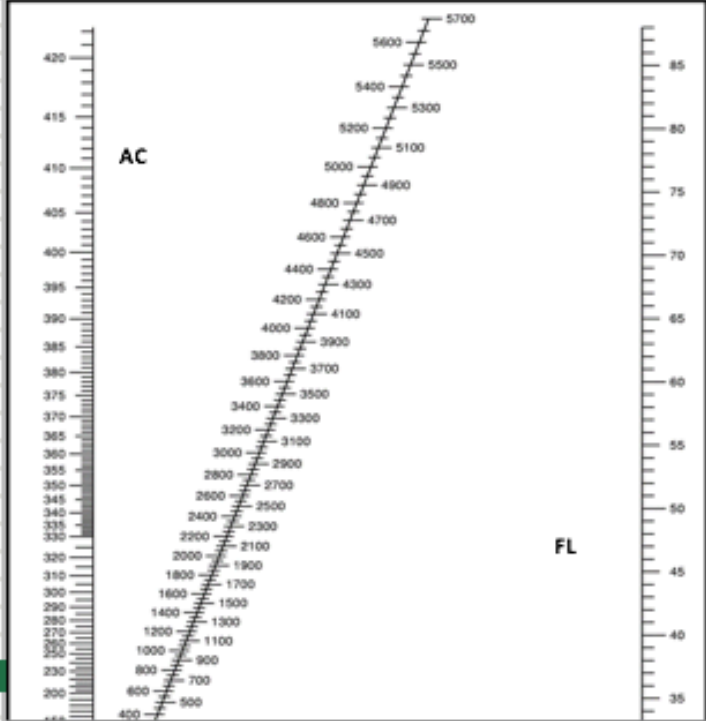
CERTIFICATE OF COMPLETION IN OBSTETRICAL SONOGRAPHY LEVEL 1 AND SCREENING SCAN 20 – 24 WEEKS OF PREGNANCY
WHICH ALLOWS TO EXECUTE THE SCREENING SCAN WITHOUT DIRECT SUPERVISION
THIS CERTIFICATE WILL BE ENDORSED BY TANZANIAN, KENIAN AND INTERNATIONAL (SWISS) ORGANISATIONS

«CALIBRATION OF EXAMINATION»

- PATIENT
- CLINICAL INFORMATION
- ULTRASOUND MACHINE
- EXAMINER
- PROBE HANDLING AND ADJUSTMENT

REPORTING





Date of examination	/	/	201
LMP	/	/	201
wks of pregnancy (LMP):	+		
EDD (LMP)	/	/	201
rebook for screening scan:			

Vitality:

Multiple

chorionicity: monochorial dichorial

Other:

Biometry 1st trimester					
REMPEN 90					
mm	CRL	BPD	mm	CRL	BPD
1			31	9+5	14+6
2	6+0		32	9+6	15+1
3	6+1	6+6	33	9+6	15+3
4	6+2	7+1	34	10+0	15+5
5	6+3	7+3	35	10+1	16+0
6	6+4	7+5	36	10+2	16+2
7	6+5	8+0	37	10+2	16+4
8	6+6	8+2	38	10+3	16+6
9	7+0	8+4	39	10+4	17+1
10	7+1	8+6	40	10+5	17+3
11	7+2	9+1	41	10+5	17+5
12	7+3	9+3	42	10+6	18+0
13	7+4	9+5	43	11+0	18+2
14	7+5	10+0	44	11+0	18+4
15	7+6	10+2	45	11+1	18+6
16	7+6	10+4	46	11+2	19+1
17	8+0	10+6	47	11+2	19+3
18	8+1	11+1	48	11+3	19+5
19	8+2	11+3	49	11+4	20+0
20	8+3	11+5	50	11+4	20+3
21	8+4	12+0	51	11+5	20+5
22	8+5	12+2	52	11+5	21+0
23	8+5	12+4	53	11+6	21+2
24	8+6	12+6	54	12+0	21+4
25	9+0	13+1	55	12+0	21+6
26	9+1	13+3	56	12+1	22+1
27	9+2	13+5	57	12+1	22+4
28	9+3	14+1	58	12+2	22+6
29	9+3	14+2	59	12+3	23+1
30	9+4	14+4	60	12+4	23+2

20-24 screening scan

follow up scan

obstetric diagnostic sonography

KCMC

name:

DOB:

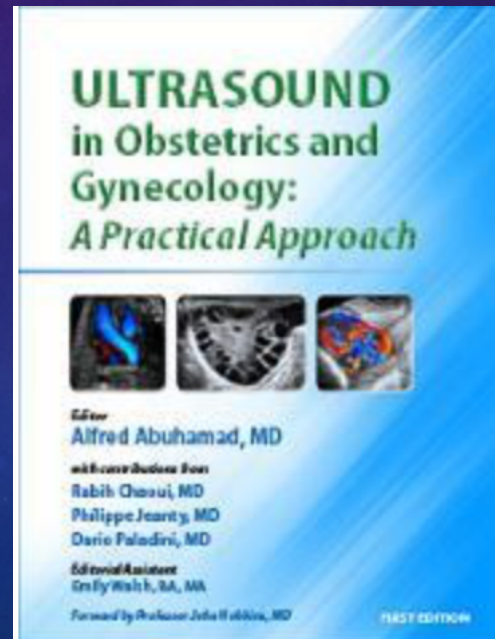


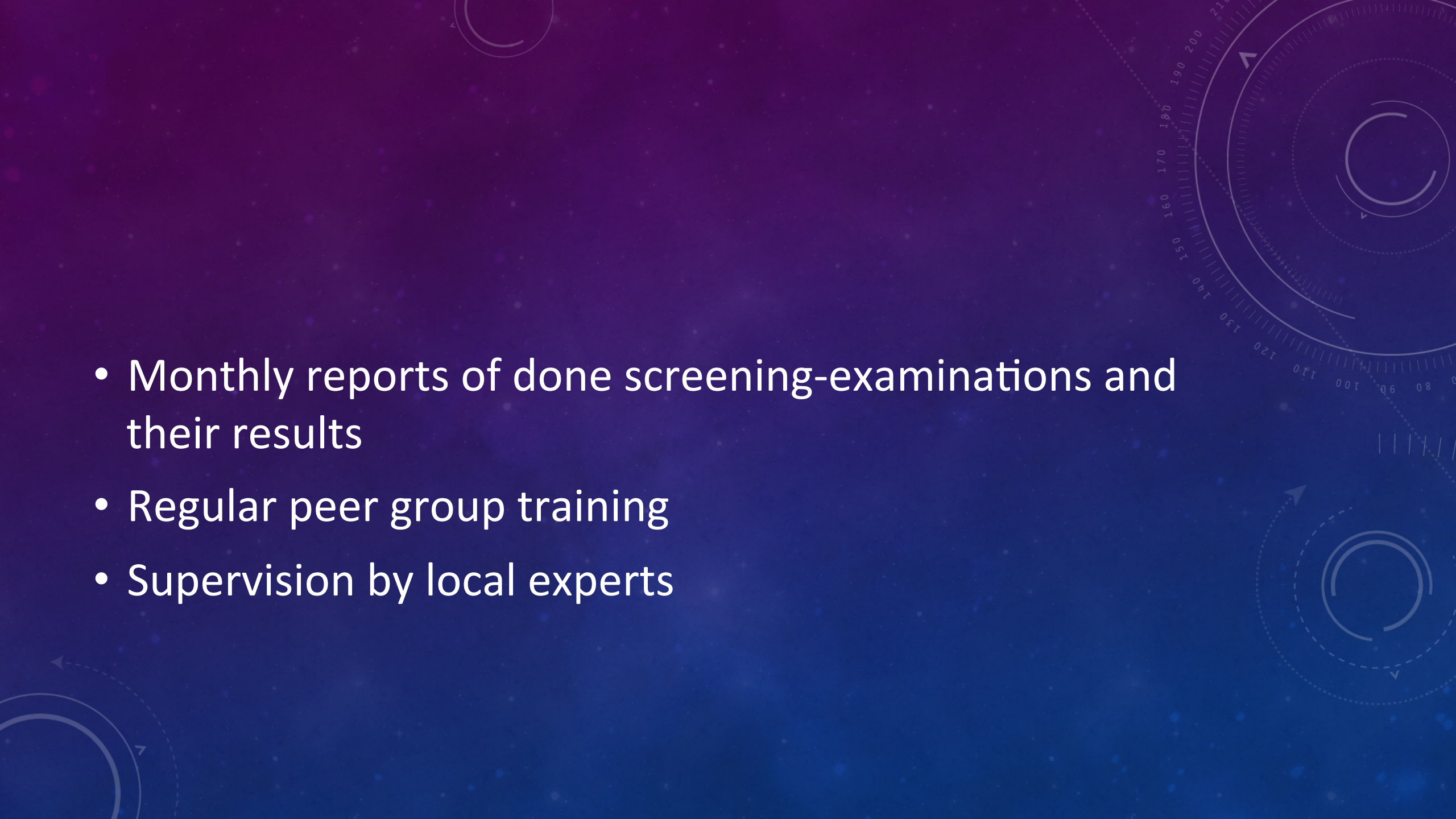
Reporting



USB-STICK:

- All presentations
- Reporting form
- Instruction book



- 
- The background is a dark blue gradient with a subtle pattern of small white dots. On the right side, there is a large, faint, white circular graphic. It consists of several concentric circles. The outermost circle has a scale with numbers from 0 to 210 in increments of 10. There are also smaller concentric circles and dashed lines with arrows indicating a clockwise direction.
- Monthly reports of done screening-examinations and their results
 - Regular peer group training
 - Supervision by local experts

- 50 documented own examinations

- Refresher course

Program 42nd Ultrasound Course of SmW, St. Francis Referral Hospital (SFRH), Ifakara, Tanzania, November 8./9. and 11./12., 2019					
Final Course in Obstetrical Sonography Level 1 and Pregnancy Screening Scan Week 20-24					
Time	Day 1 - Friday, November 8	Day 2 - Saturday, November 9	Day 3 - Monday, November 11	Day 4 - Tuesday, November 12	
07.30 - 08.30		Individual training/Meet the expert Dr. Walter Gysel	Individual training/Meet the expert Dr. Gilbert Krähenbühl	Individual training/Meet the expert Dr. Eduard Neuenschwander	
08.30 - 09.00	Registration KV	Theory EN Messmethode! Polyhydramnion/Oligohydramnion	Theory EN Follow up/Diagnostic scan/ Normal growth/IUGR/Macrosomia	Theory EN Early pregnancy and complications; acute abdominal pain	
09.00 - 10.30	Official opening session WG Theory EN	Practical exercises in groups	Practical exercises in groups		
10.30 - 11.00	Correct Reporting	Tea break	Tea break	Goodbye ceremony WG/KV	
11.00 - 11.30	Theory GK Physics/Buttons/Artefacts	Theory EN Fetal morphology 1	Theory EN Fetal wellbeeing/Doppler	Exam	
11.30 - 13.00	Practical exercises in groups	Practical exercises in groups	Practical exercises in groups	Certificate of Completion in Obstetrical Sonography Level 1 and Pregnancy Screening Scan Week 20-24	
13.00 - 14.00	Lunch	Lunch	Lunch	Discussion Results/Certificates	
14.00 - 14.30	Theory EN Screening sc. 20-24/ Calibration/Performance	Theory EN Fetal morphology 2	Theory EN Twin pregnancy and management	Exam	
14.30 - 16.00	Practical exercises in groups	Practical exercises in groups	Practical exercises in groups	Certificate of Completion in Obstetrical Sonography Level 1 and Pregnancy Screening Scan Week 20-24	
16.00 - 16.30	Live Scanning	Live Scanning	Live Scanning	Discussion Results/Certificates	
			Group colours/leaders		
	Audience	Referents/Instructors	GROUP RED	Equipment	
	23 trainees (reg.)	Dr. Eduard Neuenschwander EN, Chair	GROUP BLUE	Machine 1	Lecture Hall
		Dr. Gilbert Krähenbühl GK	GROUP YELLOW	Machine 2	Lecture Hall
	Equipment	Dr. Walter Gysel WG	GROUP GREEN	Machine 3	Echo Room
	5 Ultrasound machines	Instructors	GROUP BLACK	Machine 4	Sono CDCI1
		Sylvester M. Kasunga SK		Machine 5	Sono CDCI2
		Victor Myovela			
		Administration/Coordination			
		Martin Rohacek RH Ifakara			

KCMC Tuesday February 6

Certificate of Completion SmW in Pregnancy Screening Scan Week 20-24

Introduction	All groups		
Hall			
Part one: practical screening	Group one	Group two	Group three
Examining rooms	11.00-11.30	11.45-12.15	12.30-13.00
Part two: reports	Group two	Group three	Group one
Hall	11.00-11.30	11.45-12.15	12.30-13.00
Part three: written exam	Group three	Group one	Group two
Hall	11.00-11.30	11.45-12.15	12.30-13.00

Part one: practical screening	Group four	Group five	Group six
Examining rooms	13.45-14.15	14.30-15.00	15.15-15.45
Part two: reports	Group five	Group six	Group four
Hall	13.45-14.15	14.30-15.00	15.15-15.45
Part three: written exam	Group six	Group four	Group five
Hall	13.45-14.15	14.30-15.00	15.15-15.45

correct report form: measurements, amniotic fluid, singleton/multiples.

oK

correct conclusion and recommendation

oK

passed

Part 2:

Report form:

Time: 30 minutes

failed

information set given, three sets:

biometry measurements; placental position,

LMP given : one corresponding to biometry, one discordant, one missing.

Minimal standard:

correct determination/correction of EDD

oK

correct reporting form

oK

correct conclusion and recommendation in all three cases

oK

passed

Part three:

Multiple choice/ questions:

Time: 30 minutes

failed

Minimal standard: to be determined

passed

points

Conclusion complete test:

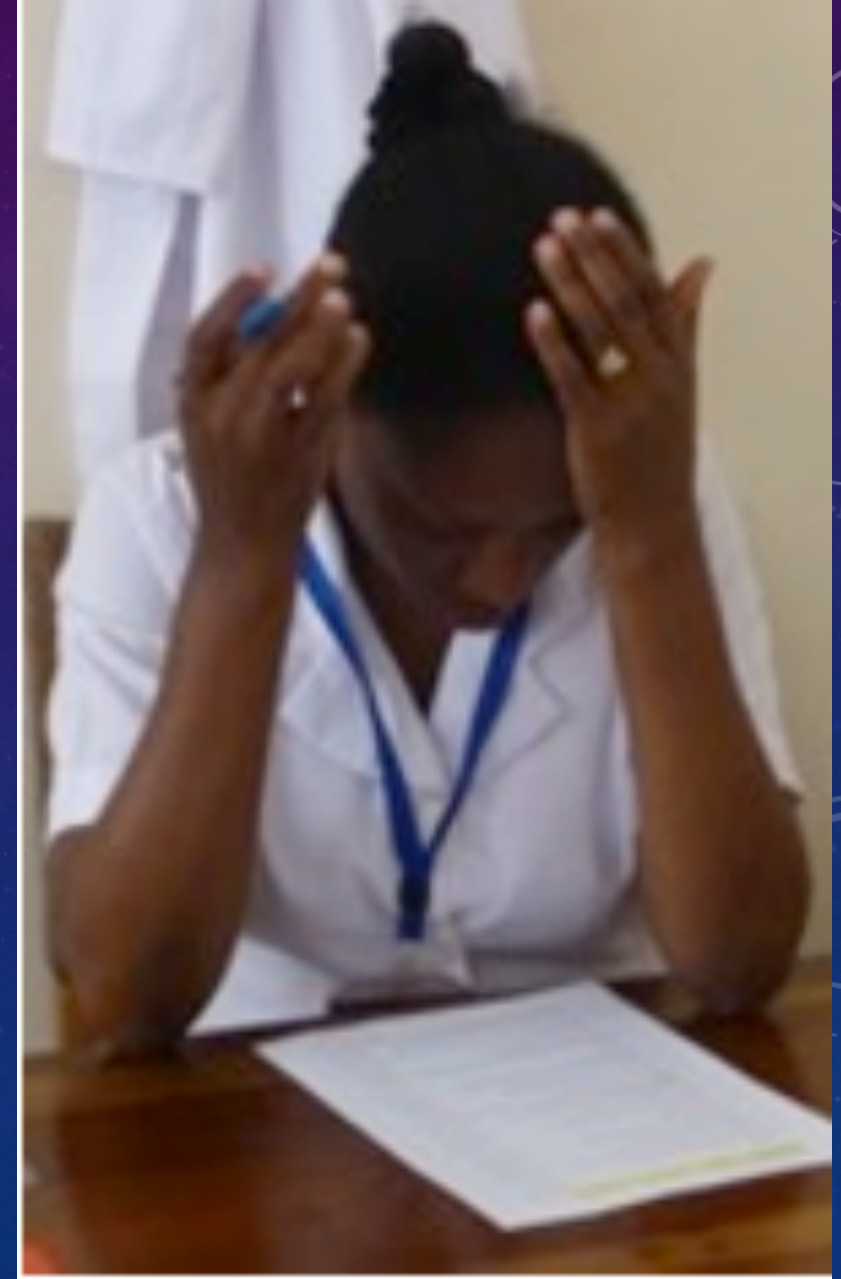
passed

failed

Recommendation:

failed

theoretical exam



practical exam




Diploma: Confirmation of completion 20-24 weeks screening scan



PARTICIPANTS
INSTRUCTORS
MOTHERS
ORGANISATORS

SUPPORT OF
LOCAL
AUTHORITIES

MONEY AND TIME

- 
- 40 Courses in Ultrasound Kenya 2010-2014; Tanzania 2014-2019
 - 300 participants
 - 94 Certificates of Completion Obstetrical Sonography Level 1 and Pregnancy Screening Scan Week 20-24
 - 50 Ultrasound machines delivered to East Africa

OUR EXPERIENCE WITH INTRODUCING A PREGNANCY SCREENING PROGRAM

- It is possible to introduce health professionals to the use of ultrasound in obstetrics with structured short courses
- Individual training, support and follow up is important; learning groups and supervision. Regular summary reports
- Motivation and opportunity to continue may be difficult to obtain.
- To implement a screening program support by the government and by local medical bodies is needed: definition of goals, assignment of professional competence, and clearing of medicolegal questions . Financing must be granted: screening should be for free
- The incentive should come from a strong local partner
- The addressed group for screening must be informed and motivated to take part by local authorities
- Donating used ultrasound machines is not the best solution anymore: today low prized machines are available and are more robust

KILIMANJARO PROJECT

Current situation 2019

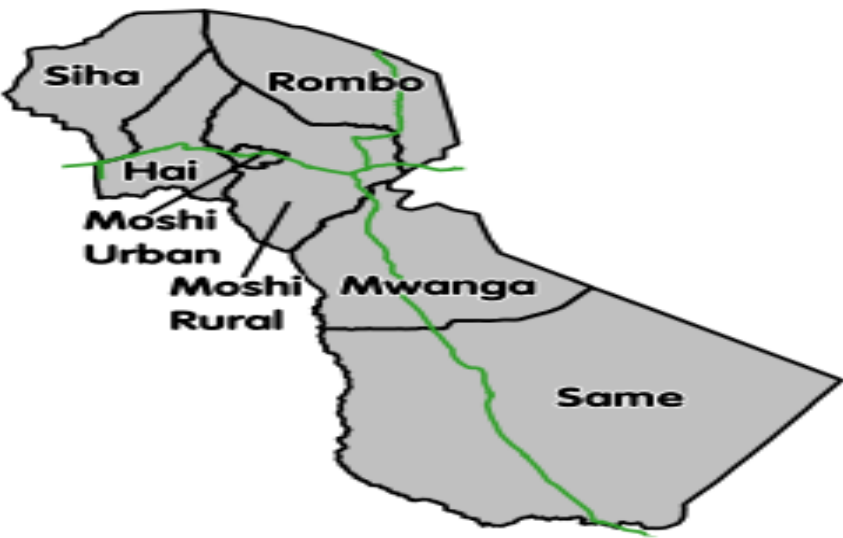
43 certified Sonographers are performing the Pregnancy Screening Scan Week 20-24

Monthly screening 2019 rate KR 350 > over 600 Scans

In total January – September 2019 (9 months)

4 477 Pregnant Mothers were screened

January 2019	357
February 2019	338
March 2019	556
April 2019	626
May 2019	450
June 2019	448
July 2019	549
August 2019	591
September 2019	562



PITFALLS IN TANZANIA

- Ultrasound reports are legally done only by Radiographers
- Gynecologists in East Africa are not yet used to using ultrasound themselves in their clinical practice and would not have the capacity to do screening (160 Gynecologists registered in Tanzania/50 million population!)
- The possible impact of ultrasound screening in pregnancy is not yet fully understood
- Antenatal clinics ANC is established, but ultrasound screening is not yet included
- Machines are sensitive to unstable electric supply; *Current Transformer Protection Units* are mandatory but cost extra
- Needed manpower should be defined and supplied.



Stiftung für medizinischen Wissenstransfer

Foundation for medical know how transfer

<http://www.stiftung-smw.ch>

<mailto:office@stiftung-smw.ch>