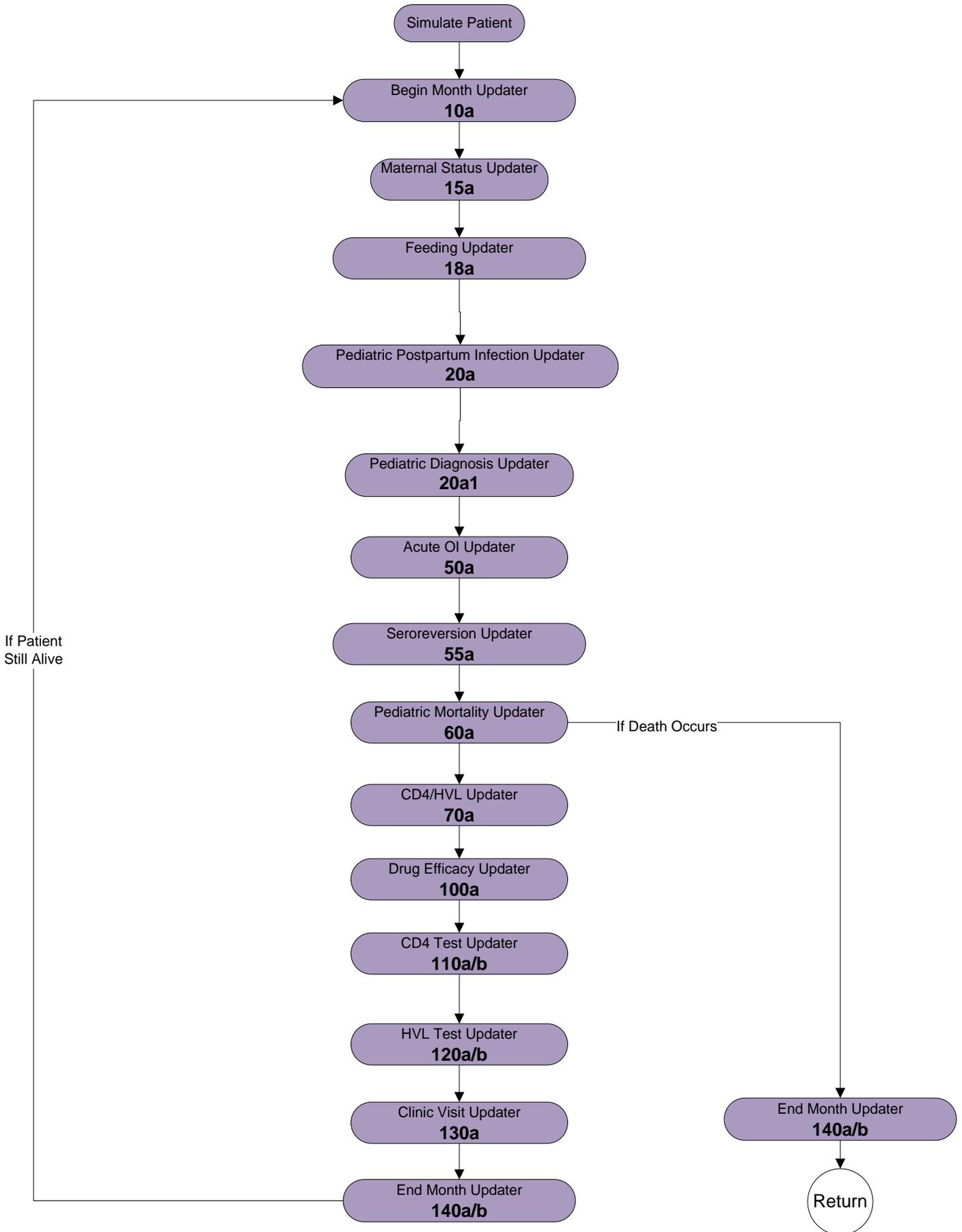


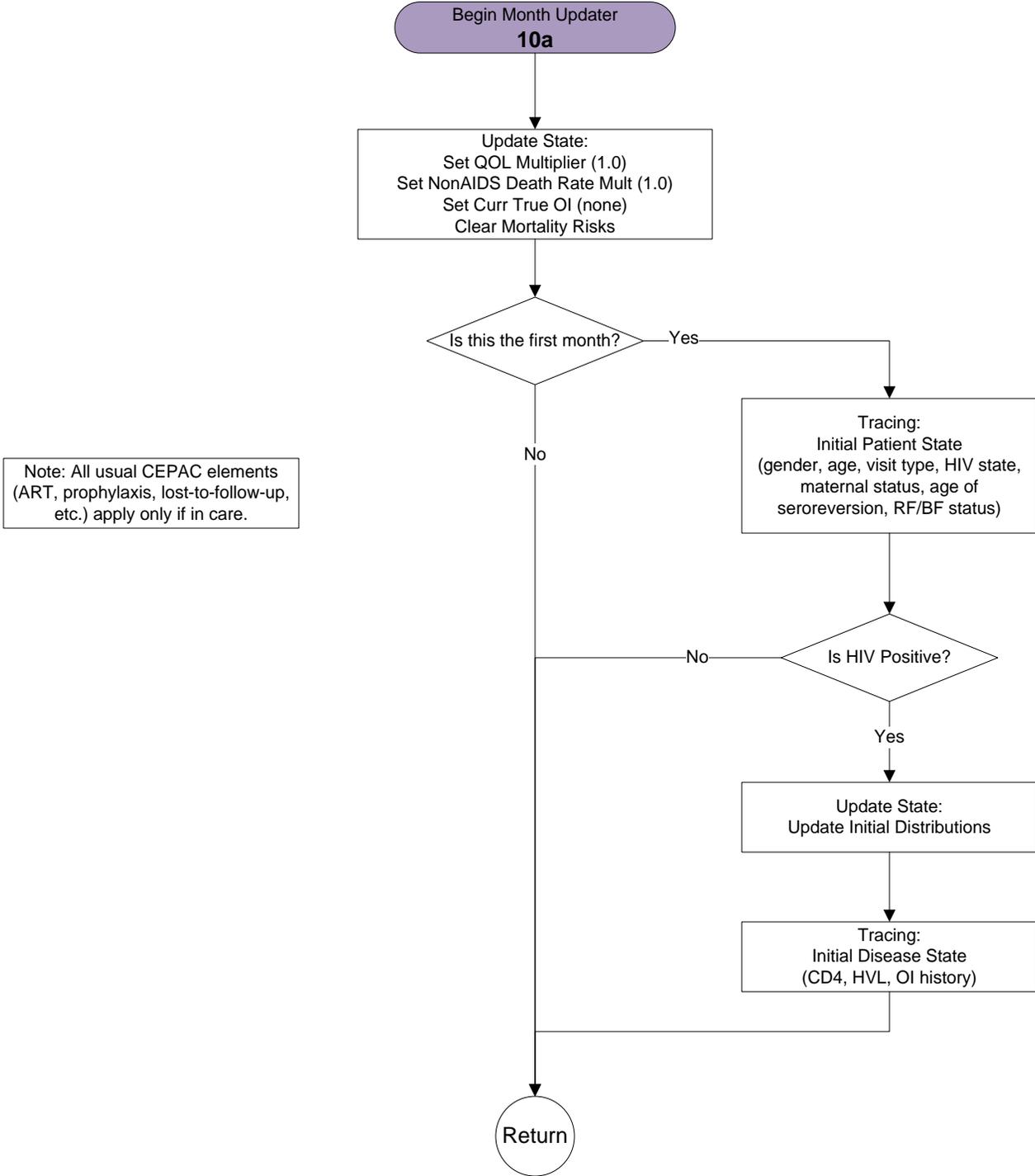
**CEPAC-Pediatric  
Patient Simulation  
Flow Chart**  
(United States and International)

Senior Programmer: Taige Hou

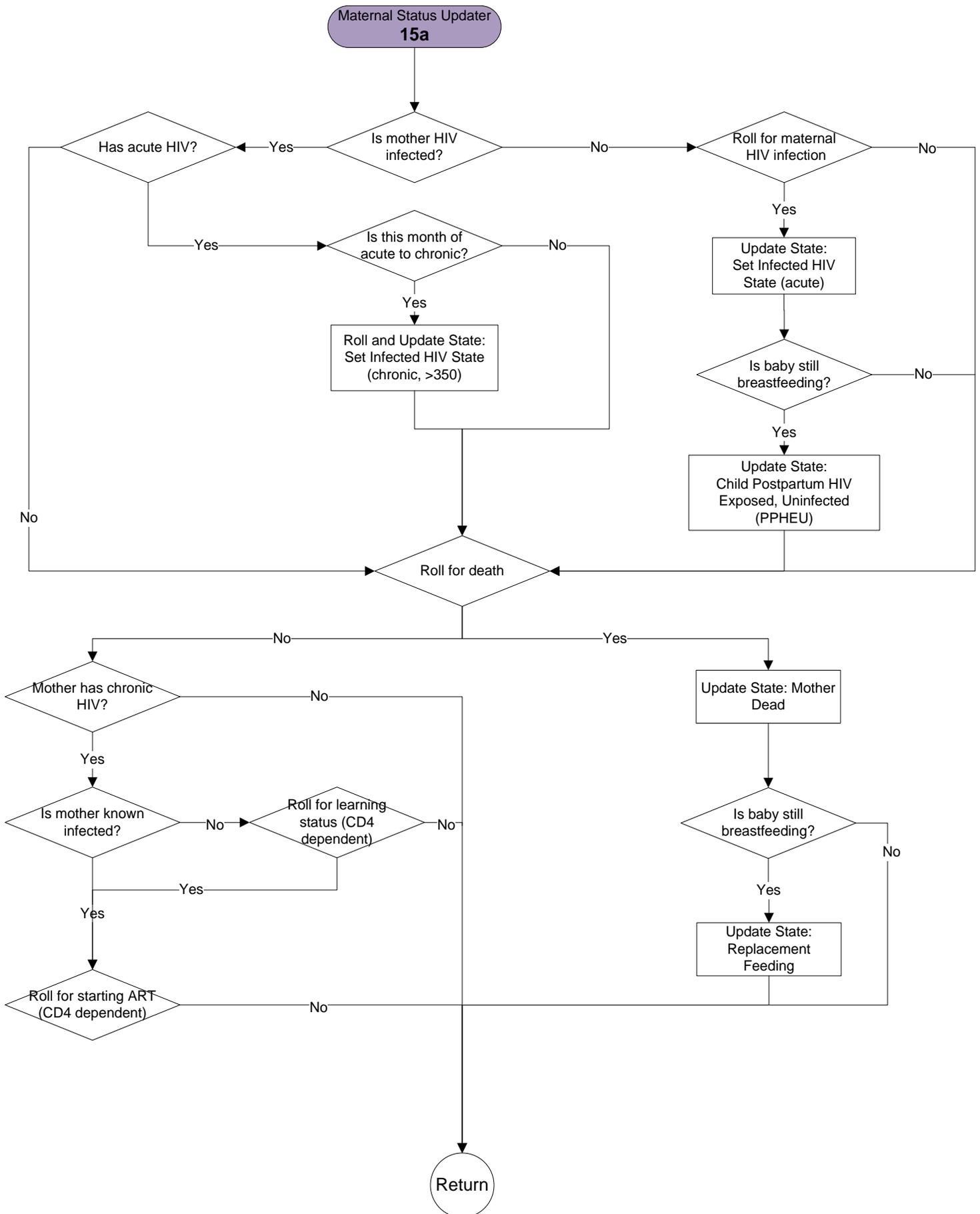
# Ordering of Patient Simulation in CEPAC Pediatrics Model



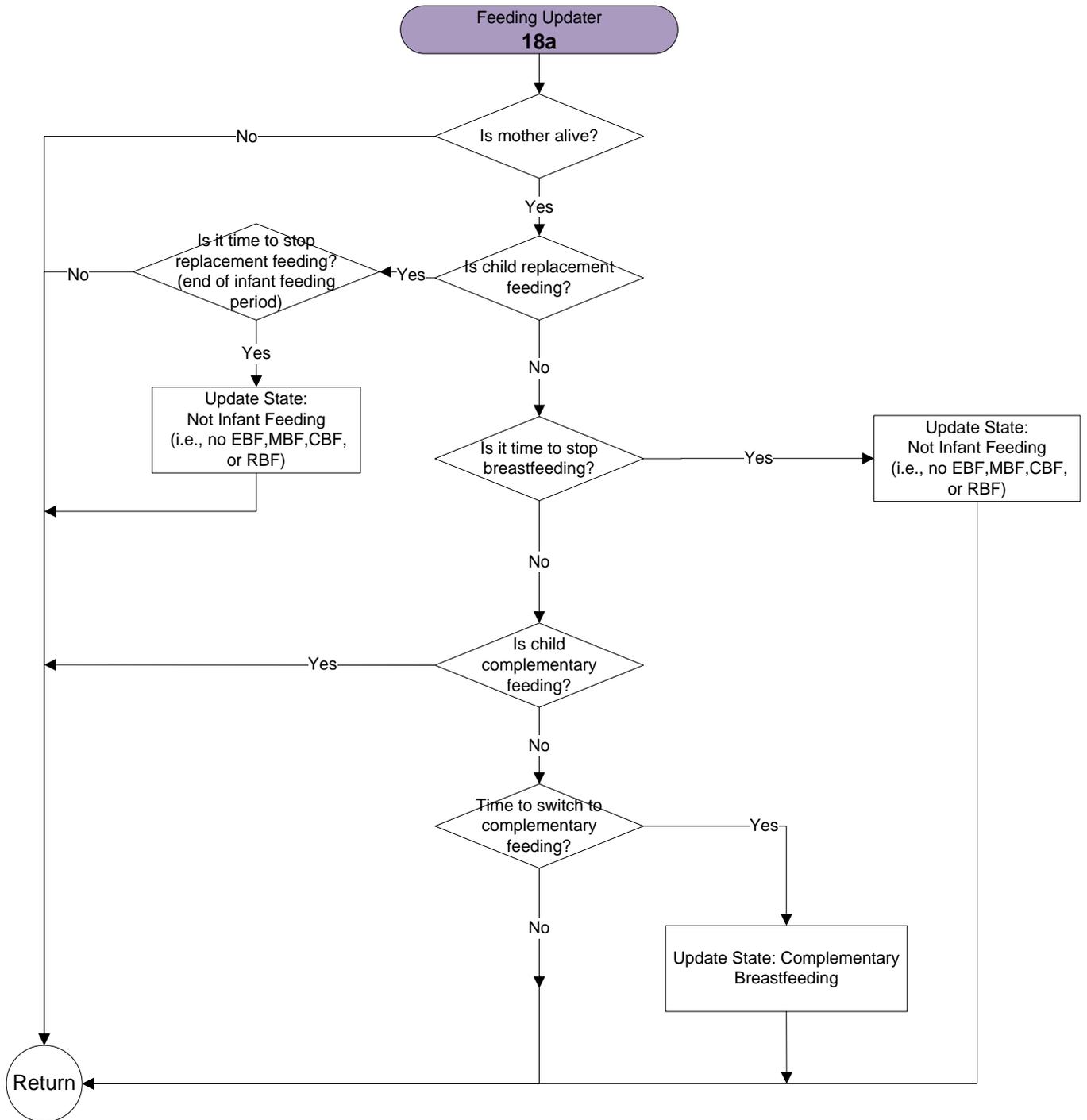
# Begin Month Updater – 10a



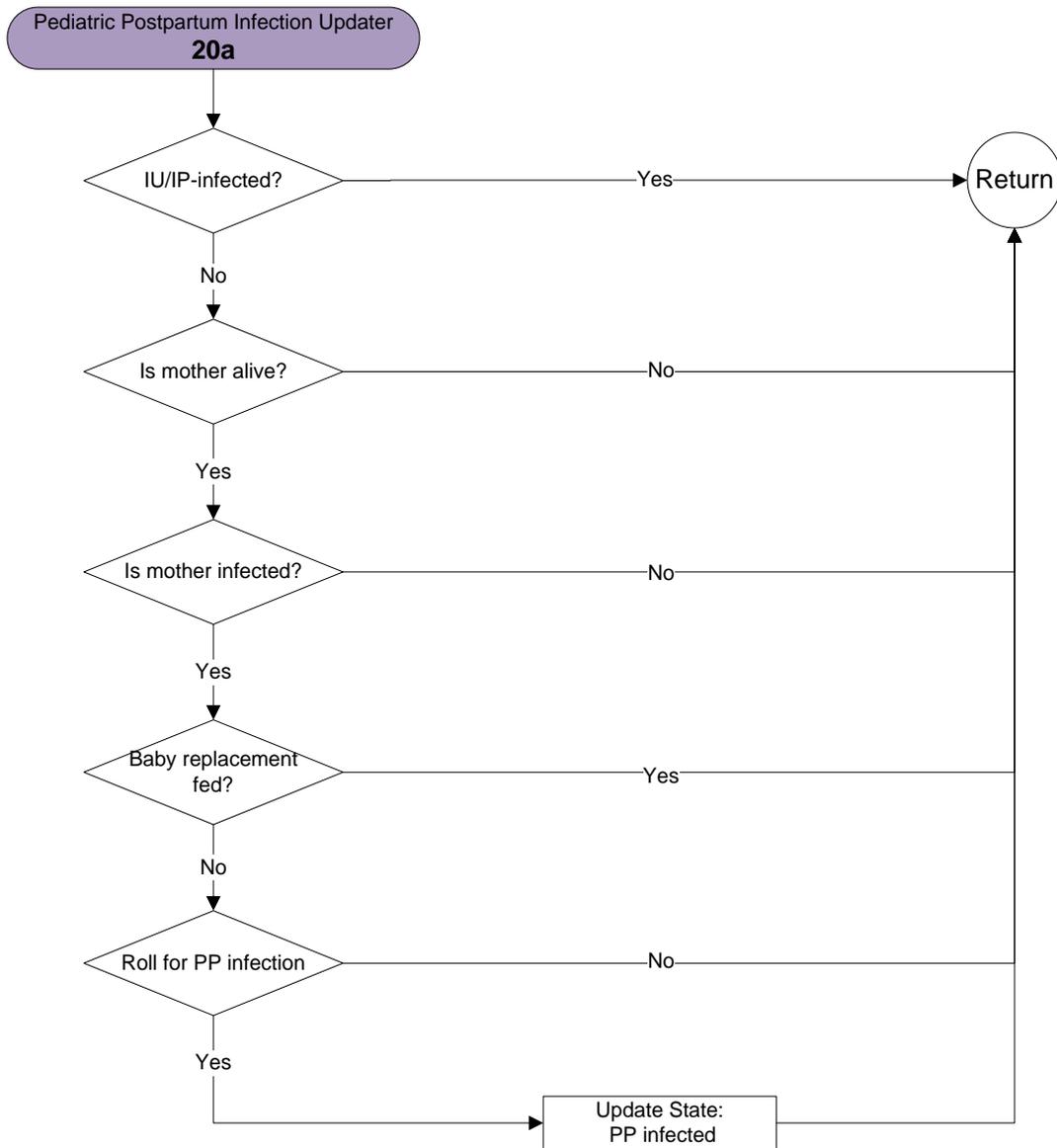
# Maternal Status Updater – 15a



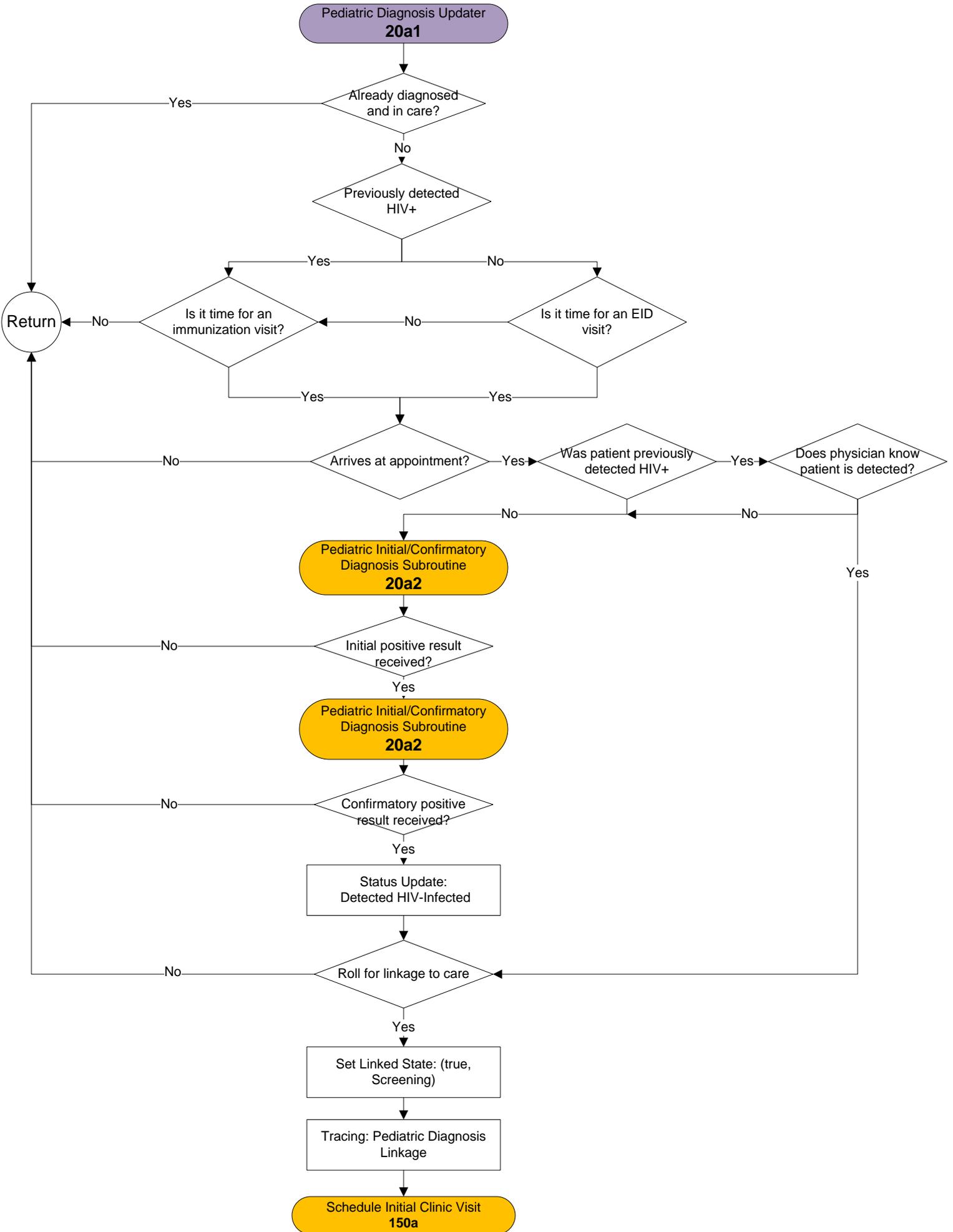
# Feeding Updater – 18a



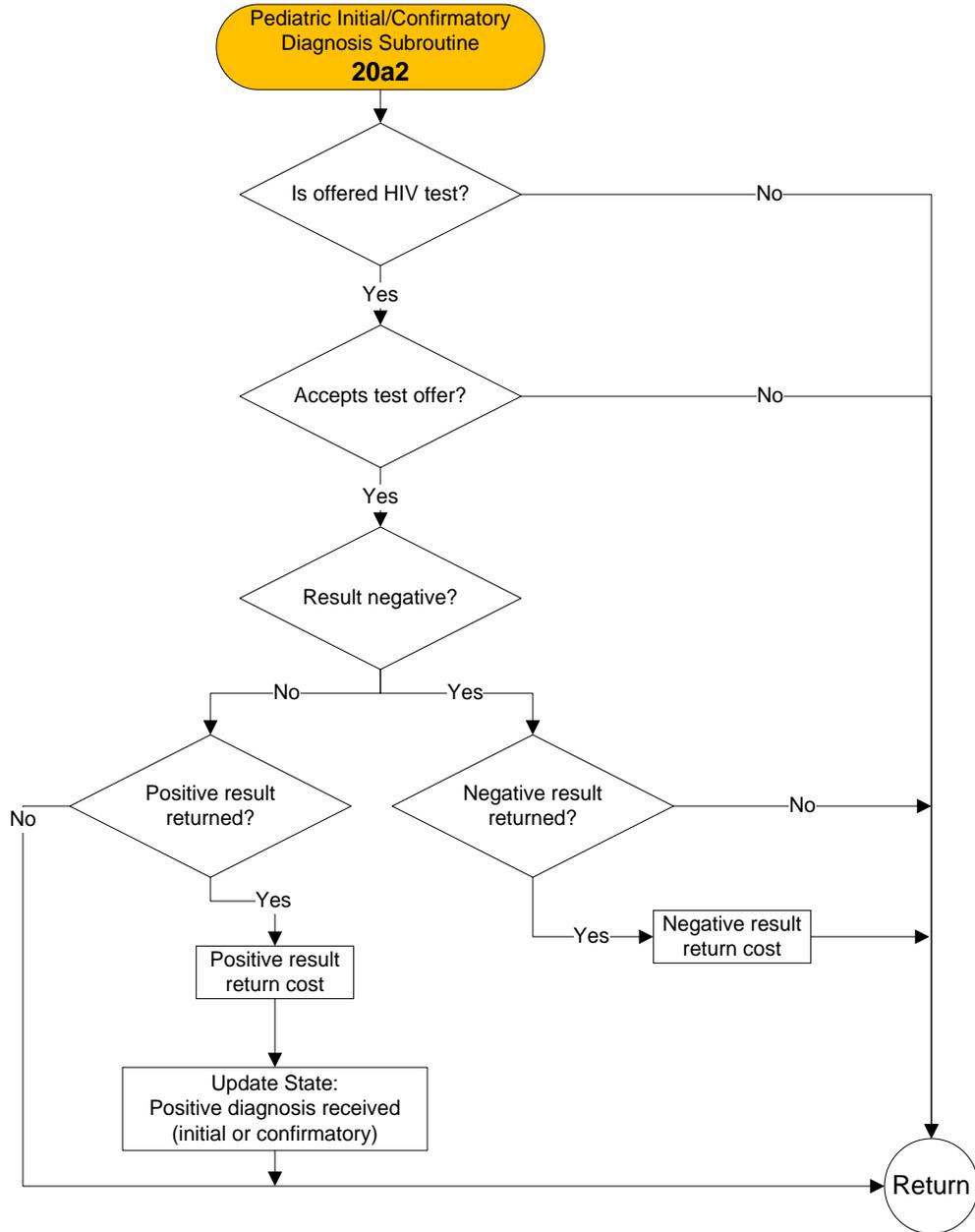
# Pediatric True Infection Updater – 20a



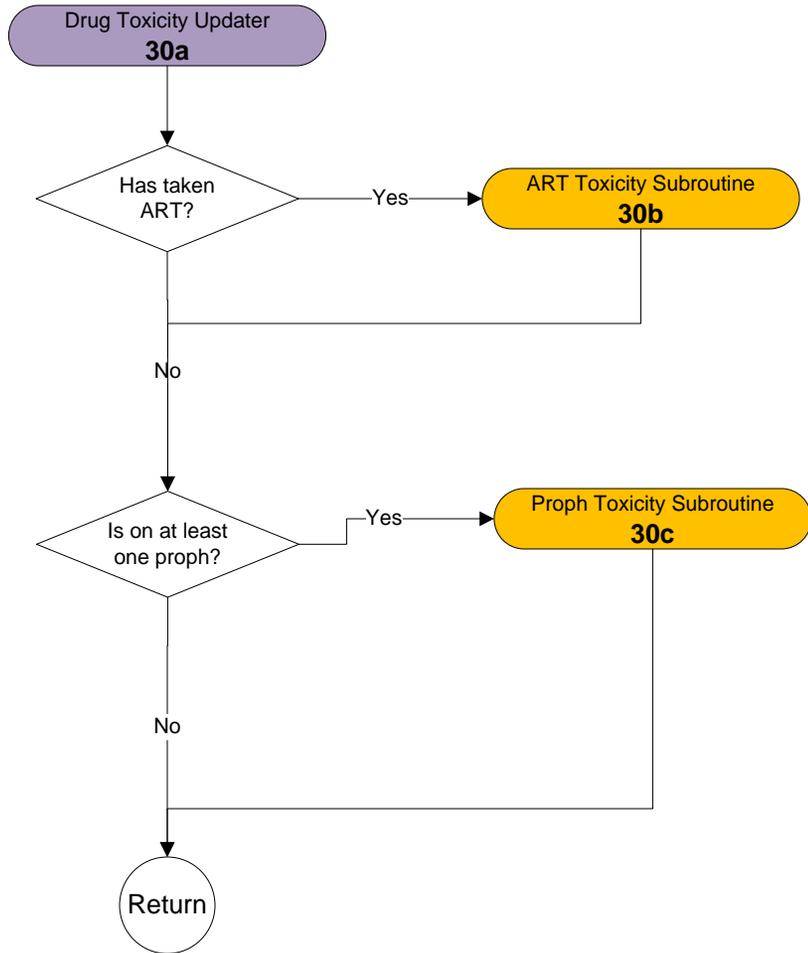
# Pediatric Diagnosis Updater – 20a1



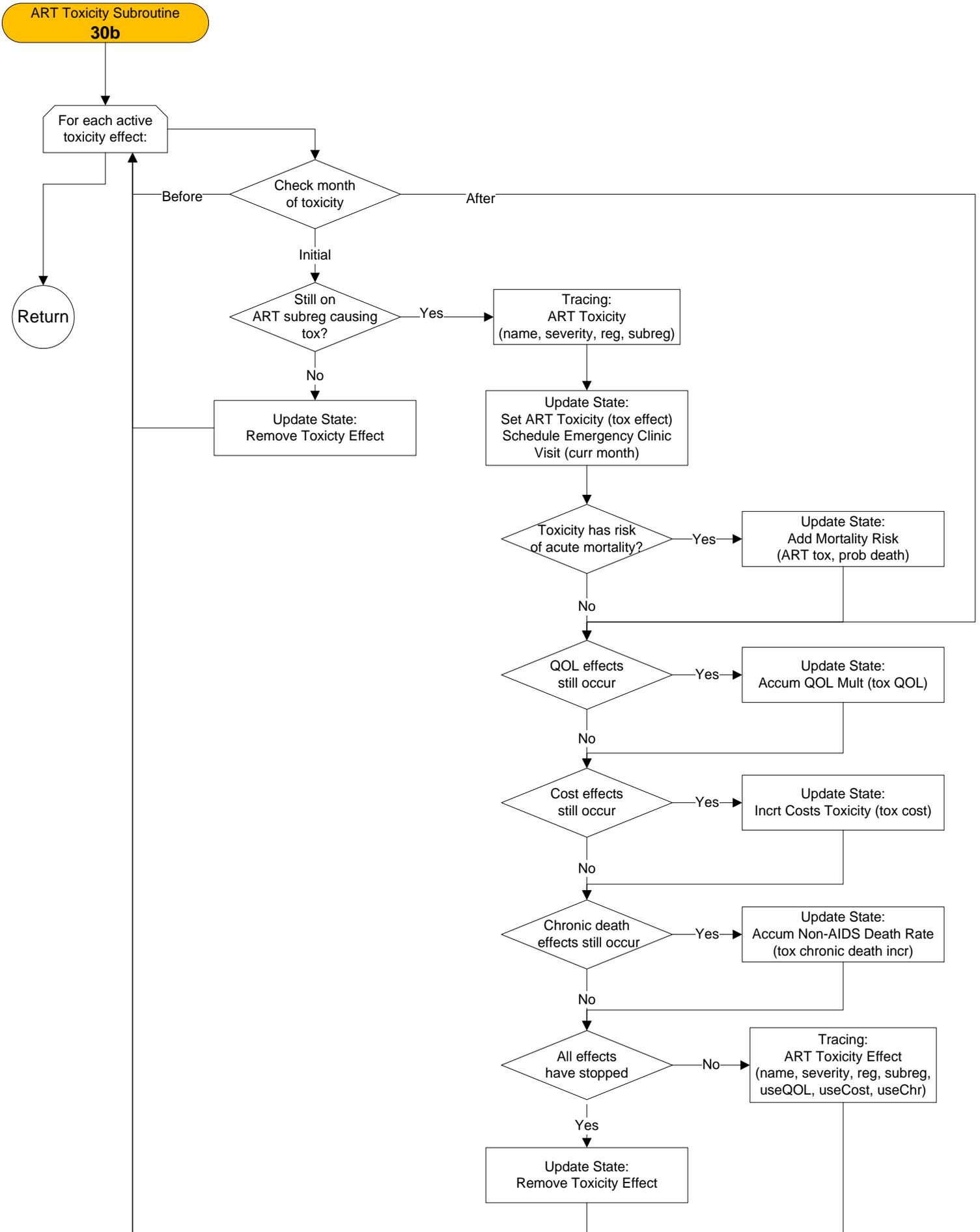
# Pediatric Initial/Confirmatory Diagnosis Subroutine – 20a2



# Drug Toxicity Updater – 30a

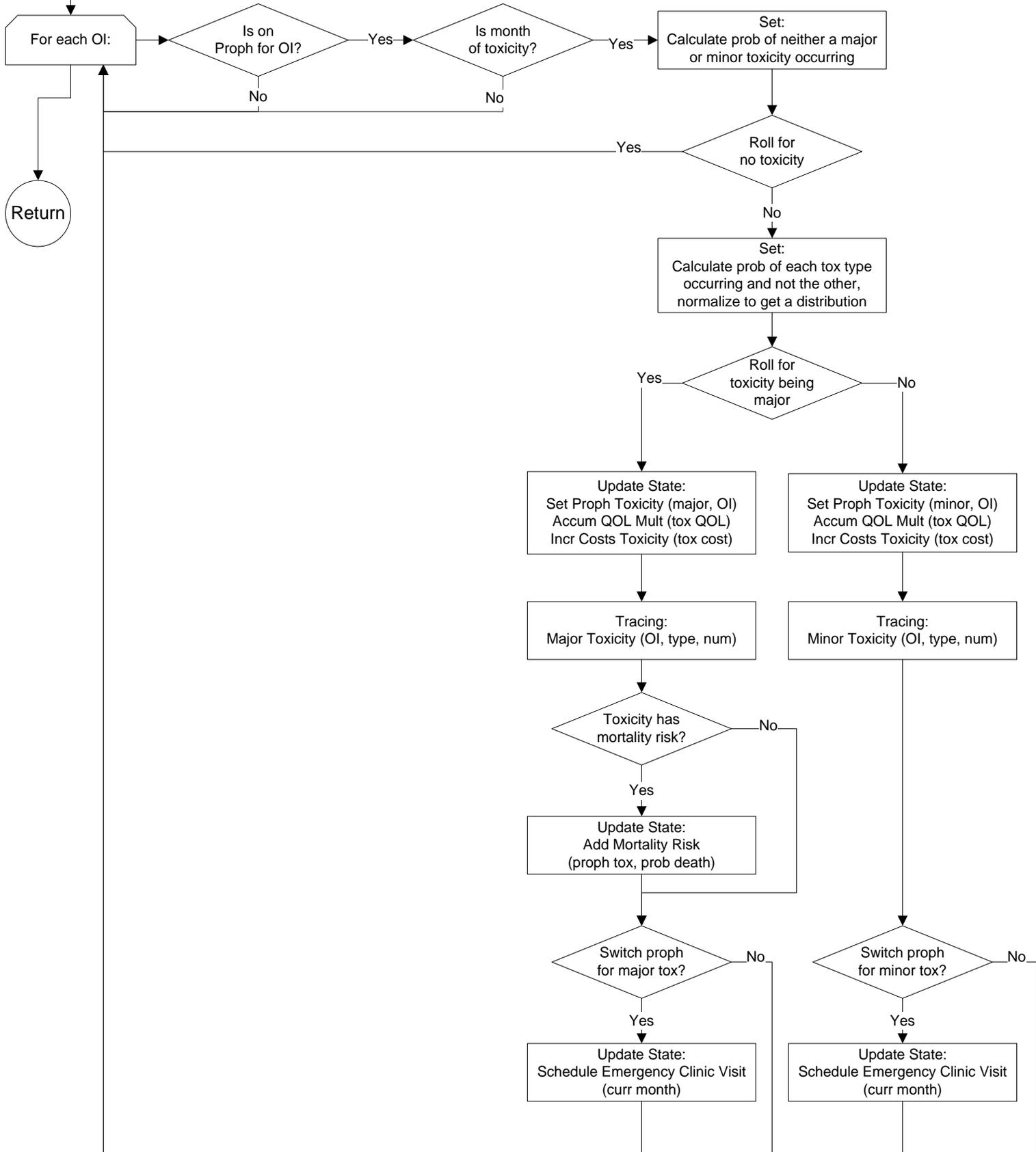


# ART Toxicity Subroutine – 30b

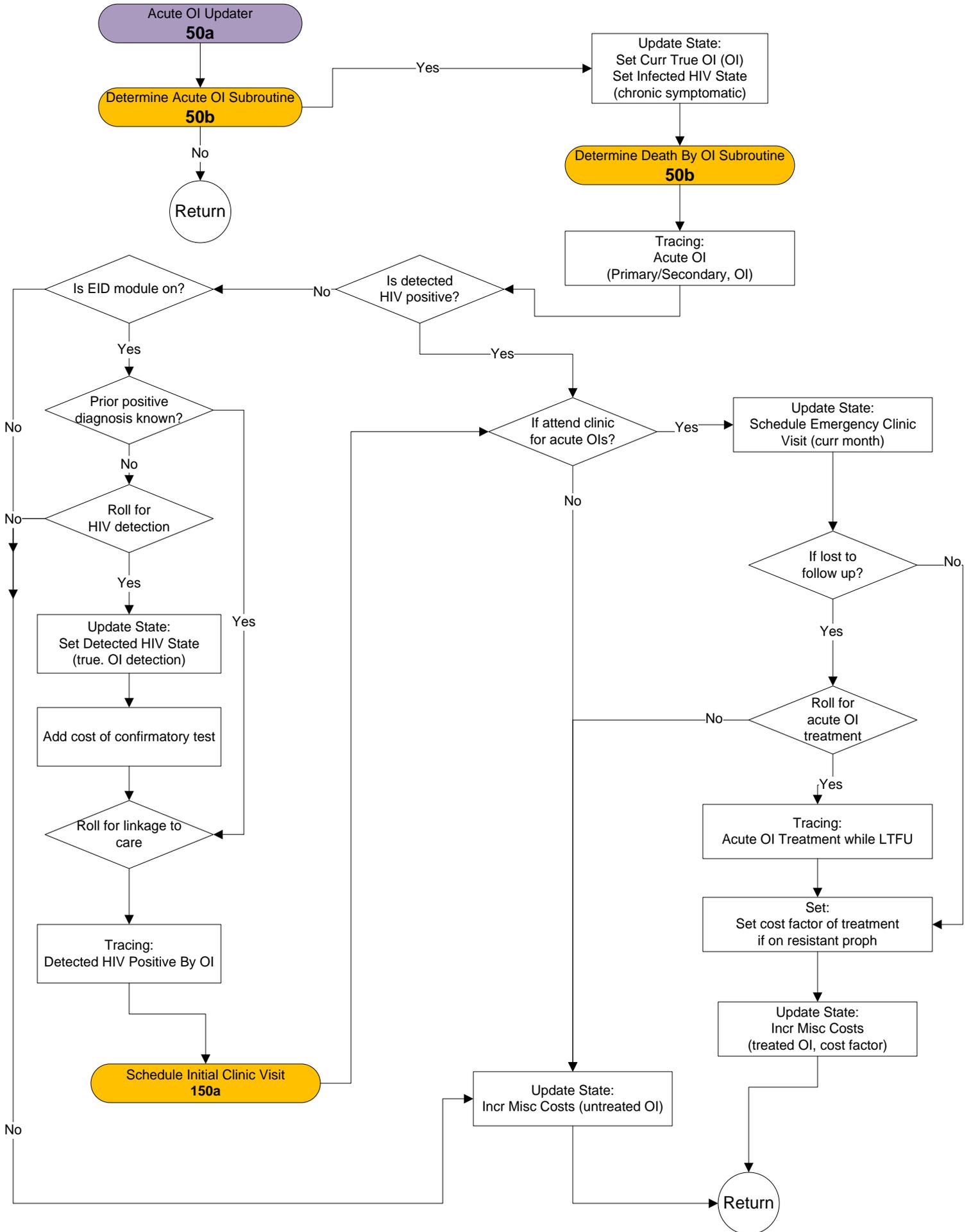


# Proph Toxicity Subroutine – 30c

Proph Toxicity Subroutine  
**30c**

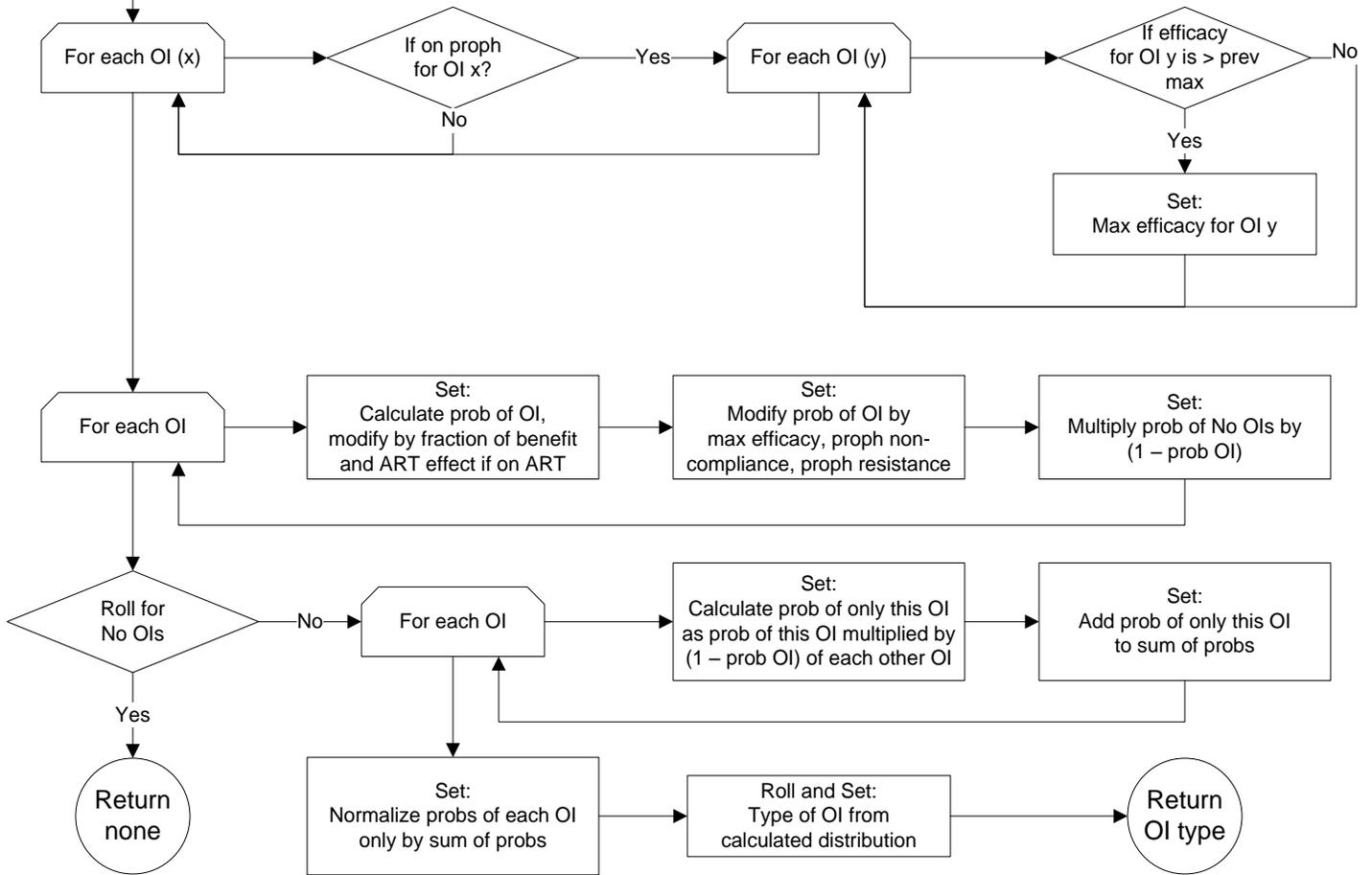


# Acute OI Updater – 50a

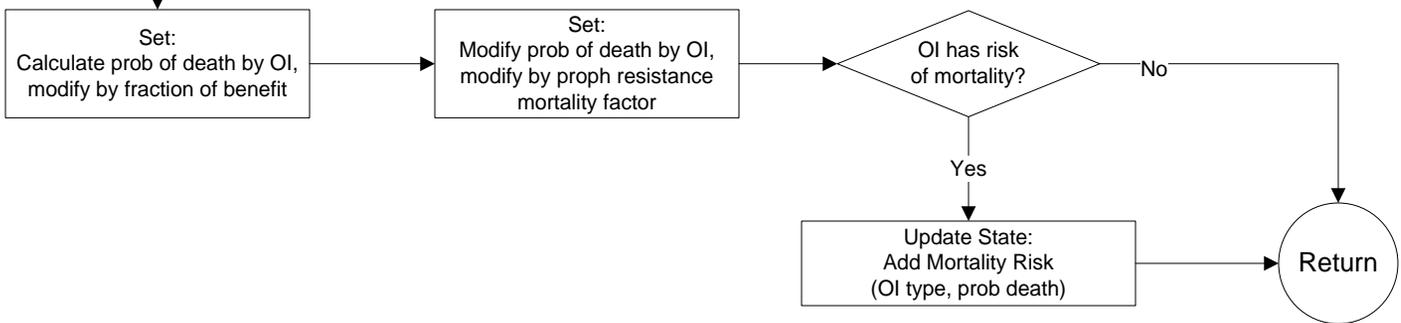


# Determine Acute OI Subroutine and Determine Death By OI Subroutine – 50b

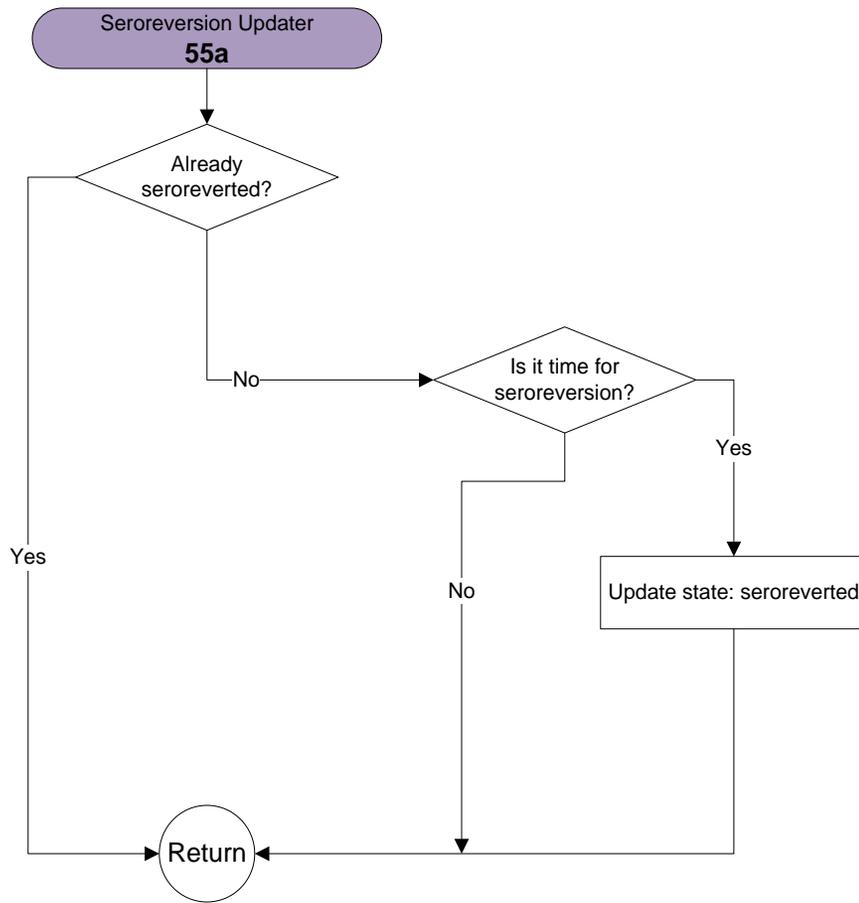
## Determine Acute OI Subroutine 50b



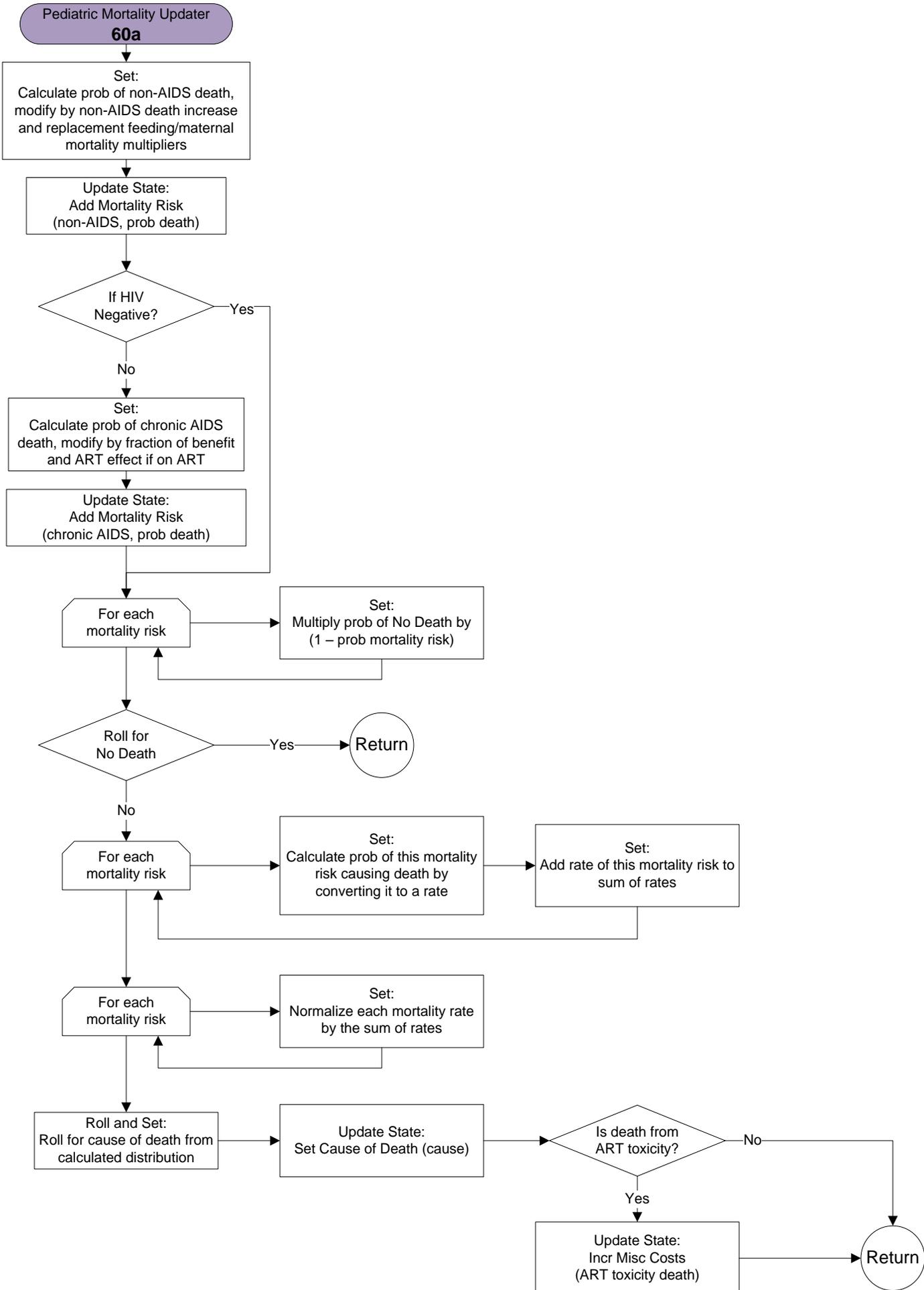
## Determine Death By OI Subroutine 50b



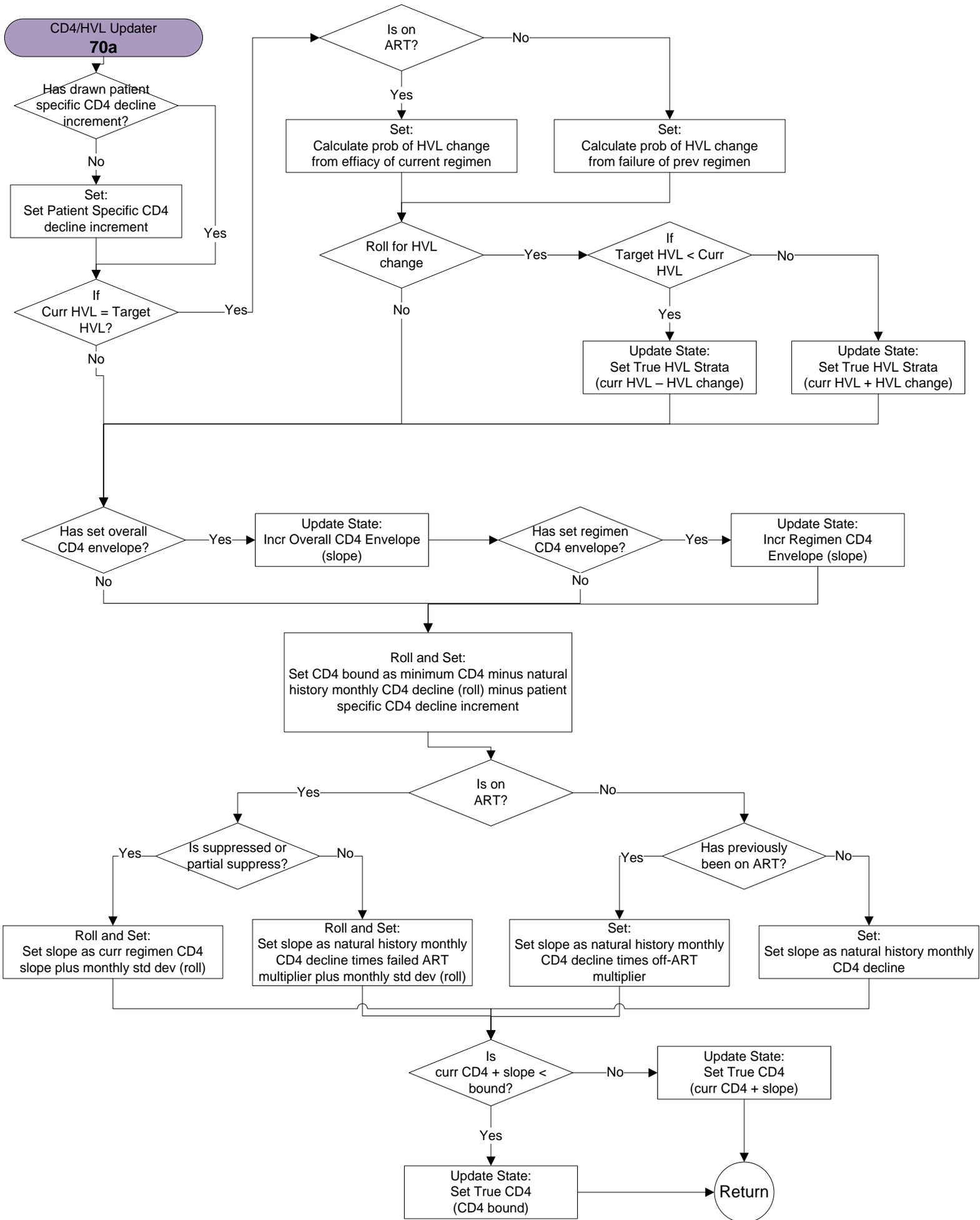
# Seroreversion Updater – 55a



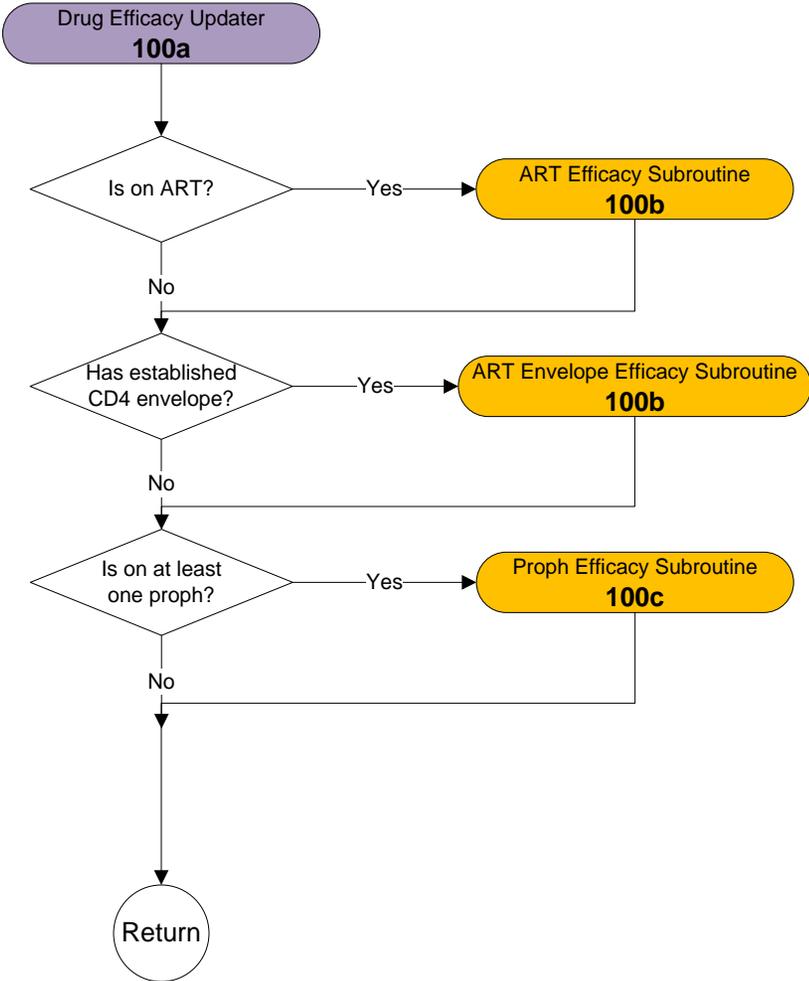
# Pediatric Mortality Updater – 60a



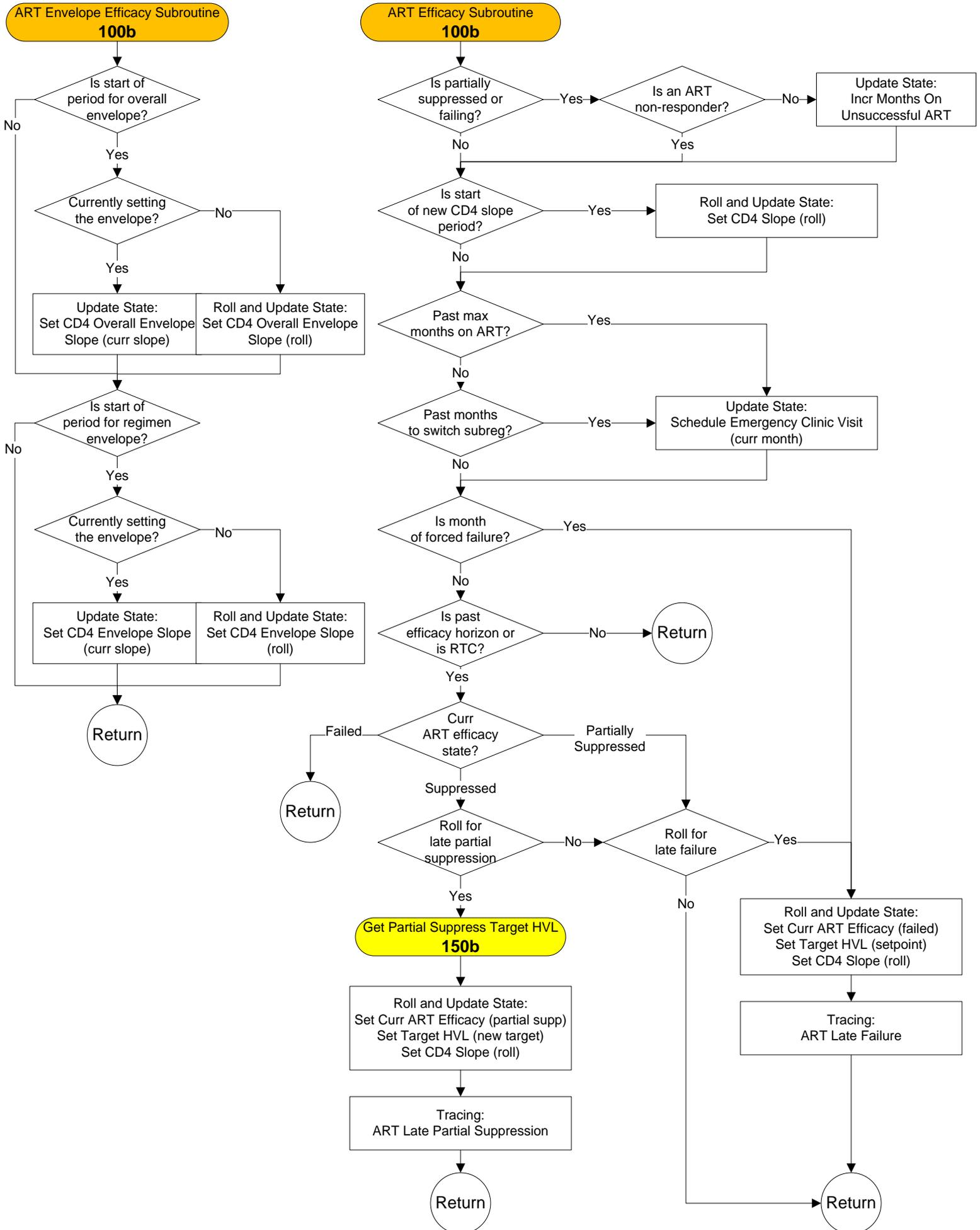
# CD4/HVL Updater – 70a



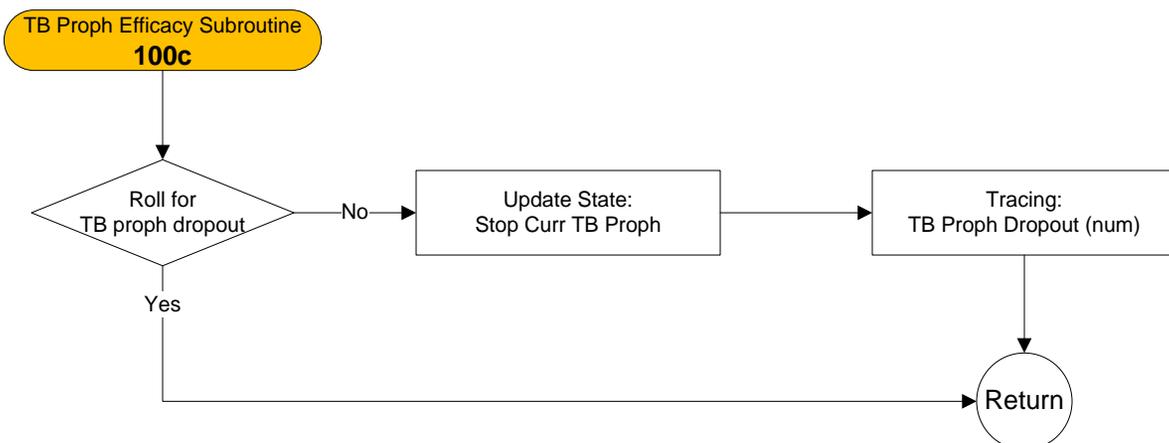
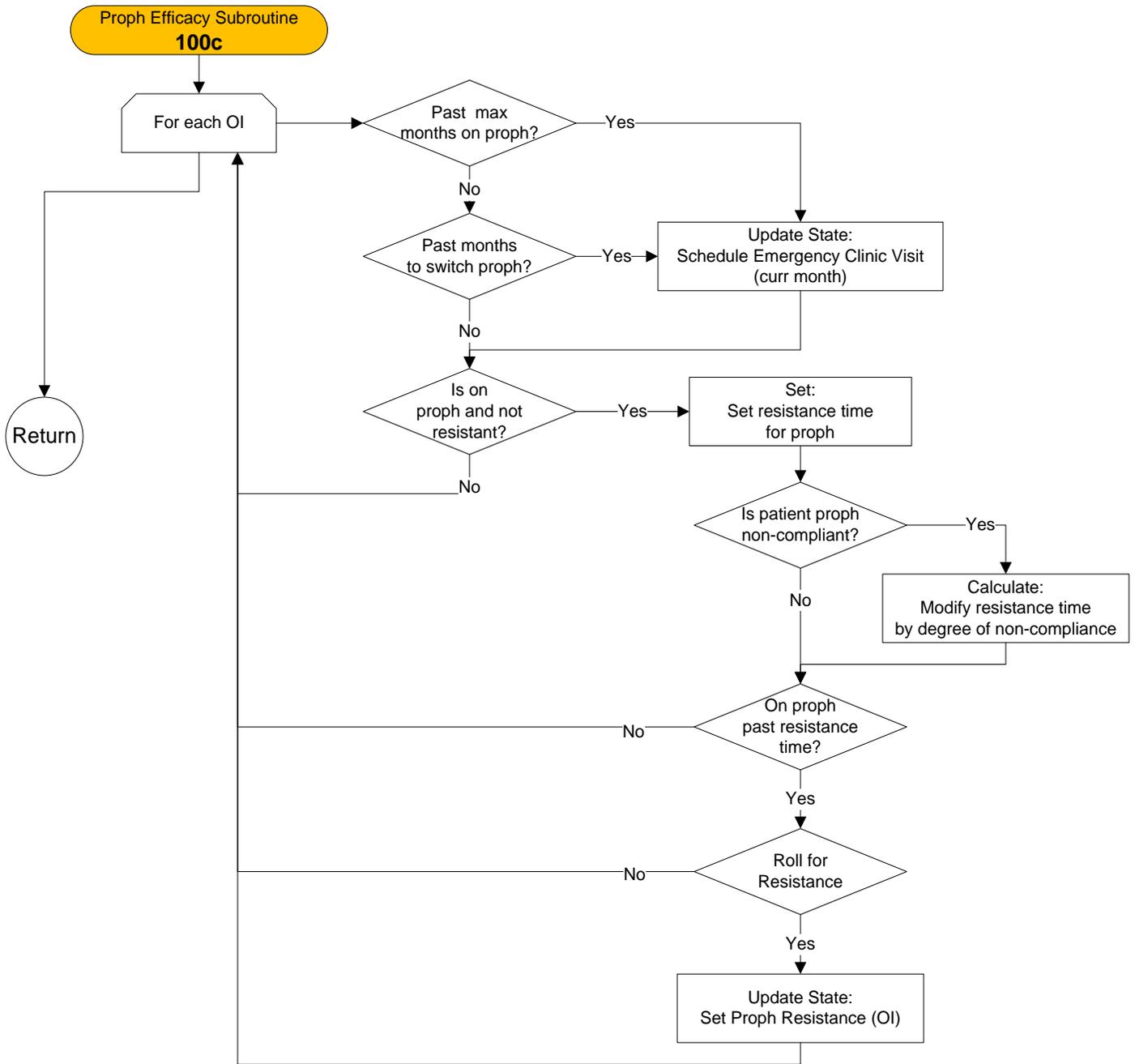
# Drug Efficacy Updater – 100a



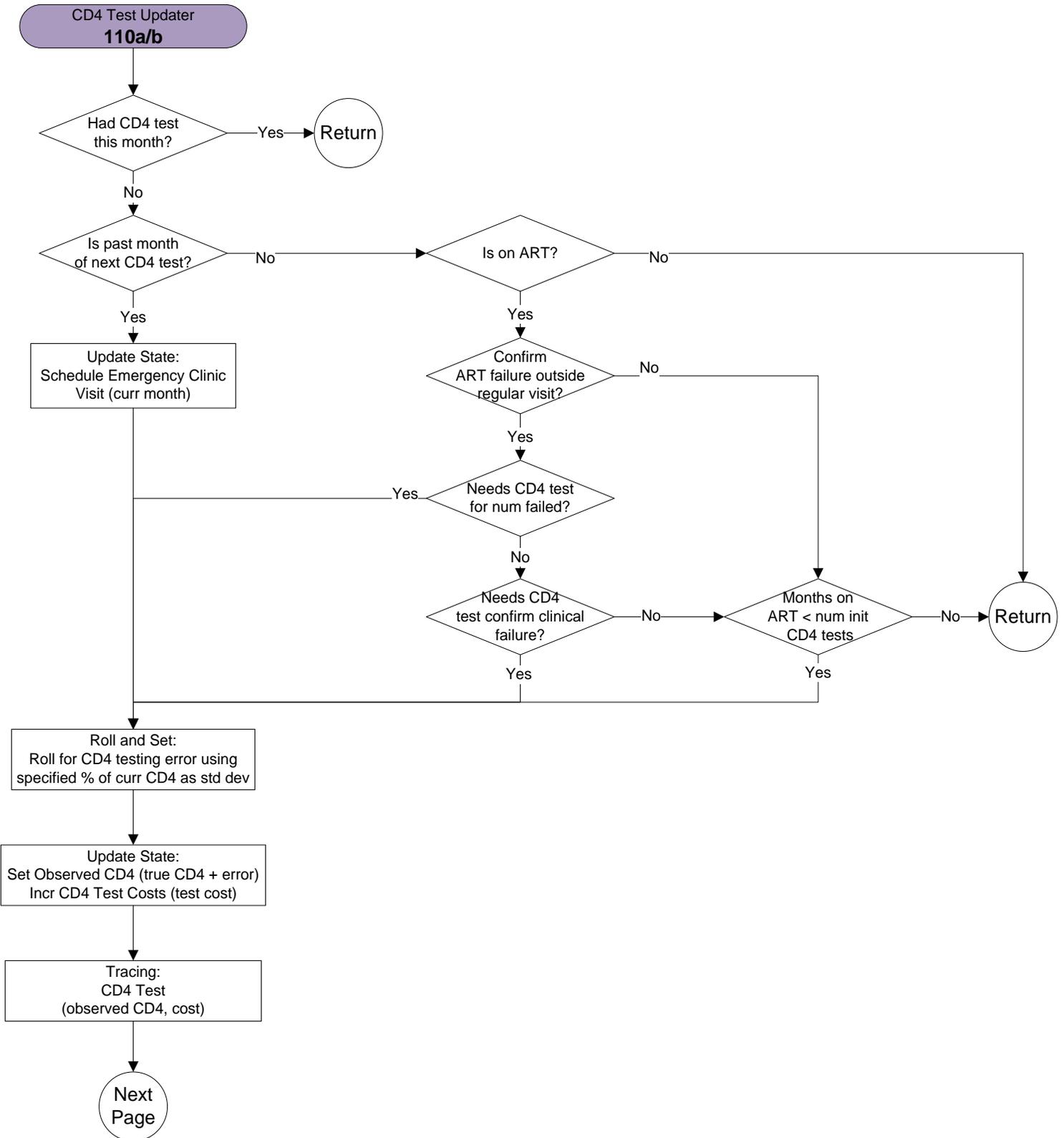
# ART Efficacy Subroutine and ART Envelope Efficacy Subroutine – 100b



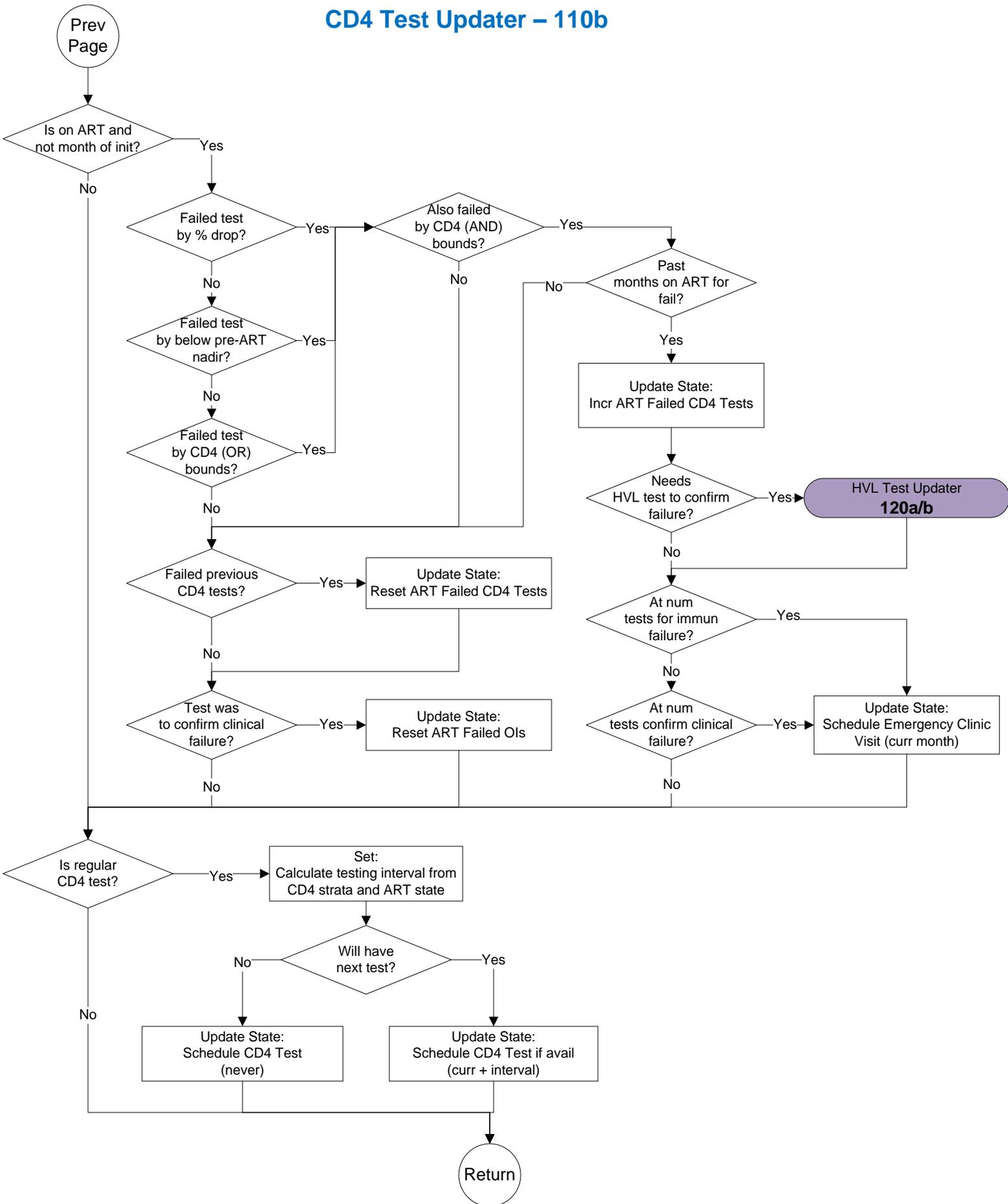
# Proph Efficacy Subroutine and TB Proph Efficacy Subroutine – 100c



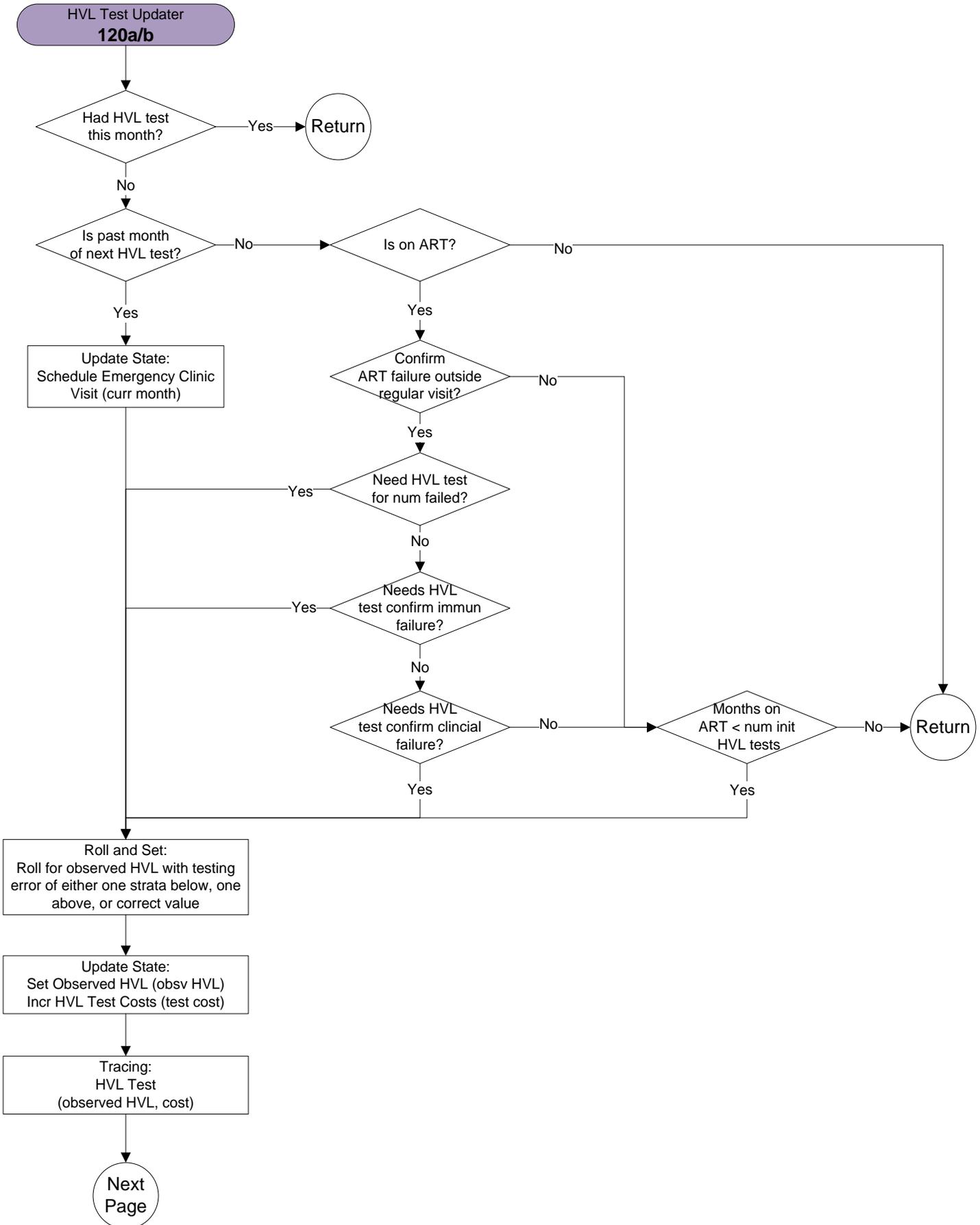
# CD4 Test Updater – 110a



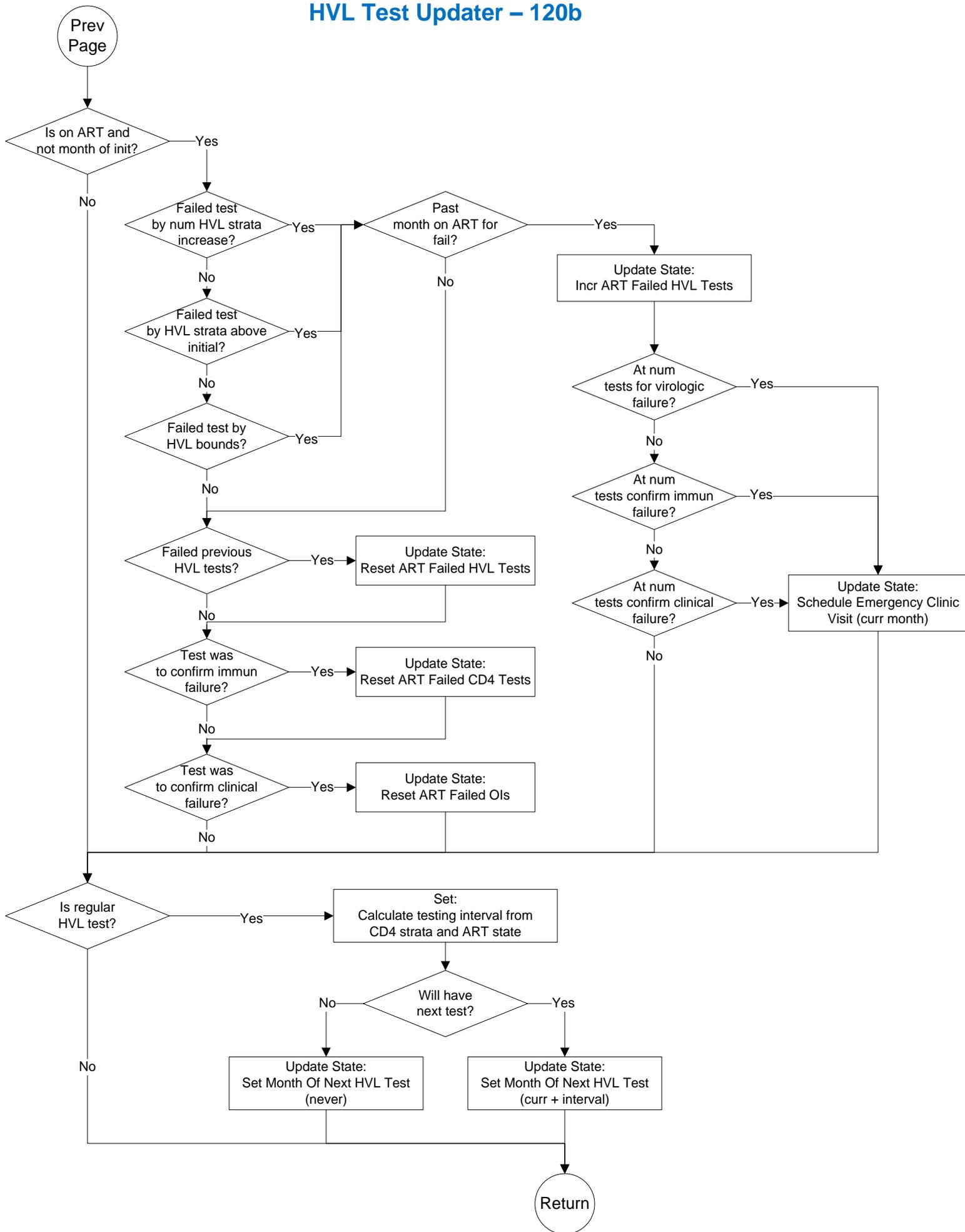
# CD4 Test Updater – 110b



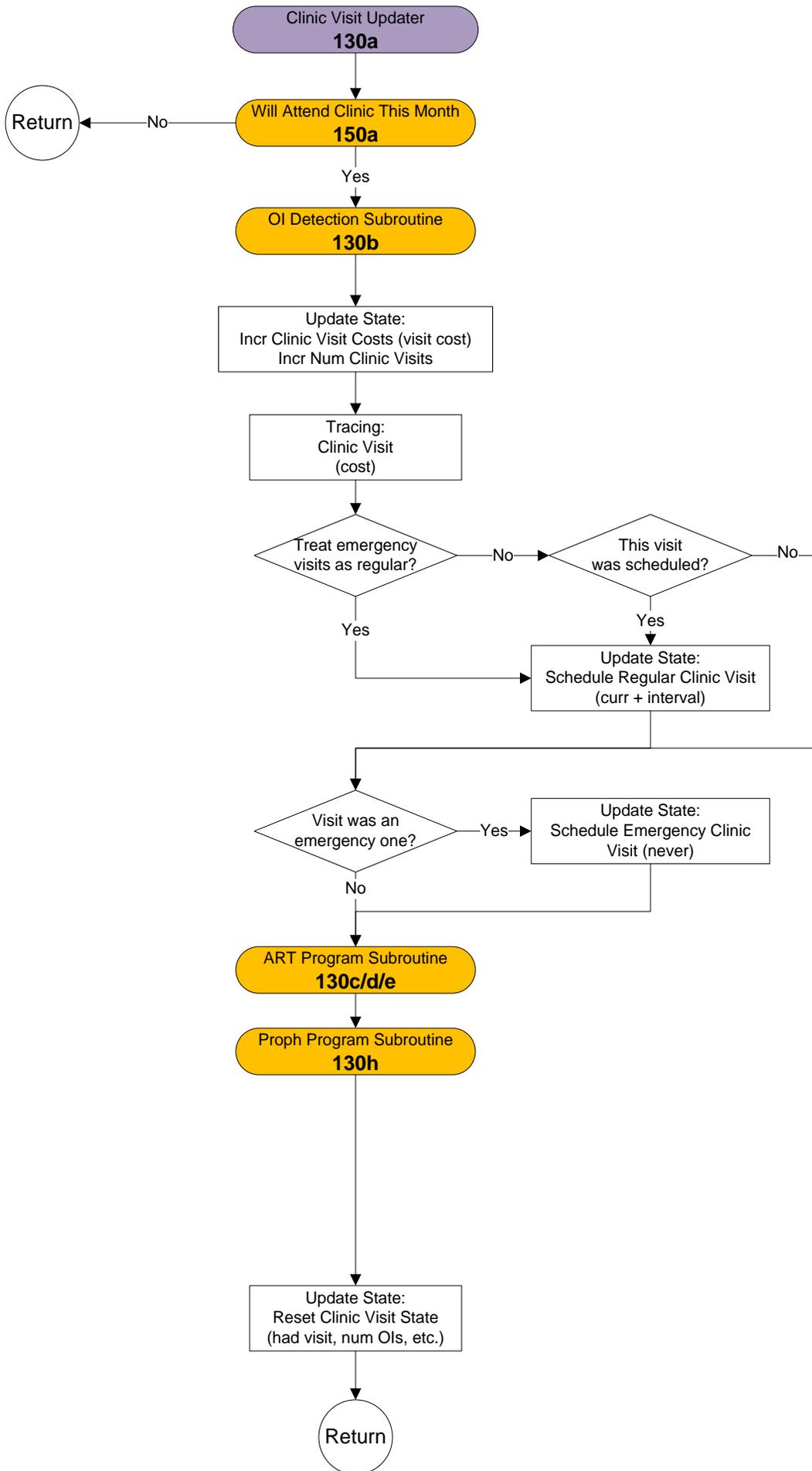
# HVL Test Updater – 120a



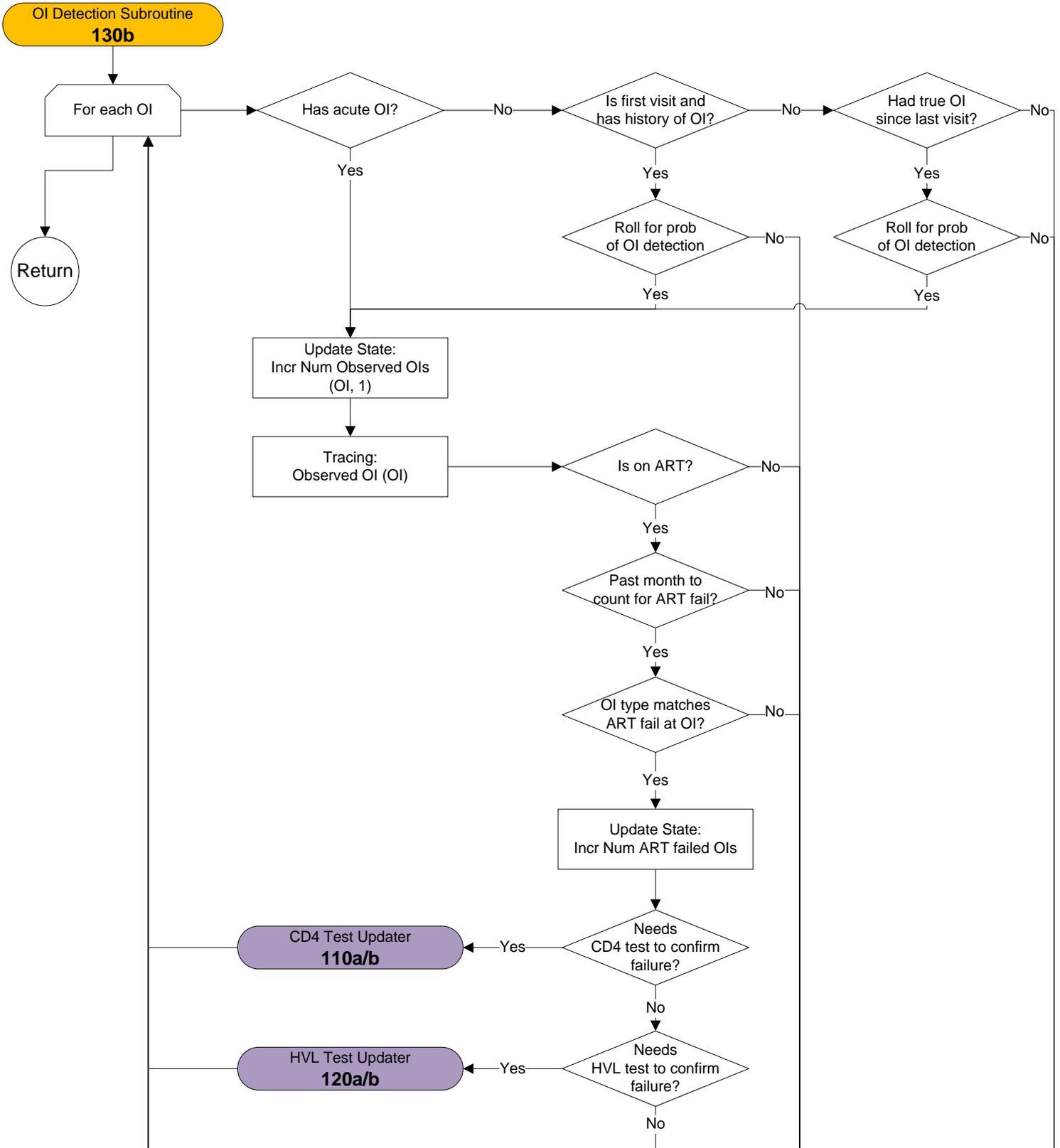
# HVL Test Updater – 120b



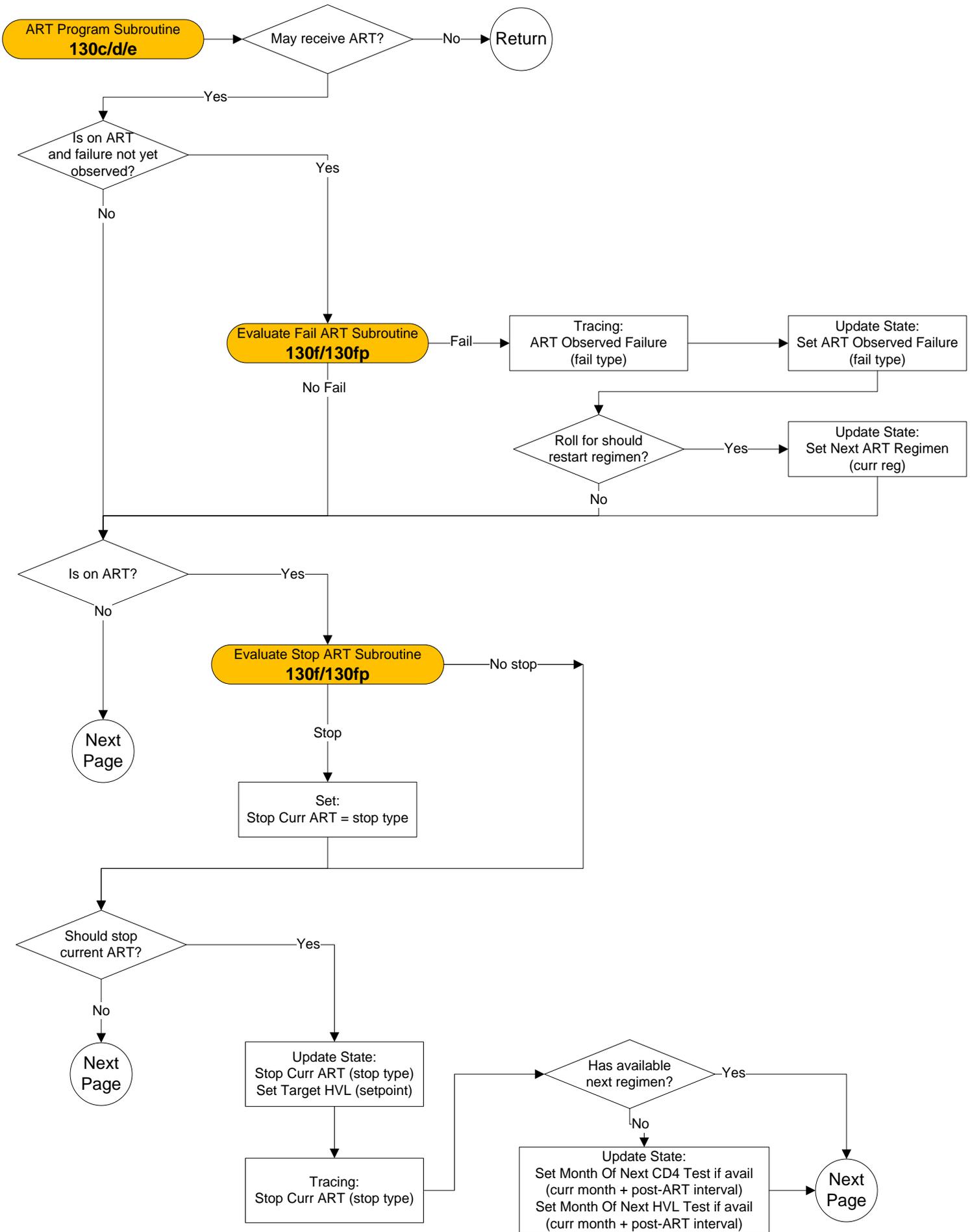
# Clinic Visit Updater – 130a



# OI Detection Subroutine – 130b

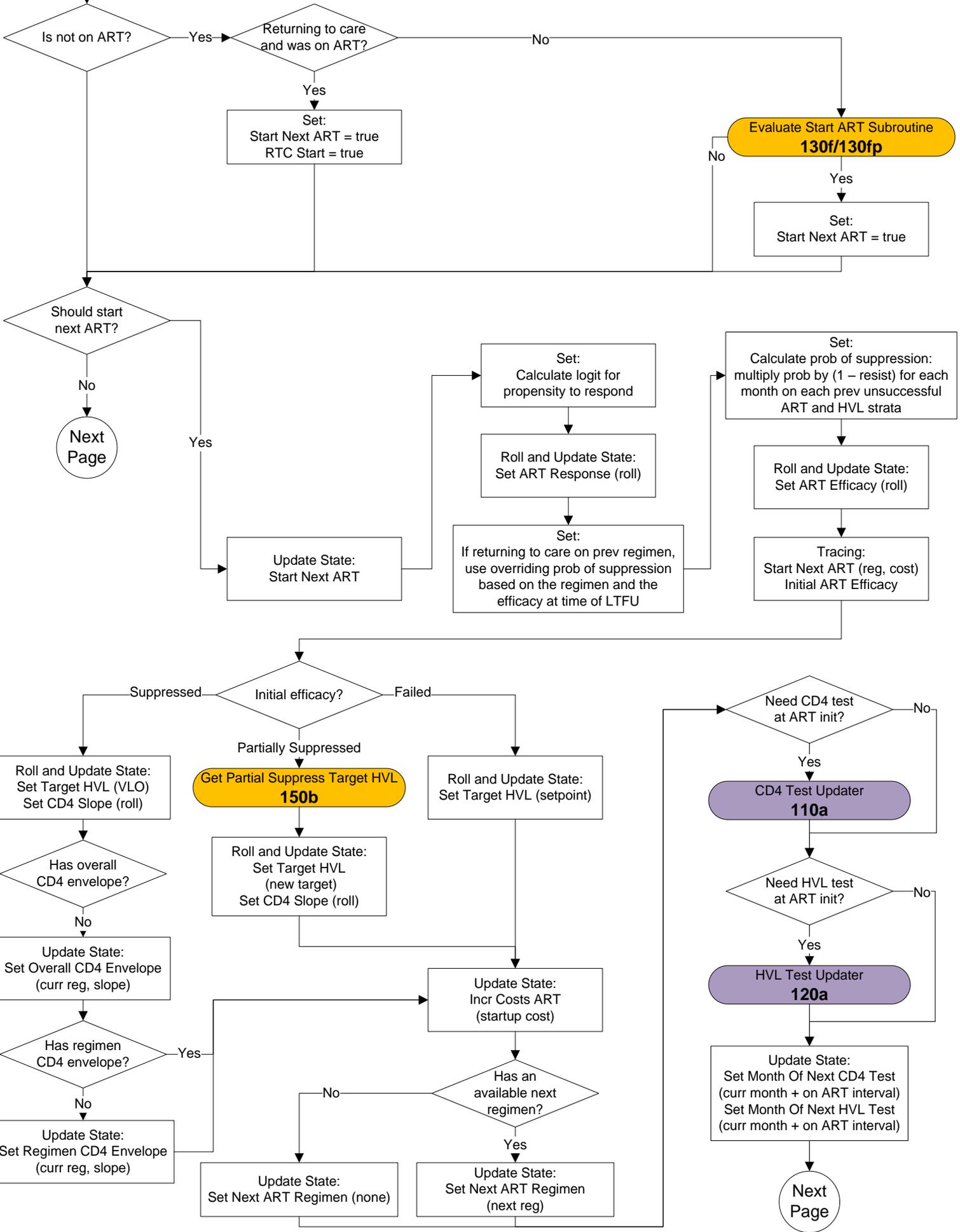


# ART Program Subroutine – 130c



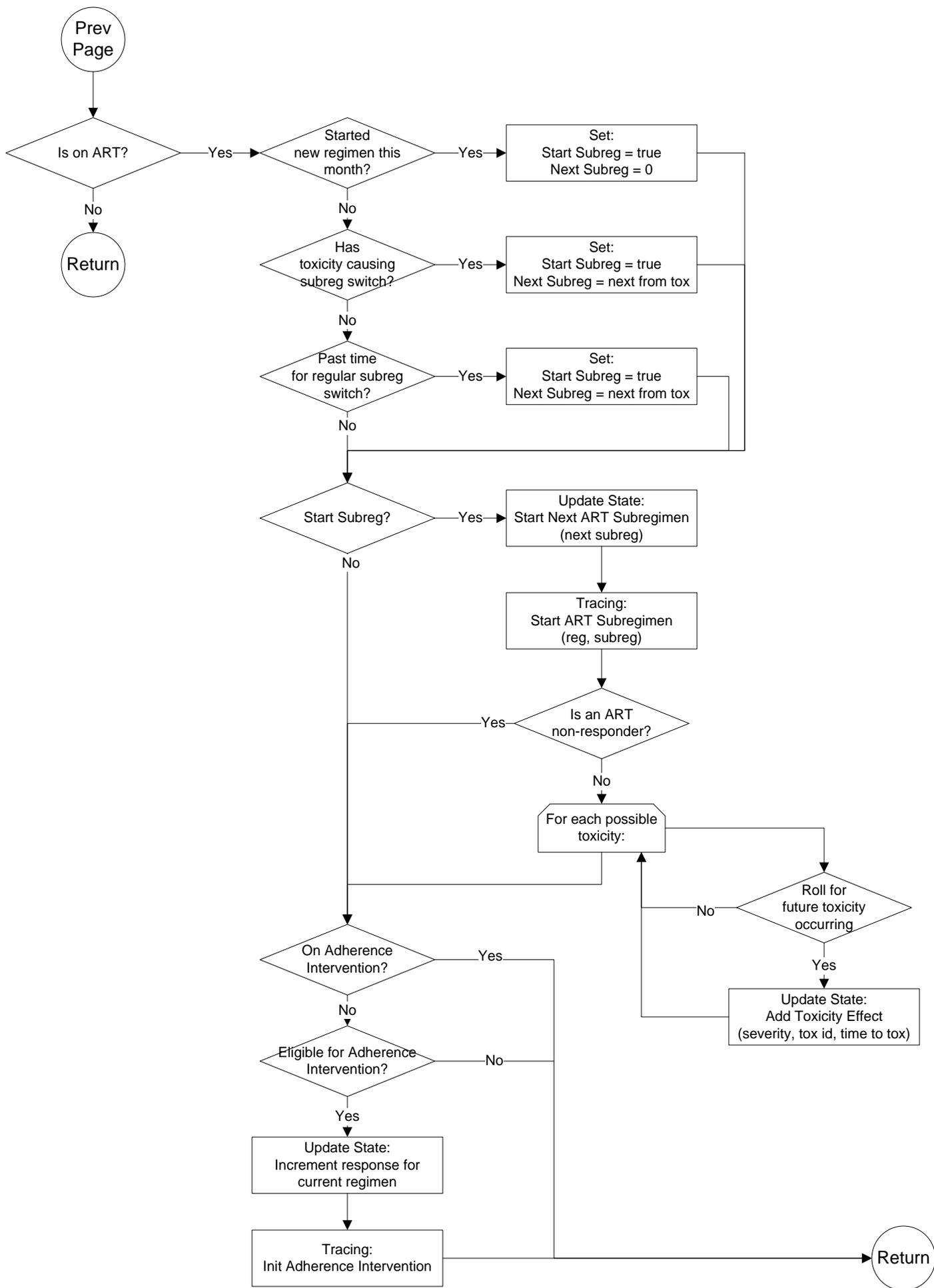
# ART Program Subroutine – 130d

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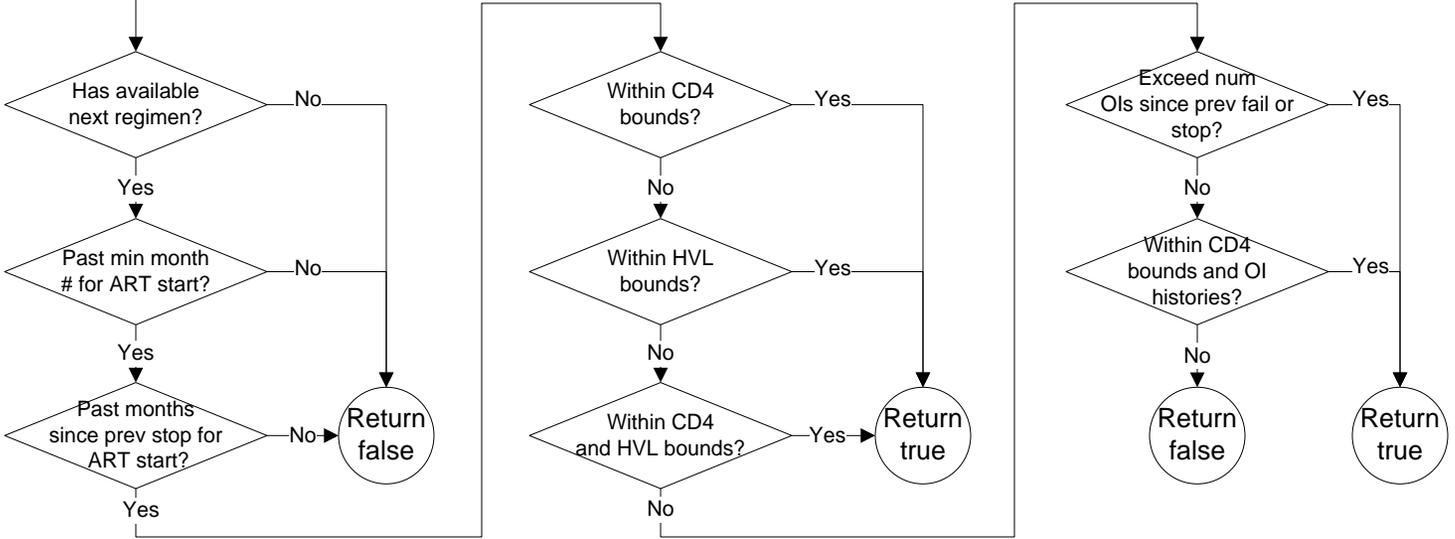
Next Page

# ART Program Subroutine – 130e

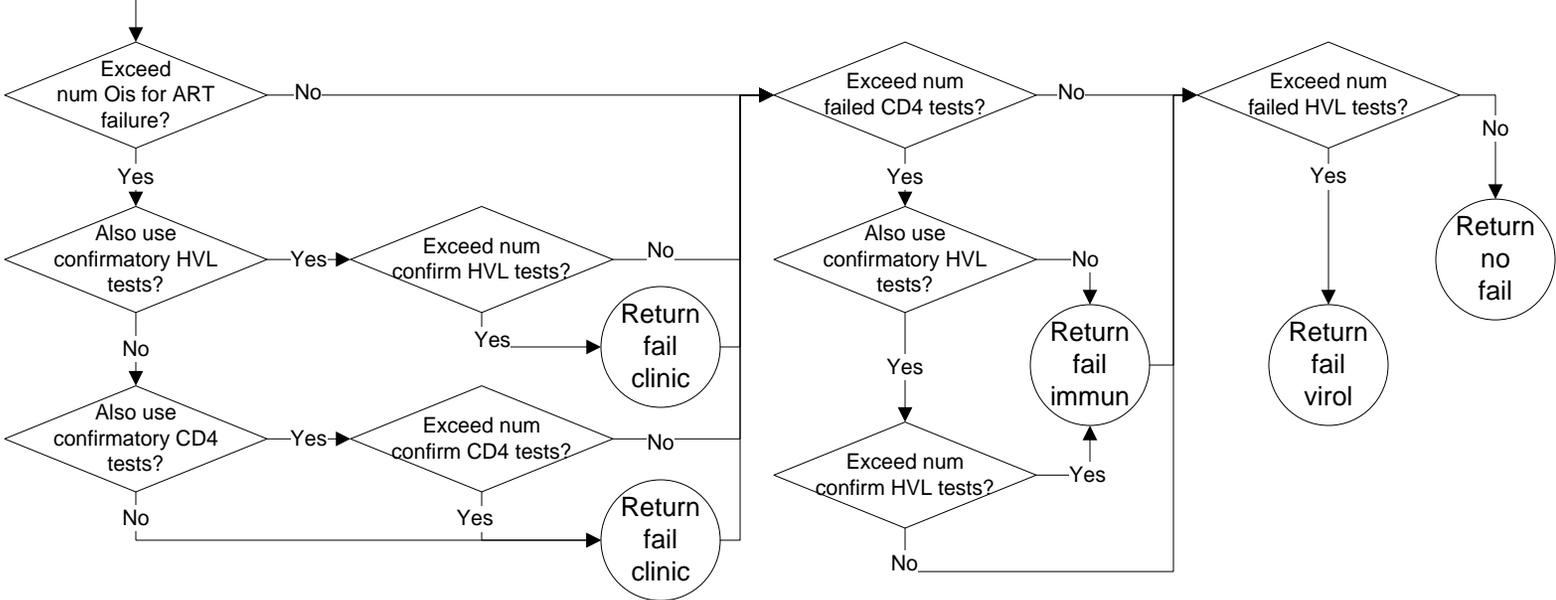


# Evaluate Start ART Subroutine and Evaluate Fail ART Subroutine and Evaluate Stop ART Subroutine – 130f

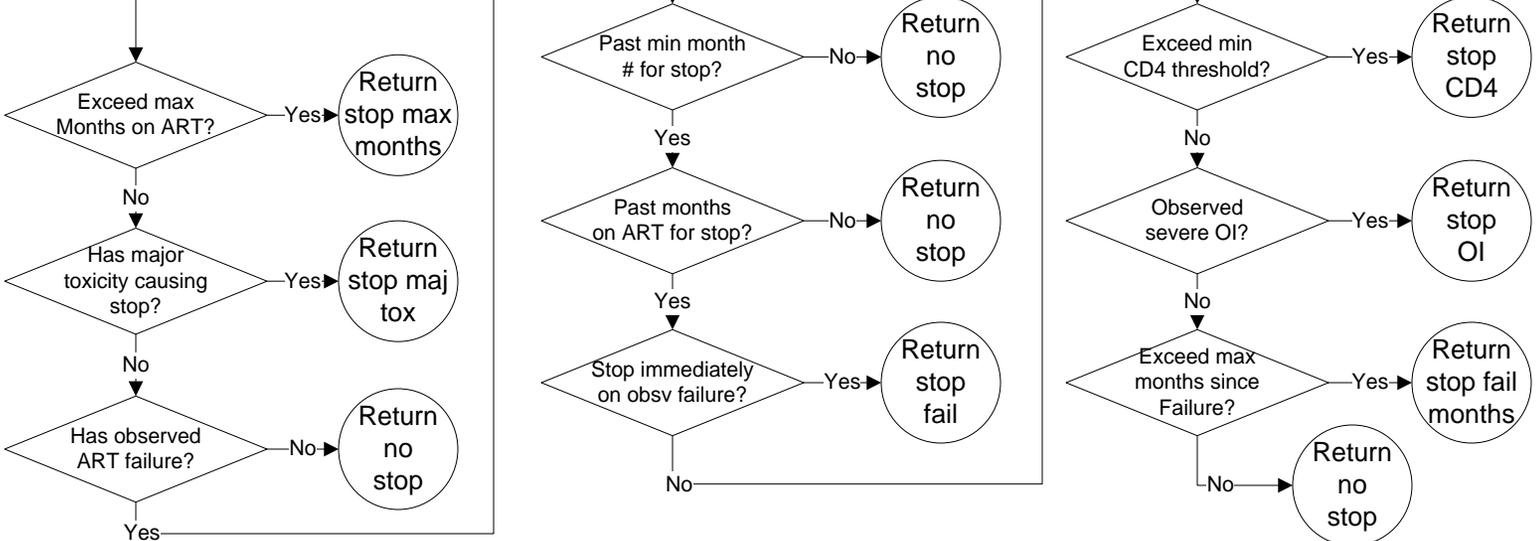
## Evaluate Start ART Subroutine 130f



## Evaluate Fail ART Subroutine 130f

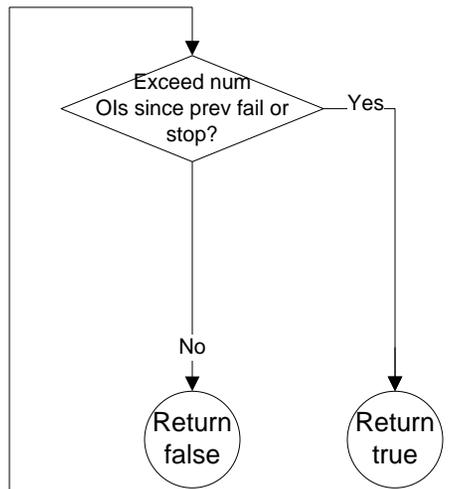
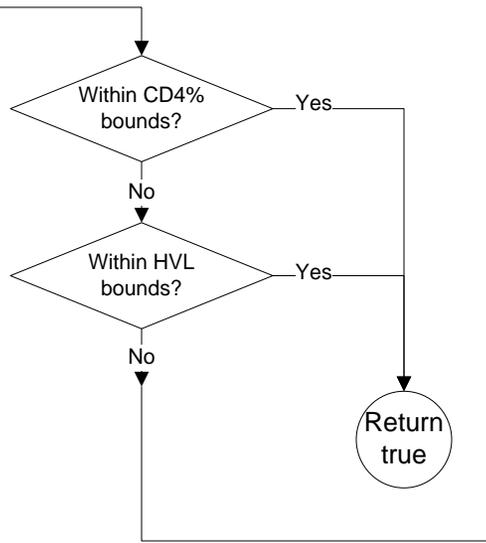
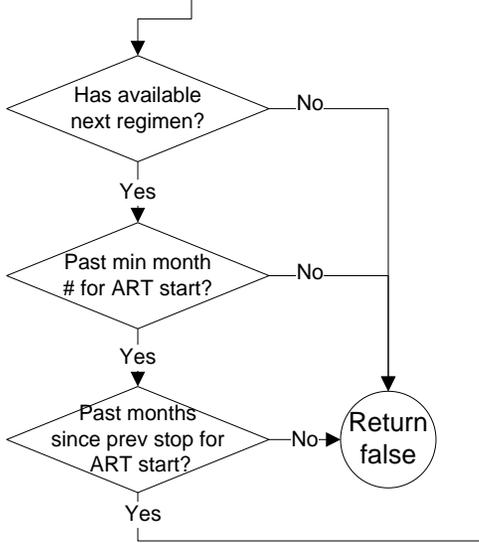


## Evaluate Stop ART Subroutine 130f

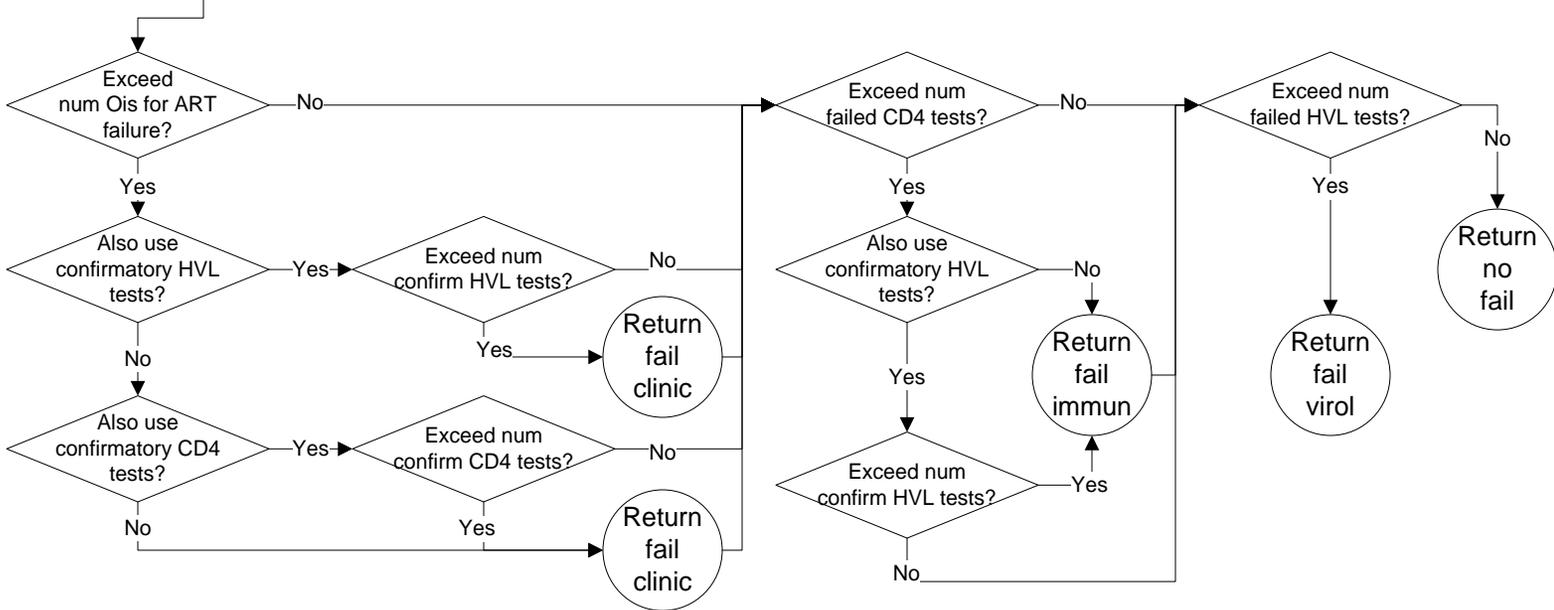


# Evaluate Peds Start ART Subroutine and Evaluate Peds Fail ART Subroutine and Evaluate Peds Stop ART Subroutine – 130fp

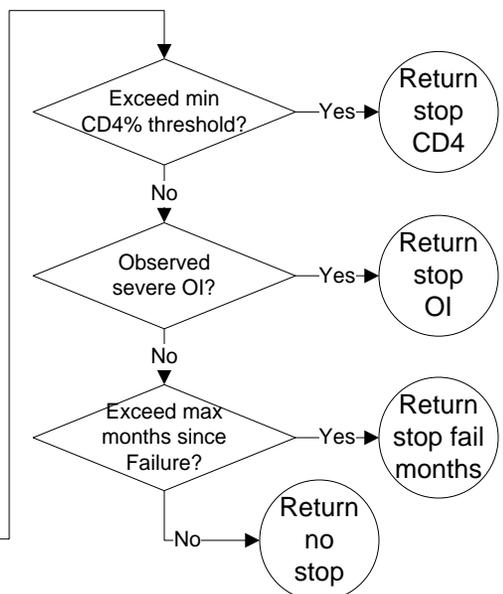
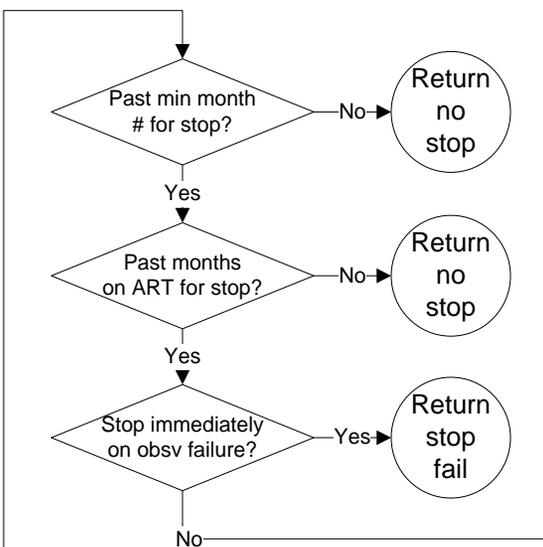
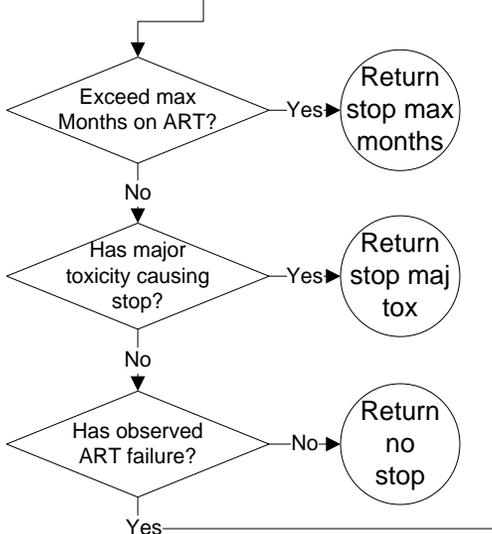
## Evaluate Peds Start ART Subroutine 130fp



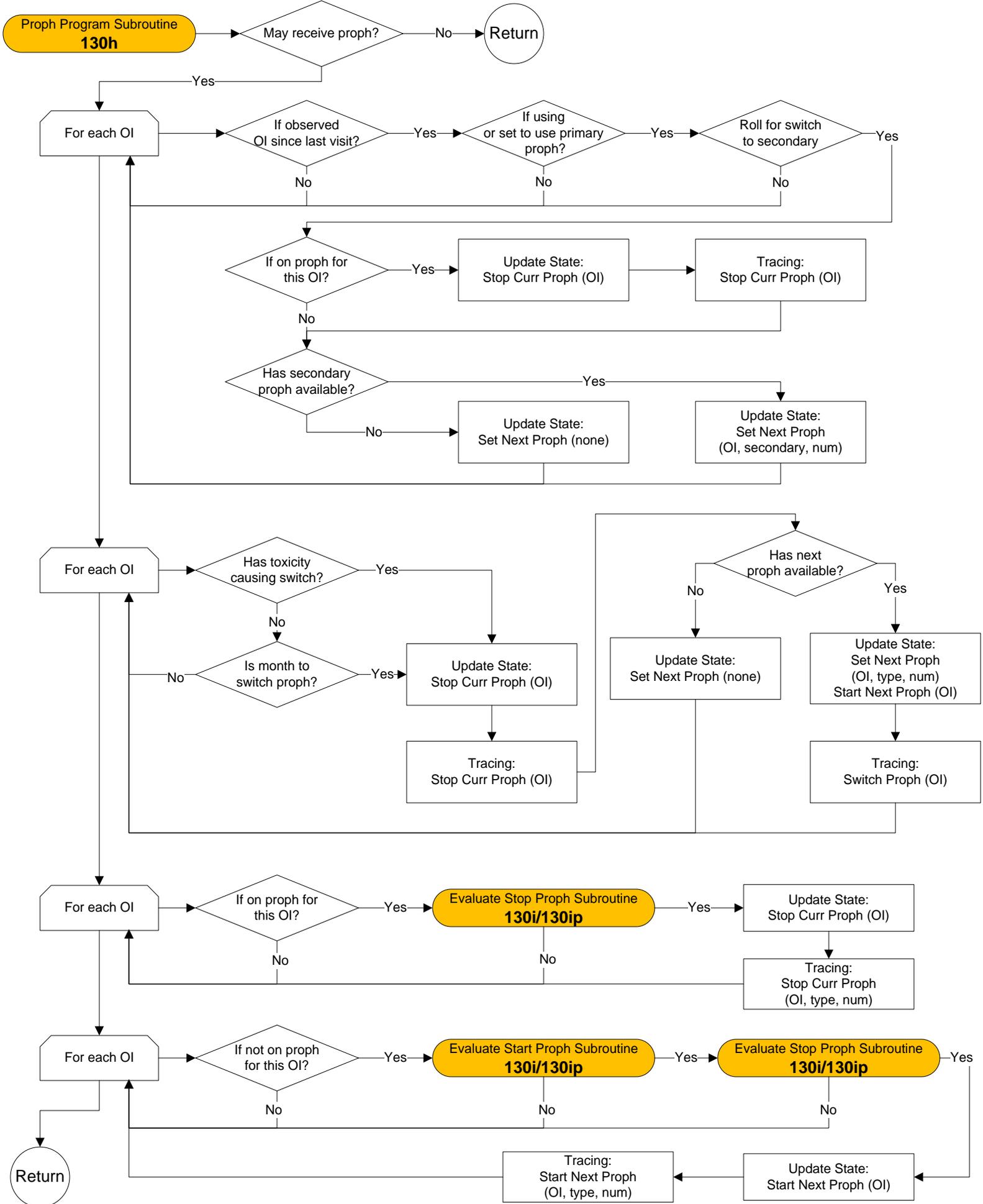
## Evaluate Peds Fail ART Subroutine 130fp



## Evaluate Peds Stop ART Subroutine 130fp

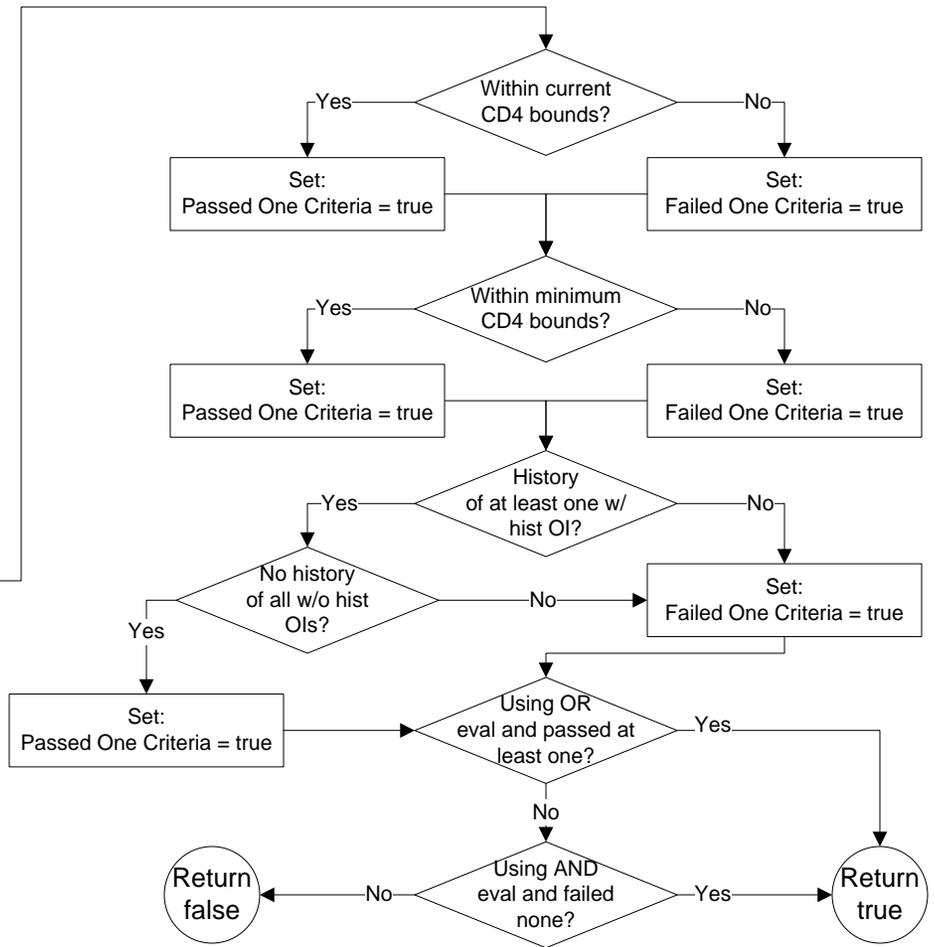
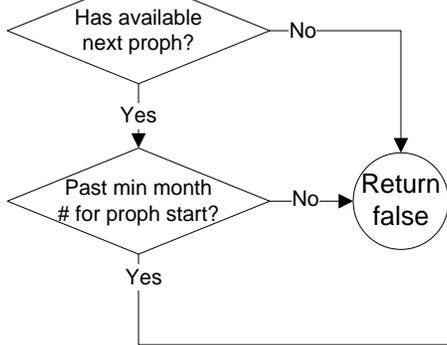


# Proph Program Subroutine – 130h

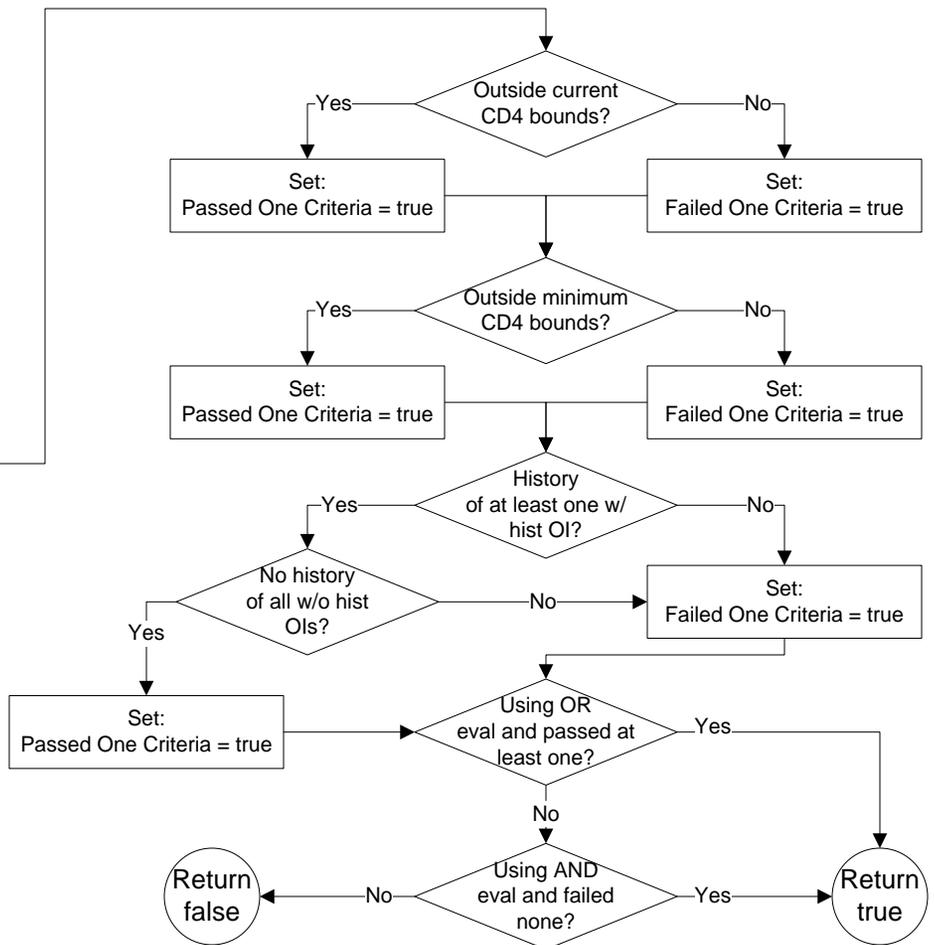
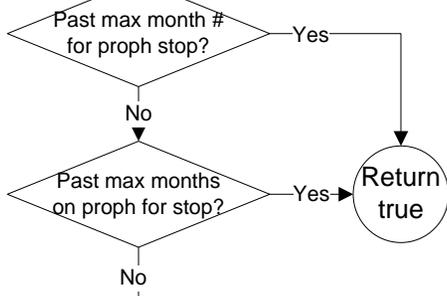


# Evaluate Start Proph Subroutine and Evaluate Stop Proph Subroutine – 130i

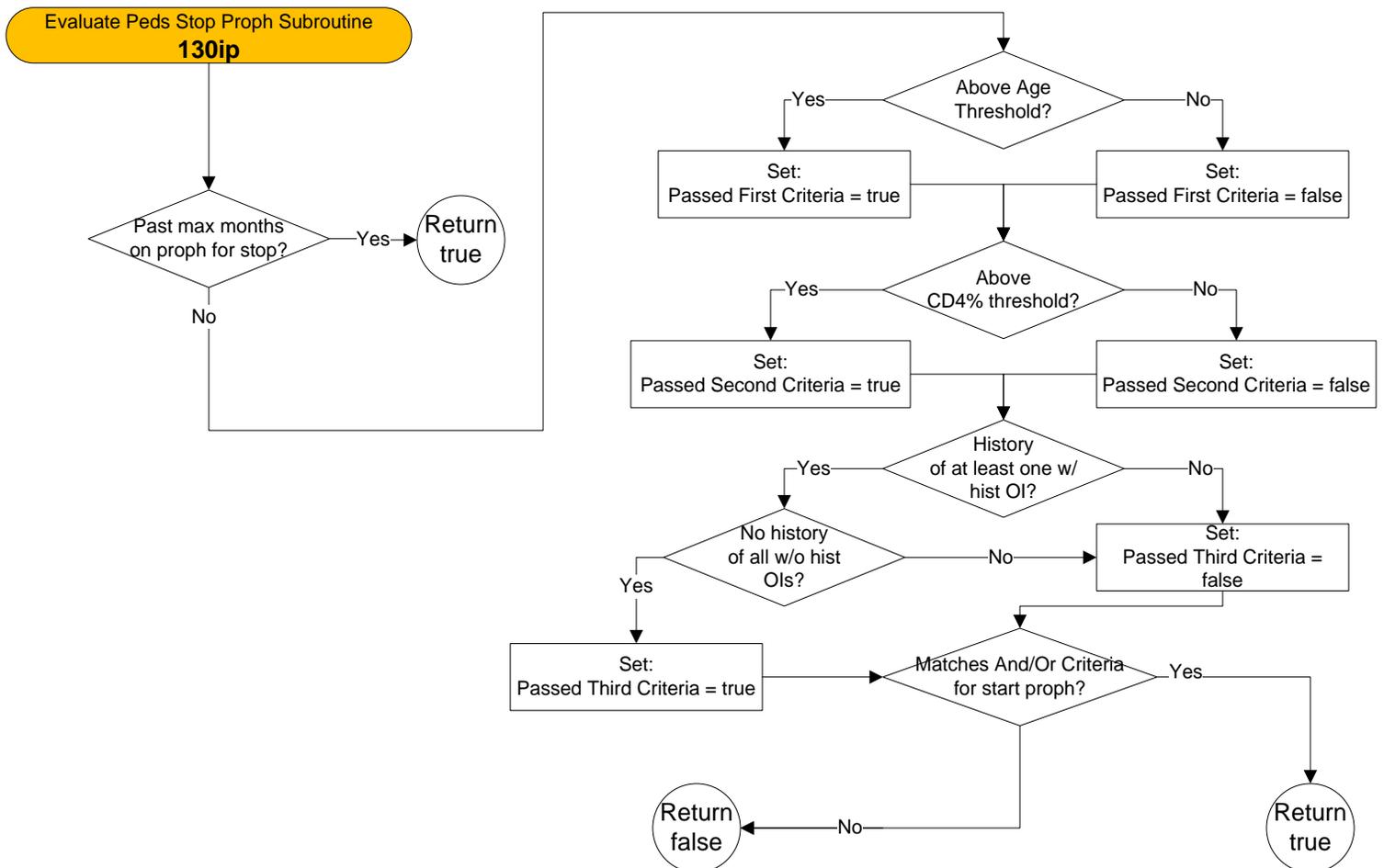
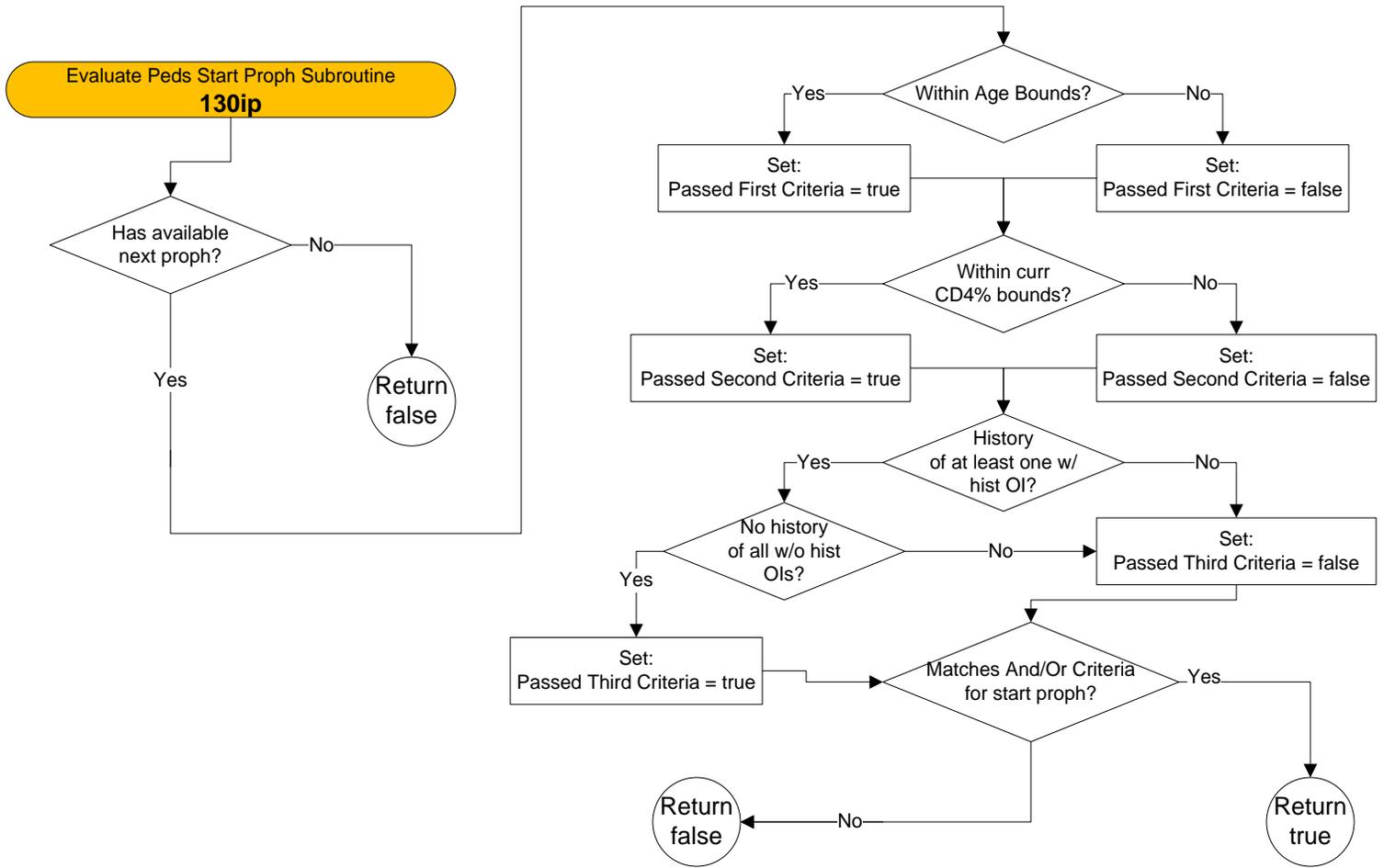
## Evaluate Start Proph Subroutine 130i



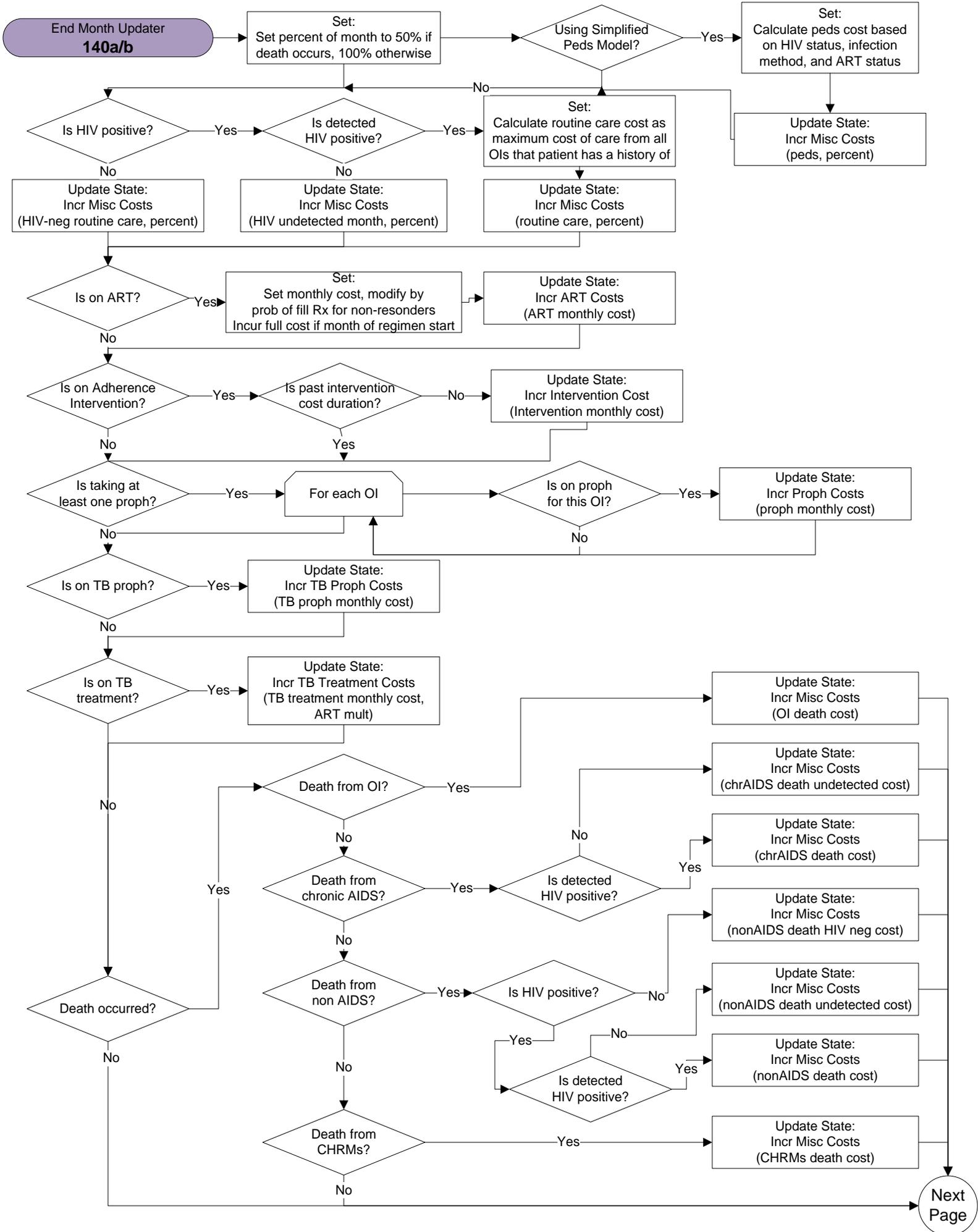
## Evaluate Stop Proph Subroutine 130i



# Evaluate Peds Start Proph Subroutine and Evaluate Peds Stop Proph Subroutine – 130ip



# End Month Updater – 140a



# End Month Updater – 140b

Prev Page

Update State:  
Accum QOL Mult  
(age/gender base QOL)

Death occurred?

No  
Yes

Is detected HIV positive?

No  
Yes

Update State:  
Accum QOL Mult  
(HIV undetected month)

Has acute OI?

Yes  
No

Update State:  
Accum QOL Mult  
(Acute OI month)

Set:  
Calculate routine care QOL as  
minimum QOL of care from all  
OIs that patient has a history of

Update State:  
Accum QOL Mult  
(routine care)

Has history of  
two or more OIs?

Yes

Update State:  
Accum QOL Mult  
(0.8)

Death from OI?

Yes

Update State:  
Accum QOL Mult  
(Acute OI death)

No

Death from chronic AIDS?

Yes

Is detected HIV positive?

No  
Yes

Update State:  
Accum QOL Mult  
(chrAIDS death undetected)

Update State:  
Accum QOL Mult  
(chrAIDS death)

No

Death from non AIDS?

Yes

Is HIV positive?

No  
Yes

Update State:  
Accum QOL Mult  
(nonAIDS death HIV neg)

Update State:  
Accum QOL Mult  
(nonAIDS death undetected)

No

Death from CHRMs?

Yes

Update State:  
Accum QOL Mult  
(nonAIDS death)

Update State:  
Accum QOL Mult  
(CHRMs death)

No

Death occurred?

No

Update State:  
Update Patient Survival (percent)  
Update Overall Survival (percent)  
Update Longitudinal Survival

Update State:  
Set OI History  
Update OI History Logging  
Update ART Efficacy Stats

Tracing:  
Patient Health (CD4, HVL)  
Patient Stats (LM, QALM, cost)

Yes

Update State:  
Update Patient Survival (percent)  
Update Overall Survival (percent)

Update State:  
Update Population Stats  
Add Patient Summary

Tracing:  
Patient Death (cause)  
Patient Stats (LM, QALM, cost)

Update State:  
Increment Month  
Increment Discount Factor

Return

# Set Month Of Initial Clinic Visit and Will Attend Clinic This Month – 150a

## Schedule Initial Clinic Visit 150a

Update State:  
Schedule Regular Clinic Visit  
(curr month)

Is after Lag to CD4  
Testing?

Yes

Set:  
Calculate CD4 testing interval  
from CD4 strata and ART state

Has a real  
interval?

No

Update State:  
Set Month Of Next CD4 Test  
(never)

Yes

Update State:  
Set Month Of Next CD4 Test  
(curr month)

Is after Lag to HVL  
Testing?

Yes

Set:  
Calculate HVL testing interval  
from CD4 strata and ART state

Has a real  
interval?

No

Update State:  
Set Month Of Next HVL Test  
(never)

Yes

Update State:  
Set Month Of Next HVL Test  
(curr month)

Return

## Will Attend Clinic This Month 150a

Is LTFU?

Yes

No

Is detected  
HIV positive?

No

Return  
False

Yes

At or past  
month of regular clinic  
visit?

Yes

Is Initial Visit?

Yes

No

Is on ART or  
prophs?

Yes

No

Patient always  
goes if scheduled?

Yes

Return  
True

No

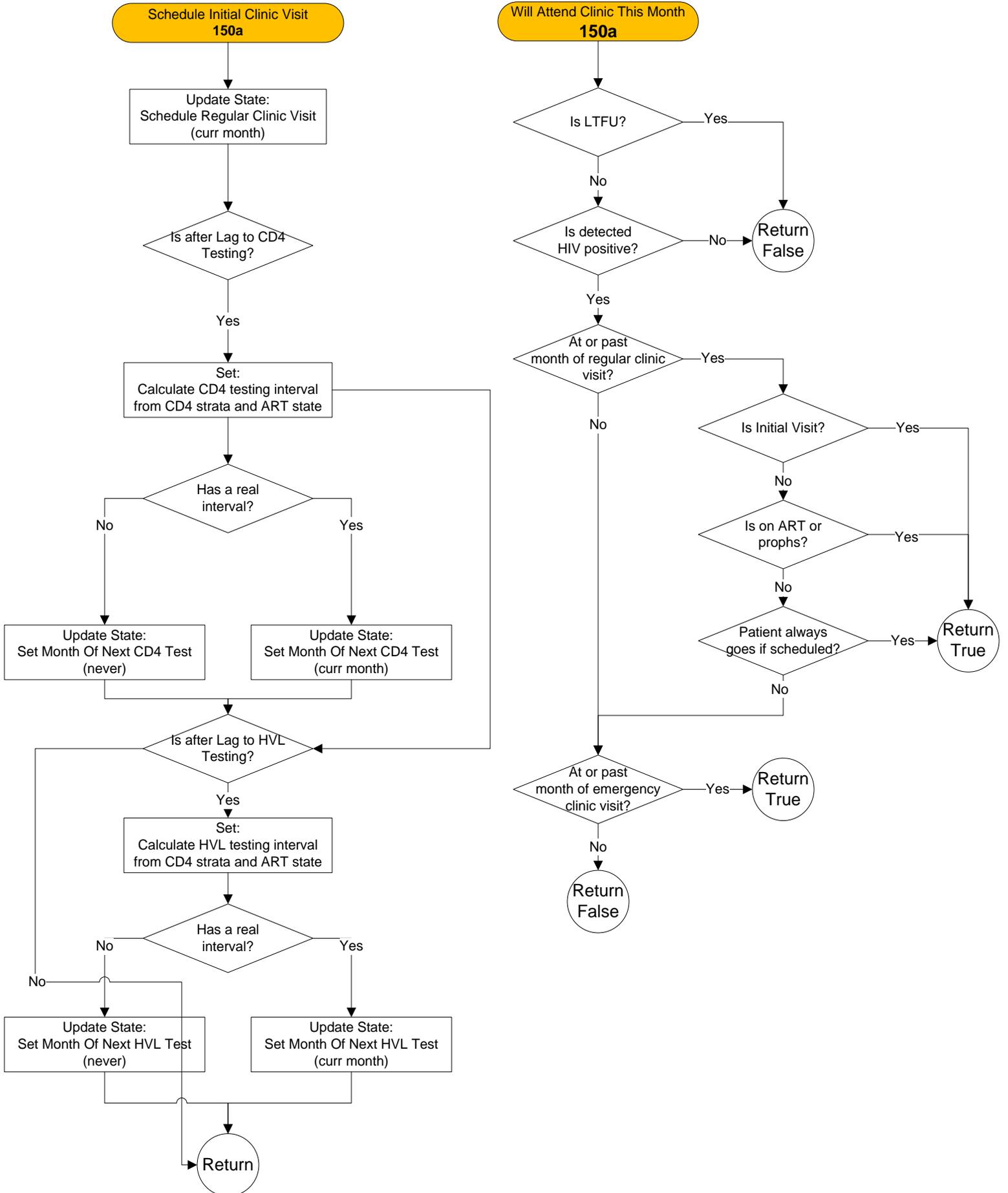
At or past  
month of emergency  
clinic visit?

Yes

Return  
True

No

Return  
False



# Get Partial Suppress Target HVL – 150b

