

6/30 Follow-Up

Action Items

PostLevel1s

☒ PostLevel1s page 3 - Guidance on half-life check

An example where levels drawn greater than one (1) half-life apart

1. Pt Info | 2. Ke, t1/2 | 3. Vd | 4. Dose Table | 5. Progress Note | Equations Used

Level(s)

1st post-dose level mg/dL Level 1 Date/Time

2nd post-dose level mg/dL Level 2 Date/Time

Calculate Ke, t1/2

Ke, t1/2: Patient-Specific

Ke: 0.0771

t1/2: 9 hrs

Half-life check

t2 - t1	half-life
9.2	9

Levels were drawn greater (>) than one (1) half-life apart.

Equation Used:

$$K_e = \frac{\ln(C_1/C_2)}{\Delta t}$$

where:

K_e = elimination-rate constant
 C_1 = measured peak concentration ~1 hour after infusion
 C_2 = measured trough concentration ~30 min before next dose
 Δt = difference in time between lab samples in hrs

Here's the visual/verbiage displayed when levels are drawn greater than one half-life apart. Suggestions welcomed!

An example where levels were drawn too close together

1. Pt Info | 2. Ke, t1/2 | 3. Vd | 4. Dose Table | 5. Progress Note | Equations Used

Level(s)

1st post-dose level mg/dL Level 1 Date/Time

2nd post-dose level mg/dL Level 2 Date/Time

Calculate Ke, t1/2

Ke, t1/2: Patient-Specific

Ke: 0.0464

t1/2: 14.9 hrs

Half-life check

t2 - t1	half-life
9.2	14.9

CAUTION

Because the levels were drawn "less than" one (1) half-life apart, patient-specific elimination rate constant may be less accurate. Proceed with caution.

Equation Used:

$$K_e = \frac{\ln(C_1/C_2)}{\Delta t}$$

where:

K_e = elimination-rate constant
 C_1 = measured peak concentration ~1 hour after infusion
 C_2 = measured trough concentration ~30 min before next dose
 Δt = difference in time between lab samples in hrs

Tried to add guidance to the half-life check. Was trying to get feedback on verbage / visual display.

New

Test, Patient1 last saved Tue, 6/30 04:02 am

uf_MDTable

- ☒ Arrows on maintenance dose table allowing pharmacist to switch between population-based parameters and patient specific parameters.

Maintenance Dose Table

Infusion Rate: MIC:

Added button to switch between population-based and patient-specific PK parameters

1. Check to see if it is first able to switch values, button becomes enabled if possible.
2. Switched default presentation mode. Now, the table will by default display the patient-specific information first, regardless of user form if that information is available.

Q6H						
Q8H						
Q12H			490 11	570 13		mg h / L mg/dL
Q18H					450 7	mg h / L mg/dL
Q24H						mg h / L mg/dL
Q36H						mg h / L mg/dL
Q48H						mg h / L mg/dL

* AUC calculations are estimated and rounded to nearest 10's.

PK Parameters

Population-based

Vd: 57.8 L
Ke: 0.1144
t1/2: 6.1 hrs
CLVanco: 6.6 L/hr

PK Parameters

Patient-Specific

Vd:
Ke:
t1/2:
CLVanco:

Legend

AUC/MIC
trough
TDD
dosing

Options

☒ Estimated trough
☐ Total Daily Dose (TDD)
☐ dosing in mg/kg

☐ Show all values

*View AUC Calculation Steps

Exit

Maintenance Dose Table

Infusion Rate GlobalRPh

MIC 0.1 - 1.0

This is what it looks like when patient has both population-based and patient-specific pk parameters

1. Button is enabled allowing pharmacist to switch between values

	750mg	1000mg				
	1 hr	1 hr				
Q6H						
Q8H			460 12	540 14 5.2 g		mg h / L mg/dL
Q12H	150 3				420 8	mg h / L mg/dL
Q18H						mg h / L mg/dL
Q24H						mg h / L mg/dL
Q36H						mg h / L mg/dL
Q48H						mg h / L mg/dL

* AUC calculations are estimated and rounded to nearest 10's.
 ** Total daily doses > 4.5 g have been correlated with a higher incidence of AKI

PK Parameters

Population-based

Vd: 66.5 L
 Ke: 0.0572
 t1/2: 12.1 hrs
 CLVanco: 3.8 L/hr

↕

PK Parameters

Patient-Specific

Vd: 74.4 L ▲ 11.9%
 Ke: 0.1459 ▲ 155%
 t1/2: 4.7 hrs ▼ -60.8%
 CLVanco: 10.9 L/hr ▲ 185.5%
 ^ Using for table

Legend

AUC/MIC
 trough
 TDD
 dosing

Options

☒ Estimated trough
☐ Total Daily Dose (TDD)
☐ dosing in mg/kg

☐ Show all values

[*View AUC Calculation Steps](#)

Exit

* Click inside the blue box to view steps!

Maintenance Dose Table

Infusion Rate GlobalRPh

* Target AUC/MIC range 400-600

MIC 0.1 - 1.0

	750mg	1000mg	1250mg	1500mg	1750mg	2000mg	
	1 hr	1 hr	1 hr				
Q6H							
Q8H							mg h / L mg/dL
Q12H	410 12	540 17					mg h / L mg/dL
Q18H			450 11	550 14			mg h / L mg/dL
Q24H				410 9	480 10	560 12	mg h / L mg/dL
Q36H							mg h / L mg/dL
Q48H							mg h / L mg/dL

* AUC calculations are estimated and rounded to nearest 10's.
 ** Total daily doses > 4.5 g have been correlated with a higher incidence of AKI

And after clicking the button, now the pharmacist is viewing the table with the population-based parameters.

PK Parameters
Population-based
 Vd: 66.5 L
 Ke: 0.0572
 t1/2: 12.1 hrs
 CLVanco: 3.8 L/hr
^ Using for table

PK Parameters
Patient-Specific
 Vd: 74.4 L ▲ 11.9%
 Ke: 0.1459 ▲ 155%
 t1/2: 4.7 hrs ▼ -60.8%
 CLVanco: 10.9 L/hr ▲ 185.5%

Legend

AUC/MIC
trough
TDD
dosing

Options
☒ Estimated trough
☐ Total Daily Dose (TDD)
☐ dosing in mg/kg

☐ Show all values

*View AUC Calculation Steps

Exit

* Click inside the blue box to view steps!

PatientList

- ☐ Patient discharged/deceased
- ☐ Day of therapy / Timeout to Patient List
- ☐ Add "Open in NewConsult / PostLevels" functionality to PatientList userframe.

Multiple

- ☐ Admitted/Active - keyword for active patients.
- ☐ Adding "Where" clause in SQL string to select only active patients in Load button

User Guide

☐ Edit guide to update information