

Subtitle Format Swati (siSwati)

Chapter 1 Introduction

Inchubo le ngayo izayigothi leyinhlayiya yinye yemuntfu iba ngumuntfu lomdzala lotinhlayiya letilikhulu lemathriliyoni etinhlayiya mhlawumbe sehlakalo lesibabateka kunato tonkhe kuyo yonkhe imvelo.

Kungunyalo bacwaningi bayati kutsi leminyenti yemisebenti leyetayelekile leyentiwa ngumtimba wemuntfu lomdzala icalisa ngekuhamba kwesikhatsi sekutetfwala esikhatsini lesinyenti lokwenteka emuva le umuntfu angakatalwa.

Sigaba sekukhula ngembikwekutsi umuntfu atalwe siya ngekuya sicondisiswa njengesikhatsi sekwenta emalungiselelo le ngaso umuntfu lowakhekako atfolo ngaso takhiwo letinyenti, futsi etayela kwenta tintfo letinyenti nemakhono lamanyenti, lokundzingakalela kutsi umuntfu akwati kuphila ngemuva kwekutsi asatelwe.

Chapter 2 Terminology

Ngalokwetayelekile kutetfwala emntfwini kutsatsa cishe emaviki la-38 nakubalwa kusukela esikhatsini sekukwakheka kwembewu, kumbe sekubamba sisu, kufike esikhatsini sekutalwa kwemntfwana.

Ngekuhamba kwesikhatsi lesingemaviki la-8 ekucala ngemuva kwekwakheka kwembewu yemuntfu, umuntfu lowakhekako ubitwa ngekutsi yi-embriyo, lokusho kutsi "yakhekako ngekhati." Lesikhatsi lesi, lesibitwa ngekutsi sikhatsi sekuba yi-embriyo, sikhatsi lapho kwakheka ngaso letinyenti tetinhlelo temtimba.

Kusukela ekupheleni kwemaviki la-8 kuze kube sekugcineni kwekutetfwala, "lomuntfu lowakhekako ubitwa ngekutsi yifithasi," lokusho kutsi "umnftwana losengakatalwa." Ngalesikhatsi lesi, lesibitwa ngekutsi sikhatsi sekuba yifithasi, umtimba uyakhula ube mkhudlwana futsi tindhlelo tawo ticalisa kusebenta.

Tonkhe tigaba tekuba yi-embriyo nekuba yifithasi kuloluhlelo lolu ticondzise esikhatsinilesisukela ekwakhekeni kwembewu yemuntfu.

The Embryonic Period (The First 8 Weeks)

Embryonic Development: The First 4 Weeks

Chapter 3 Fertilization

Nawukhuluma ngekwebhayologi, "kwakheka kwemuntfu kucalisa ngekwakheka kwembewu," ngalesikhatsi indvodza nemfati bahlanganisa 23 ngamunye wemakhromozomu abo lokwenteka ngekuhlangana kwetinhlayiya tabo tekutala.

Inhlayiya yemfati yekutala ibitwa ngalokwetayelekile ngekutsi "licandza" kepha ligama lakhona lelifanele yi-usayithi.

Ngalokufanako, inhlayiya yendvodza yekutala yatiwa ngalokwetayelekile ngekutsi "budvodza" kepha ligama lelinconotekako lakhona yispemathozoni.

Ngemuva kwekutsi sekuphume i-usayithi esibeletfweni semfati lokwenteka ngendlela lebitwa ngekutsi kuphuma kwelicandza, i-usiyothi kanye nespemathozoni kuyahlangana ngekhatshi etfunjini linye lematfumbu esibeletfo, lekuvamise kubhekiswa kuwo njengemaFalophiyeni shubhu.

Ematfumbu esibeletfo achumanisa sibeletfo semfati neyutherasi kumbe sibeletfo.

I-emrbiyo lenenhlayiya yinye ledaleka lapho ibitwa ngekutsi yizayigothi, lokusho kutsi "lokuboshelwe kumbe lokuhlanganiswe ndzawonye."

Chapter 4 DNA, Cell Division, and Early Pregnancy Factor (EPF)

DNA

Emakhromozomu la-46 ezayigothi amelele sigaba sekucala lesingakavami sesitfombe semfanekiso lophelele weluhlelo lwelufuto lwemuntfu lomusha. Loluhlelo lolukhulu lolu luhlala ngekhatshi etinhlayiyaneni letisongekile tacina letibitwa ngekutsi yi-DNA. Ticuketse telayeto letimayelana nekwakheka kwawo wonke umtimba.

Tinhlayiyana te-DNA tifana nesitebhisi lesishwilekile lesatiwa ngekutsi yi-double helix. Letenyuko talesitebhisi tentiwe ngetinhlayiyana letihamba ngatimbili, kumbe emabheyisi, labitwa ngekutsi yigwanayni, sayithosin, adenayni, ne-thaymin.

Igwanayni ihambisana ngakubili nesayithosin kuphela, kutsi i-adenayni yona ihambisane nethaymin. Leyo naleyo inhlayiya yemuntfu icuketse cishe 3 wetigidzi tetigidzi talamabheyisi lahamba ngamabili.

I-DNA yenhlayiya yinye icuketse lwati lolunyenti kangangekutsi kube bekwawati lolubhalwe ngemagama, kubhala nje kuphela luhlu lweluhlavu lwekucala lwaleyo naleyo bheyisi bekwawudzinga ngetulu kwemakhasi lasigidzi netinkhulungawane letingemakhulu lasihlanu embhalo!

Nakube beyingandlalwa phansi ilandzelane, i-DNA lesenhlayiyeni yemuntfu yinye beyingalingana na- $3 \frac{1}{3}$ wemafidi kumbe 1 mitha.

Kube besingayelula yonkhe i-DNA lengekhatshi kwetinhlayiya letisemntfwini lomdzala letilikhulu lemathriliyoni, beyingaba libanga lelingetulu kwemamayela langemashumi lasitfupha nakutsatfu wemabhiliyoni. Leli libanga lelingangekusuka emhlabeni uye elangeni uphindze ubuye tikhatshi leti-340.

Cell Division

Cishe 24 kuye ku-30 wema-awa ngemuva kwekwakheka kwembewu yemuntfu, izayigothi iyacedza kwehlukaniseka kwekucala kwenhlayiya yayo. Ngendlela yechubo yemayithosis, inhlayiya yinye ichekeka ibe tinhlayiya timbili, timbili tichekeke tibe tine, njalonjalo.

Early Pregnancy Factor (EPF)

Cishe 24 kuye ku-30 wema-awa ngemuva kwekwakheka kwembewu yemuntfu, izayigothi iyacedza kwehlukaniseka kwekucala kwenhlayiya yayo. Ngendlela yechubo yemayithosis, inhlayiya yinye ichekeka ibe tinhlayiya timbili, timbili tichekeke tibe tine, njalonjalo.

Chapter 5 Early Stages (Morula and Blastocyst) and Stem Cells

Ngemuva kwa-3 kuya ku-4 wemalanga kwakheke imbewu yemuntfu, tinhlayiya letichekeka emkhatsini te-embriyo tiba yindzingilita bese kutsi i-embriyo ibitwa ngekutsi yimorula.

Emalangeneni la-4 kuya ku-5, kwakheka imbobo ngekhatshi kwendzingilita yetinhlayiya bese kutsi i-embriyo seyibitwa ngekutsi yiblastosist.

Tinhlayiya letingekhatsi kweblastosist tibitwa ngekutsi ngumhlambi wetinhlayiya tangekhatsi futsi ngito letakha inhloko, umtimba, kanye naletinye takhiwo letibalulekile emntfwini lowakhekako.

Tinhlayiya letingekhatsi kwemhlambi wetinhlayiya tangekhatsi tibitwa ngekutsi tinhlayiyasicu te-embriyo ngobe tiyakwati kwakha leyo naleyo yaletinhlobo tetinhlayiya letingetulu kwa-200 leticuketfwe ngumtimba wemuntfu.

Chapter 6 1 to 1½ Weeks: Implantation and Human Chorionic Gonadotropin (hCG)

Ngemuva kwekuhamba yehle ngelitfumbu lesibeletfo, i-embriyo lese yincane itinamatselisa emsangaleni wangekhatsi wesibeletfo senina. Lenchubo lena, lebitwa ngekutsi kumila, icalisa ngemuva kwa-6 wemalanga ibuye iphele ngemuva kwa-10 kuya ku-12 wemalanga yakhekile imbewu yemuntfu.

Tinhlayiya te-embriyo lekhulako ticalisa kukhipha ihomoni lebitwa ngekutsi yikhoriyonikhi gonadotrophini yemuntfu, kumbe i-hCG, lekuyintfo leba khona kuletinyenti tinhlobo tekuhlola kutsi umuntfu utetfwele yini.

I-HCG itjela emahomoni latfolakala ebafatini kutsi atsikamete luhlelo wekuya esikhatsini tinyanga tonkhe ngalokwetayelekile, kuze kutetfwala kuchubeke.

Chapter 7 The Placenta and Umbilical Cord

Ngemuva kwekumila, tinhlayiya letile emaphetselweni eblastosisti tihlumisa incenye yesakhiwo lesibitwa ngekutsi yiplasenta, lekungiyi leba ngumchumanisi emkhatsini wetinhlelo temitsambo yengati tenina nete-embriyo.

Iplasenta iletsela umuntfu Lowakhekako i-oksijini, kudla, emahomoni, kanye nemutsi lokusuka kunina; ikhiphe konkhe lokulahlwe; futsi ivimbele kutsi ingati yenina ingahlangani nengati ye-embriyo nefithasi.

Iplasenta iphindze ikhcite emahomoni futsi igcine lizinga lekushisa kwemtimba we-embriyo nefithasi lisetudlwana kancane kunelenina.

Iplasenta ichumana nemuntfu lowakhekako ngemitsambo yenkhaba.

Emandla eplasenta ekuniketa Imphilo angafaniswa nemandla eligumbi lalabagula kakhulu lelitfolakala etibhedlela tesimanjealamuhla.

Chapter 8 Nutrition and Protection

Evikini le-1, tinhlayiya tencumbi yetinhlayiya letingekhatsi takha tincwencwe timbili letibitwa ngekutsi yihayiphoblast kanye ne-ephiblast.

Ihayiphoblast yenta kutsi kumile sikhwama semtfubi welicandza, lekungilesinye setakhiwo lesenta kutsi unina akwati kuniketa i-embriyo leseycane kudla

Tinhlayiya letiku-ephiblast takha inyama letsambile lebitwa ngekutsi yi-amniyoni, lapho i-embriyo, ngekuhamba kwesikhatsi kulandzele ifithasi, kutawukhulela khona aze umntfwana atalwe.

Chapter 9 2 to 4 Weeks: Germ Layers and Organ Formation

Ngesikhatsi cishe lesingu 2 1/2 wemaviki, i-ephiblast ibe seyakhe 3 weticubu letikhetsekile, kumbe tingogo tetimbewana, letibitwa ngekutsi yi-ekthodem, i-endodem, kanye nemesodem.

I-ectodem yenta kutsi kumile takhiwo letinyentana kufake ekhatsi ingcondvo, umgogodla, imiva, sikhumba, tingalo, kanye netinwele.

I-endodem ikhcita lucwecwe loluvalewendlalele umgudvu wekuphefumula kanye nemgudvu logaya kudla, futsi imilisa tincenye tetakhiwo letinkhulu temtimba letifana nesibindzi kanye nemalulu.

Imesodem yakha inhlitiyo, tinso, ematsambo, ikhathilegi, imisipha, tinhlayiya tengati, kanye naletinye takhiwo.

Emavikini la-3 ingcondvo iyehlukaniseka iba tigaba leti-3 letinkhulu letibitwa ngekutsi yingcondvo lesembili, ingcondvo lesemkhatsini, kanye nengcondvo lesemuva.

Kukhula kweluhlelo lwekuphefumula kanye neluhlelo lwekugaya kudla nako sekucalile.

Ngalesikhatsi tinhlayiya tengati tekucala tivala esikhwameni semtfubi welicandza, kwakheka imitsambno yengati kuyo yonkhe i-embriyo, futsi kucalisa nekubonakala inhlitiyo lemisisipha.

Masinyane emvakwaloko, inhlitiyo lekhula masinyane iyatisonga ivaleke ibe ngemagumbi lehlukene icalise kwakheka.

Inhlitiyo icalisa kushaya emavikini la-3 nelilanga linye ngemuva kwekwakheka kwembewu yemuntfu.

Luhlelo lwekuhamba kwengati luhlelo lwekucala lwemtimba, kumbe licembu letitfo temtimba letihambisanako, lolucalisa kusebenta.

Chapter 10 3 to 4 Weeks: The Folding of the Embryo

Emkhatsini wemaviki la-3 nala-4, luhlelo lwemtimba lucalisa kubonakala ngalesikhatsi ingcondvo, umgogodla, kanye nenhlitiyo ye-embriyo sekubonakala kalula eceleni kwesikhwama semtfubi welicandza.

Lokukhula masinyane kubangela kutsi i-embryo lekungashiyo kutsi isicabati ivaleke. Lenchubo lena ifaka incenye yesikhwama semtfubi welicandza ngekhatshi elucwecweni lwemgudvu logaya kudla bese kwakheka sifuba kanye nendzawo yesisu kwalomuntfu lowakhekako.

Embryonic Development: 4 to 6 Weeks

Chapter 11 4 Weeks: Amniotic Fluid

Emavikini la-4 i-amniyoni lekhanya ngale igocotela i-embriyo esikhwameni lesigcwele lokusamantana. Lolokusamantana lokuvikelekile emagciwaneni, lokubitwa ngekutshi ngemantana e-amniyoni, kuvikela i-embriyo kutsi ingalimali.

Chapter 12 The Heart in Action

Njengalokulindzelekile, inhlitiyo ishaya cishe 113 wetikhatsi ngeliminithi.

Nyalo caphela kutsi inhlitiyo intjintja umbala ngalesikhatsi ingati ingena ibuye iphume emagunjini ayo lesa naleso sikhatsi ishaya.

Inhlitiyo itawushaya cishe tikhatsi let-54 wetigidzi ngembikwekutsi umntfwana atalwe futsi itawushaya ngetulu kwetikhatsi leti-3.2 wetigidzi tetigidzi ngekuhamba kwesikhatsi sekuphila lesiminyaka le-80.

Chapter 13 Brain Growth

Kukhula masinyane kwengcondvo Kubonakala ngekugucuka kwesimo sengcondvo lesembili, ingcondvo lesemkhatsini kanye nengcondvo lesemuva.

Chapter 14 Limb Buds

Ticubu tangenhla kanye neticubu Tangentasi ticalisa kukhula ngalesikhatsi kuvumbuka tigadlana teticubu emavikini la-4.

Ngalesikhatsi lesi sikhumba sibonakalisa ngale ngobe siyinhlayiya yinye kuphela ngebukhulu.

Ngalesikhatsi sikhumba siya ngekukhula, angeke sisabonakala ngale, lokusho kutsi sitawukhona kubona kukhula kwetifo temtimba tangekhatsi lokungenani lenye inyanga kuphela.

Chapter 15 5 Weeks: Cerebral Hemispheres

Emkhatsini wa-4 na-5 wemaviki, ingcondvo iyachubeka ikhula masinyane futsi iyehlukaniseka iba tigaba let-5 letehlukile.

Bukhulu benhloko benta lokungenai $1/3$ webukhulu sebubonkhe be-embriyo.

Kuvela tinhlangothi tebusopho, letikhula kancane kancane tize tibe tincenye tengcondvo letinkhulu kunato tonkhe.

Imisebenti legcina iphetfwe tinhlangothi tebusopho ifaka ekhatsi kucabanga, kufundza, kukhumbula, kukhuluma, kubona, kuva, kunyakata ngekutifunela, kanye nekusombulula tinkinga.

Chapter 16 Major Airways

Eluhlelweni lwekuphefumula, kukhona sicu semphimbo lesikhulu sasekudla nesasesincele futsi sitawugcina sihlanganise chochocho kumbe bhongwane, nemaphaphu.

Chapter 17 Liver and Kidneys

Buka liphaphu lelikhulukati leligwele sisu eceleni kwenhlitiyo leshayako.

Tinso tesiphelane tivela emavikini la-5.

Chapter 18 Yolk Sac and Germ Cells

Sikhwama semtfubi welicandza sicuketse tinhlayiya letisetincane tetitfo tekutala letibitwa ngekutsi tinhlayiya letiyimbewana. Emavikini la-5 letinhlayiya letiyimbewana tiyatfutsa tiye etitfweni tekutala letiseceleni kwetinso.

Chapter 19 Hand Plates and Cartilage

Futsi emavikini la-5, i-embriyo imila tigadlana tetandla, kutsi ikhathilegi yona icale kwakheka emavikini la-5 1/2.

Lapha sibona sigadlana sesandla sesincele kanye nesihlakala emavikini la-5 nemalanga la-6.

Embryonic Development: 6 to 8 Weeks

Chapter 20 6 Weeks: Motion and Sensation

Emavikini la-6 tinhlangotsi tebucopho tikhula masinyane kakhulu ngendlela lengalingani naletinye tigaba tengcondvo.

I-embriyo icalisa kunyakata lokutentakalela ngekwako kanye nalokubangelwa yintfo letsite. Lokunyakata loku kufanele kube khona kuze kutewukhutsata kukhula kwemiva nemsipha lokwetayelekile.

Kutsintfwa kancane ngasemlonyeni kubangela i-embriyo kutsi ibalekise inhloko yayo iyiyise emuva.

Chapter 21 The External Ear and Blood Cell Formation

Indlebe yangaphandle icalisa kubonakala kutsi yindlebe.

Emavikini la-6, kwakheka tinhlayiya tengati esibindzini lapho sekukhona emasotja engati lamhlophe. Loluhlobo lolu lwenhlayiya lemhlophe luyincenye lebalulekile yeluhlelo lolwakhekako lwekutivikela kwemtimba etifeni.

Chapter 22 The Diaphragm and Intestines

Idayaframu, lekungumsipha lobalulekile losebenta ngalesikhatsi umuntfu aphefumula, wakhekha ikakhulukati emavikini la-6.

Incenye yelitfumbu nyalo seyihlomeke kwesikhashana enkhabeti. Lenchubo lena leyetayelekile, lebitwa ngekutsi kuvuleka kwesisu, ivulela letinye tifo letakhekako indzawo esiswini.

Chapter 23 Hand Plates and Brainwaves

Emavukini la-6 tigadlana tetandla ticalisa kwenta shengatsi tiyendlaleka kancane.

Umsinga wekusebenta kwengcondvo usuke sewubonakele kutsi ukhona le emuva emavikini la-6 nemalanga la-2.

Chapter 24 Nipple Formation

Kuvela tingono ngala nangala emtimbeni longenhla masinyane ngembikwekutsi tifike endzaweni letitawugcina tikuyo ngaphambili esifubeni.

Chapter 25 Limb Development

Emavikini la-6 1/2, tingcoza setiyabonakala, iminwe seyicalisa kwehlukana, futsi netandla setibonakala tinyakata.

Kwakheka kwematsambo, lokubitwa ngekutsi kucina kwenyama ibe litsambo, kuyacalisa ngekhatshi kweklavikhili, kumbe litsambo lentsamo, kanye nematsambo emhlatsi wangenhla newangentasi.

Chapter 26 7 Weeks: Hiccups and Startle Response

Intfwabi isuke seyibonakele kuba khona emavikini la-7.

Kunyakata kwemilente nyalo sekuyabonakala, kanye nekwetfuka nakukhona lokwetfusako.

Chapter 27 The Maturing Heart

Inhlitiyo lemagumbimane cishe seyiphelile. Nawulinganisa, nyalo inhlitiyo ishaya tikhatsi leti-167 ngeliminithi.

Kusebenta ngagezi kwenhlitiyo lokubonakele emavikini la-7 1/2 kuveta lizinga lemsinga lelifana nasemntfwini lomdzala.

Chapter 28 Ovaries and Eyes

Ebantfwini labasikati, sibeletfo sibonakala emavikini la-7.

Emavikini la-7 1/2, irethina yeliso lenembala seyibonakala malula futsi emajwabu emehlo asacalisa kukhula masinyane.

Chapter 29 Fingers and Toes

Iminwe seyehlukene kantsi tintwane tona tihlangene lapho tigcina khona kuphela.

Tandla nyalo setiyakhona kusondzela ndzawonye, kanjalo netinyawo.

Emalunga asemadvolweni nawo asakhona.

The 8-Week Embryo

Chapter 30 8 Weeks: Brain Development

Emavikini la-8 ingcondvo seyakheke kakhulu imphela futsi isindza cishe ihhafu yesisindvo semtimba we-embriyo sesiphelele.

Kukhula kwenteka ngelizinga lelisetulu ngendlela lemangalisako.

Chapter 31 Right- and Left-Handedness

Emavikini la-8, 75% wema-embriyo abonakala sandla sekudla kungiso lesinemandla kakhulu. Lamanye ema-embriyo hafu yawo inemandla kakhulu esandleni sesincele, kutsi lelenye ihhafu tandla totimbili tilingane ngemandla. Lobu bufakazi bekucala bekutsi umuntfu utawusebentisa siphil sandla.

Chapter 32 Rolling Over

Tincwadzi tekufundzisa ngetemphilo yebantfwana tichaza likhono lekukwati "kugucuka" kutsi kwenteka ku-10 kuye ku-20 wemaviki umntfwana atelwe. Nobe kunjalo, lelikhono lelibabatekako, lekukwati kunyakata libonakala umntfwana angakatalwa asesekulendzawo lapho kungekho emandla emhlaba ladvonselana phansi esikhwameni se-amniyoni lesigcwele emantana. Kweswelakala kuphela kwemandla ladzingakalako lenta umuntfu akwati kwehlula emandla emhlaba ladvonselana phansi langaphandle kwesibeletfo lokuvimbela bantfwana labasandza katalwa kutsi bakwati kugucuka.

I-embriyo iya ngekuya ikhutsala kunyakata ngalesikhatsi lesi.

Kunyakata kungahle kutsatse Sikhatsi kumbe kwenteke masinyane, kube kanye kumbe kanyenti, kutentakalele kumbe kubangelwe ngulokutsite.

Kugucula inhloko, kwelula intsamo, kanye nekutsintsa buso ngesandla sekuvame kakhudlwana kwenteka.

Kuyitsintsa i-embriyo kubangela kutsi ififiyele, kunyakata kwemihlatsi, kunkhonkhoshela ngetandla, nekweleka kwetintwane.

Chapter 33 Eyelid Fusion

Emkhatsini wemaviki la-7 na-8, lujwabu lwemehlo lolungenhla nalolungentasi luyakhula masinyane luvale emehlo futsi lucishe lunamatselane ngci.

Chapter 34 "Breathing" Motion and Urination

Ngisho naloku kungekho umoya esibeletweni, i-embriyo ibonakalisa kunyakata lokufana nekuphefumula emavikini la-8.

Ngalesikhatsi lesi, tinso tikhipha umchamo lophumela emantaneni e-amniyo.

Kuma-embriyo lamadvuna, emasendze lakhekako acalisa kukhucita kanye nekukhipha ithestosteroni.

Chapter 35 The Limbs and Skin

Ematsambo, emalunga, imisipha, imiva, kanye nemitsambo yengati kwetitfo temtimba kufana kakhulu nekwemuntfu lomdzala.

Emavikini la-8 i-epidemisi, kumbe sikhumba sangaphandle, siba yinyamana letsambile letincwencwe letinyenti, lengasabonakalisi ngale.

Tinkhophe tiyakhula njengaloku kucalisa kuvela boya lobukake umlomo.

Chapter 36 Summary of the First 8 Weeks

Emaviki lasiphohlongo aluphawu Lwekuphela kwesikhatsi se-embriyo.

Ngalesikhatsi lesi, i-embriyo yemuntfu seyikhule kusuka ekubeni yinhlayiya yinye yaba ngulethlayiya cishe letisigidzi lesisigidzi letakha ngetulu kwa-4,000 wetakhiwo temtimba letingafani.

Nyalo i-embriyo inetakhiwo letingetulu kwa-90% taletu letitfolakala ebantfwini labadzala.

The Fetal Period (8 Weeks through Birth)

Chapter 37 9 Weeks: Swallows, Sighs, and Stretches

Sikhatsi sefithasi sichubeka aze atalwe umntfwana.

Emavikini la-9, kuyacalisa kumunya sitfupha futsi ifithasi seyiyakwati kugwinya emantana e-amniyoni.

Ifithasi iyakwati futsi Nekubamba inkhonkhoshela intfo, kuyisa inhloko phambili nasemuva, kuvula nekuvala imihlatsi, kunyakatisa lulwimi, kukhokha umoya, kanye neketelula.

Tihambisimiva ebusweni, emphameni yesandla, kanye nangaphansi kwetinyawo kuyeva nakukhona lokukutsintsako kancane.

"Ngemuva kwekutsintfwa kancane ngaphansi kwelunyawo," ifithasi itawugoba ingculu kanye nelidvolo futsi ingafinyeta netintwane.

Lujwabu lwemehlo nyalo seluvaleke ngalokuphelele.

Kuchochocho, kuvela kwemisipha yemphimbo kukhombisa kucalisa kwakheka kwemisipha yelivi.

Kumafithasi lamasikati, sibeletfo sesiyabonakala futsi tinhlayiya letisengakakheki tetitfo tekutala, letibitwa ngekutsi yi-ugoniya, tiyaphindzaphindzeka ngekhatshi esibeletfweni.

Titfo tangaphambili tangaphandle Ticalisa kutibonakalisa kutsi temuntfu lomdvuna kumbe lomsikati.

Chapter 38 10 Weeks: Rolls Eyes and Yawns, Fingernails & Fingerprints

Kukhula lokukhulu kakhulu emkhatsini wa-9 na-10 wemaviki kwengeta sisindvo semtimba ngalokungetulu kwa-75%.

Emavikini la-10, nangabe utsintsa lujwabu lolungenhla esweni, liso liyagikica libuke phasi.

Ifithasi iyatamula futsi ivamise Kuvula iphindze ivale umlomo.

Emafithasi lamanyenti amunya sitfupha sasekudla.

Tincenye telitfumbu letingekhatsi enkhabeti tibuyela esiswini.

Sekucalile kwakheka kwematsambo lamanyenti.

Tingalo taseminweni netasetintwaneni ticalisa kwakheka.

Imigca lengafanani naleminyane yaseminweni ivela ngemuva kwemaviki la-10. Lamaphethini lawa angasetjentiselwa kutfola kutsi umuntfu ungubani imphila yakhe yonkhe.

Chapter 39 11 Weeks: Absorbs Glucose and Water

Emavikini la-11 imphumulo kanye netindzebe sekwakheke ngalokuphelele. Njengobe kwenteka ngato tonkhe letinye tintfo temtimba, kubukeka kwato kutawugucuka kuleso naleso sigaba sekuhamba kwemphilo yemuntfu.

Litfumbu licalisa kudvonsa iglukhozi nemanti lokumitwe yifithasi.

Ngisho naloku bulili bakheka ngalesikhatsi kwakheka imbewu yemuntfu, nyalo titfo tangaphambili tangaphandle setiyehlukaniseka kutsi talomdvuna kumbe talomsikati.

Chapter 40 3 to 4 Months (12 to 16 Weeks): Taste Buds, Jaw Motion, Rooting Reflex, Quickening

Emkhatsini wa 11 na 12 wemaviki, sisindvo sefithasi sikhula cishe 60%.

Emaviki lalishumi nakubili aluphawu lwekuphela kweyekucala incenye yinye kuletintsafu, kumbe nyangantsafu wekucala, wekutetfwala.

Tinambitsi letibonakalako Setivumbuke ngekhatsi emlonyeni. Ngalesikhatsi umntfwana atalwa, tinambitsi titawusala kuphela elulwimini kanye naseluphahleni lwemlomo.

Kuhamba kwesisu kucalisa le emuva emavikini la-12 futsi kuchubeke sikhatsi lisitsi asibe ngemaviki la-6.

Loku kwekucala lokukhishelwa ngaphandle litfumbu lelikhulu lefithasi nemntfwana losandza katalwa kubitwa ngekutsi yimekhoniyamu. Kwentiwe ngema-enzayimi lagaya kudla, emaphrothini, kanye netinhlayiya letifile lokulahlewe ngumgudvu logaya kudla.

Emavikini la-12, budze betitfo temtimba wangetulu cishe sebufike lapho kumele tikhule ticine khona nakulinganiswa nebukhulu bemtimba sebuphelele. Ticu temtimba longentasi titsatsa Sikhatsi lesitsi asibe sidzana kufika ebukhulwini lapho kumele tikhule ticine khona.

Ngaphandle kwemhlane kanye nelukhakhayi, umtimba wefithasi yonkhe nyalo uyanyakata nakukhona lokuyitsintsa kancane.

Umehluko ekwakhekeni kwemuntfu loya ngekutsi buyini bulili bemntfwana ucalisa kuvela. Sibonelo, emafithasi lamasikati akhombisa kunyakata kwemihlatsi kakhudlana kunalamadvuna.

Esikhundleni sekubuyela emuva njengobe sibone phambilini, nyalo nakukhona lokuyitsintsa ngasemlonyeni kubangela kutsi ijikele ngalapho itsintseka ngakhona iphindze ivule nemlomo. Lokunyakata loku kubitwa Ngekutsi the "kutfungatsa" futsi kuchubeka ngisho asatelwe umntfwana, kwelekelele umntfwana losandza katalwa kutsi atfole ingono yenina ngalesikhatsi amunyiswa libele.

Buso buyachubeke buyakhula njengobe emafutsa langakadvonswa ngumtimba enta kutsi tihlatsi ticalise kugcwala futsi sekucalisa nekwakheka kwematinyo.

Emavikini la-15, tinhlaiyasicu letakha ingati tiyafika futsi tiyaphindzaphindzana emkantjeni. Lokunyenti kwakheka kwetinhlayiya tengati kutakwenteka lapha.

Ngisho naloku kunyakata kucalisa ku-embriyo lena-6 wemaviki, make lotetfwele ucalisa kuva kunyakata kwefithasi emkhatsini wa-14 na-18 wemaviki. Ngalokwetayelekile, lesehlakalo lesi sibitwa ngekutsi kukhahlela.

Chapter 41 4 to 5 Months (16 to 20 Weeks): Stress Response, Vernix Caseosa, Circadian Rhythms

Emavikini la-16, tinchubo letifaka ekhatsi kufaka inyalitsi esiswini sefithasi kubangela kuphatseka kabi kwemahomoni lebeso akhipha inoradrenalini, kimbe inorepinefrini, lengena engatini. Bantfwana labasandza kutalwa kanye nebantfu labadzala bakhombisa kuphatseka ngendlela lefanako nakukhona intfo lebakwa yona ngekhati emtimbeni.

Eluhlelweni lwephefumula, sihlahla semphimbo nyalo cishe sesiphelele.

Nyalo kukhona intfo lemholophe lesivikelo, lebitwa ngekutsi yiveniksi khasiyosa, lembonye ifithasi. Iveniksi ivikela sikhumba kutsi singaphatwa kabi ngemantana e-amniyoni.

Kusukela ku-19 wemaviki kunyakata kwefithasi, kuphefumula, kanye nesivinini sekushaya kwenhlithiyo kucalisa kulandzela luhlelo lunye lwamalanga onkhe lolubitwa gekutsi sigci sesikhatsi lesilinganako.

Chapter 42 5 to 6 Months (20 to 24 Weeks): Responds to Sound; Hair and Skin; Age of Viability

Emavikini la-20 indlu yendlebe, lekusitfo sekuva, sesilingana nesemuntfu lomdzala ngebukhulu ngekhati kwendlebe yangekhatsi leseyiphelele kukhula. Kusukela nyalo, ifithasi itawukhombisa kuva tihlobo temisindvo letiya ngekwandza.

Tinwele tiyacalisa kumila esikhunjani sasehloko.

Tonkhe tincwencwe tesikhumba kanye netakhiwosetikhona, kufake ekhatsi timbonjana teboya esikhunjani kanye nemadlala.

Emavikini la-21 kuye kula-22 ngemuva kwekwakheka kwembewu yemuntfu, emaphaphu ayakhona kuphefumula umoya. Loku kutsatwa njengebudzala lobucinile ngobe ngalesikhatsi lesi ematfuba ekuphila ngaphandle kwesibetfo aba makhudlwana kumafithasi latsite. Inchubekelembili lendze kutekwelapha lefike ngekulandzelana yenta kutsi kube yimphumelelo kutsi tikhona kuphila tinswane letitelwe ngembikwesikhatsi.

Chapter 43 6 to 7 Months (24 to 28 Weeks): Blink-Startle; Pupils Respond to Light; Smell and Taste

Emavikini la-24 lujwabu lwemehlo luyavuleka futsi ifithasi iyacwabita nakukhona lokuyetfusako. Lokunyakata lokwenteka nakukhona umsindvo lomkhulu longakalindzeleki kusheshe kube khona kumafithasi lamasikati.

Labenta luhlolo babika kutsi kuba semsindvweni lomkhulu kungaba nemphumela lomubi emphilweni yefithasi. Umphumela lomubi lovela masinyane ufaka ekhatsi kwenyuka kwelizinga lekushaya kwenhlithiyo sikhatsi lesidze, kugwinya kanyenti, kanye nekugucuka masinyane kwendlela ifithasi letiphetse ngayo. Imiphumela lemibi lengavela esikhatsini lesitako ifaka ekhatsi kungeva etindlebeni.

Lizinga lekuphefumula kwefithasi lingenyuka lize lifike ku-44 wemahlandla lalandzelanako ekudvonsa nekukhipha umoya ngeliminithi.

Ngekuhamba kwanyangatsatfu wesitsatfu wekutetfwala, kukhula masinyane kwengcondvo kudla ngetulu kwa-50% wemandla lasetjentiswa yifithasi. Sisindvo sengcondvo senyuka emkhatsini wa-400 na 500%.

Emavikini la-26 emehlo akhipha tinyembeti.

Tinhlavu temehlo tibona kukhanya le ekucaleni emavikini la-27. Lokunyakata loku kukala bunyenti bekukhanya lobufinyelela kurethina iphilo yemuntfu yonke.

Tonkhe tincenye letidzingakalela kutsi umuntfu akwati kunuka tiyasebenta. Lucwaningo lolwentiwe ebantfwaneni labatelwe ngembikwesikhatsi luveta kutsi umntfwana ukwati kuva kutsi kukhona lokunukako le ekucaleni emavikini la-26 ngemuva kwekwakheka kwembewu yemuntfu.

Kufaka intfo lenongotelako emantaneni e-amniyoni kwenyusa lizinga ifithasi legwinya ngalo. Kuphikisa loko, kuba khona kwehla kwelizinga ifithasi legwinya ngalo nangabe kufakwe intfo lebabako. Lokulandzela loko kuvamisa kuba kuntjintja kwesimo sebuso.

Ngekusebentisa luchungechunge lwekunyakata ngekutsatsa tinyatselo lokunjengekuhamba, ifithasi ishaya goboluphonjwana.

Ifithasi ayisabonakali kushwaphana kakhulu njengaloku lamanye emafutsa langakasetjentiswa ngumtimba akhela ngaphansi kwesikhumba. Emafutsa adlala indzima lebalulekile ekugcineni lizinga lekushisa kwemtimba likahle nasekubekeni emandla ngemuva kwekutsi umntfwana atelwe.

Chapter 44 7 to 8 Months (28 to 32 Weeks): Sound Discrimination, Behavioral States

Emavikini la-28 ifithasi iyakwati kwehlukhanisa emkhatsini wemsindvo loshaya etulu naloshayela phansi.

Emavikini la-30, kunyakata kwekuphefumula sekwetayeleke kakhudlwana kubonakala futsi kwenteka 30 kuye ku-40% wesikhatsi kufithasi leyetayelekile.

Ngekuhamba kwetinyanga leti-4 tekugcina tekutetfwala, ifithasi iba nesikhatsi lapho inyakata shengatsi iyati kutsi yentani lokulandzelwa sikhatsi sekuphumula. Letindlela leti tekutiphatsa tikhombisa indlela lecake ngayo nalechubeke njalo yandza yeluhlelo lolukhulu lwekuphefumula.

Chapter 45 8 to 9 Months (32 to 36 Weeks): Alveoli Formation, Firm Grasp, Taste Preferences

Emavikini cishe la-32, i-alviyoli sibili, kumbe tinhlayiya "tetikhwama" temoya, ticalisa kukhula emaphashini. Itawuchubeka yakheke kuze kube minyaka le-8 umntfwana atelwe.

Emavikini la-35 ifithasi seyibamba kahle icinise.

Kubonakala shangatsi ifithasi letfolwe tintfo letinhlobonhlobo isesesiswini kuyenta itsandze tinongo letitsite ngemuva kwekutsalwa. Sibonelo, lawo mafithasi bonina bawo bebadla i-anisi, lentfo leyenta kutsi ilikhorayisi inambitseke ngalendlela lenambitseka ngayo, akhombisa kutsandza i-anisi ngalesikhatsi satelwe. Bantfwana labasandza kutsalwa labangakayitfol i-anisi basesesiswini bona abayitsandzanga i-anisi.

Chapter 46 9 Months to Birth (36 Weeks through Birth)

Ifithasi ngiyo lecalisa Umsebenti wekutsalwa kwayo ngekutsi ikhiphe linani lelikhulu lehomoni lebitwa ngekutsi yi-estrogeni ngaleyo ndlela icalise ingucuko yekusuka ekubeni yi-fithasi ibe ngumntfwana losandza kutsalwa.

Kutsalwa kwemntfwana kwenteka ngekufinyela ngemandla kwesibeletfo, lokugcina ngekutsalwa kwemntfwana.

Kusukela ekwakhekeni kwembewu kuze kufike ekutsalweni kwemntfwana kanye nangale kwaloko, kwakheka kwemuntfu yintfo legucugucukako, lechubekako, kanye nalecakile. Lwati lolusha loluvelako mayelana nalesehlakalo lesi lesimangalisakothis luchubeke njalo nekukhombisa indlela kwakheka kwefithasi lekubaluleke ngayo ekuphileni kahle kwemuntfu imphilo yakhe yonkhe.

Njengaloku kucondzisisa kwetfu kwakheka kwemuntfu losengakatalwa kuya ngekutfufuka, kanjalo nelikhono letfu ekwenteni imphilo lenhle ibe ncono - kuto totimbili tikhatsingembikwekutsalwa nangemuva kwekutsalwa kwemntfwana.