Vancomycin AUC Calculator
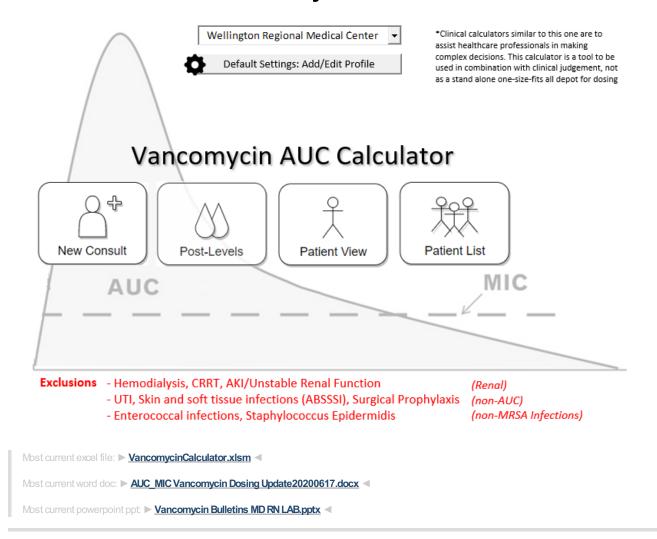
Wellington Regional Medical Center ▾

⚙ Default Settings: Add/Edit Profile

*Clinical calculators similar to this one are to assist healthcare professionals in making complex decisions. This calculator is a tool to be used in combination with clinical judgement, not as a stand alone one-size-fits all depot for dosing

Vancomycin AUC Calculator

| New Consult | Post-Levels | Patient View | Patient List |

AUC   MIC

Exclusions
- Hemodialysis, CRRT, AKI/Unstable Renal Function   *(Renal)*
- UTI, Skin and soft tissue infections (ABSSSI), Surgical Prophylaxis   *(non-AUC)*
- Enterococcal infections, Staphylococcus Epidermidis   *(non-MRSA Infections)*

Most current excel file: ▶ **VancomycinCalculator.xlsm** ◀

Most current word doc: ▶ **AUC_MIC Vancomycin Dosing Update20200617.docx** ◀

Most current powerpoint ppt: ▶ **Vancomycin Bulletins MD RN LAB.pptx** ◀

Table of Contents

- About The AUC24/MIC Calculator
- Pharmacist Vancomycin AUC24/MIC Workshop

- Patient Example 1: **"New Consult"**
  1. Patient Information
  2. Kidney Function
  3. Loading Dose (LD)
  4. Volume of Distribution (Vd)
  5. Vancomycin Clearance (CLVanco)
  6. Maintenance Dose Table (MD)
  7. Levels / Labs
  8. Progress Note
  9. Monitoring Form

About The AUC24/MIC Calculator

This vancomycin calculator uses a variety of published pharmacokinetic equations and principles to estimate an initial vancomycin dosing regimen for a patient based on population estimates. Subsequently, a regimen may be calculated based two vancomycin levels for severe MRSA infections. The AUC24/MIC is calculated using the trapezoidal method.

Pharmacist Vancomycin AUC$_{24}$/MIC Workshop

1. Patient example
2. Patient problems (2)
    - Empiric Dosing
    - 2 Levels with first dose
    - 2 Levels at steady state

Patient Example 1: "New Consult" Summary

1. Patient Information
    - **Steps**
    - **Further Reading:**
        1. `MRN` used / needed to save patient information to database
        2. No info on first page technically required to proceed
        3. ***Anthropomorphics***: `TBW/IBW` and `BMI`
        4. ***Conversions***: for `Height` and `Weight`
2. Kidney Function
3. Loading Dose (LD)
4. Volume of Distribution (Vd)
5. Vancomycin Clearance (CLVanco)
6. Maintenance Dose Table (MD)
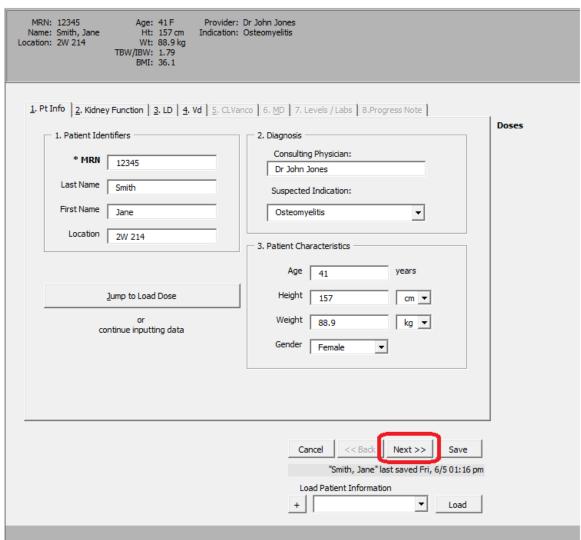7. Levels / Labs
8. Progress Note
9. Monitoring Form

---

1. Patient Information

- 41 yo female with MRSA Osteomyelitis
- Wt: 88.9 kg
- Ht: 157 cm

Steps

1. Choose the New Consult button
2. Enter the patient information into the calculator and choose Next. Choosing Next will save the information automatically.
3. Select save to add/update information in database
4. Entering the medical record number will allow patient to be identified during future admissions in the database
5. Previously added patients can be identified and loaded in the "Load Patient Information" section
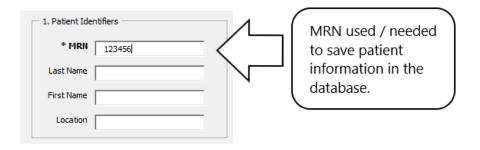
New Consult ✕

MRN: 12345   Age: 41 F   Provider: Dr John Jones
Name: Smith, Jane   Ht: 157 cm   Indication: Osteomyelitis
Location: 2W 214   Wt: 88.9 kg
                     TBW/IBW: 1.79
                     BMI: 36.1

1. Pt Info | 2. Kidney Function | 3. LD | 4. Vd | 5. CLVanco | 6. MD | 7. Levels / Labs | 8.Progress Note

Doses

1. Patient Identifiers
* MRN   12345
Last Name   Smith
First Name   Jane
Location   2W 214

Jump to Load Dose

or
continue inputting data

2. Diagnosis
Consulting Physician:
Dr John Jones
Suspected Indication:
Osteomyelitis ▼

3. Patient Characteristics
Age   41   years
Height   157   cm ▼
Weight   88.9   kg ▼
Gender   Female ▼

Cancel | << Back | Next >> | Save
"Smith, Jane" last saved Fri, 6/5 01:16 pm
Load Patient Information
+ [▼] Load

←previous section | ▲ back to example summary | next section →

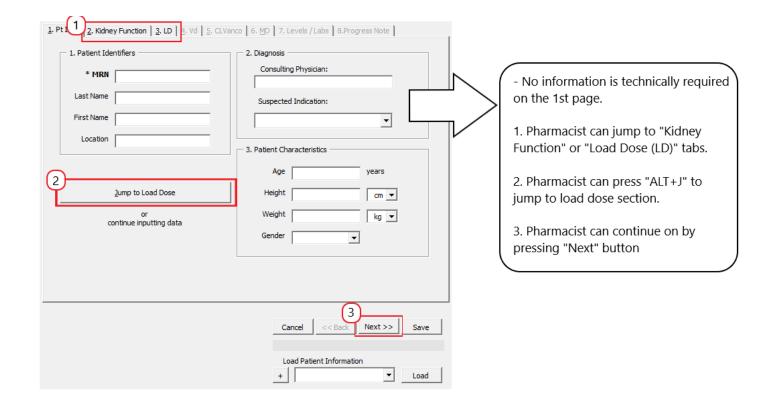**Further Reading**

1. MRN used / needed to save patient information to database

MRN used / needed to save patient information to database

1. Patient Identifiers
* MRN   123456
Last Name
First Name
Location

MRN used / needed to save patient information in the database.

2. No info on first page technically required to proceed

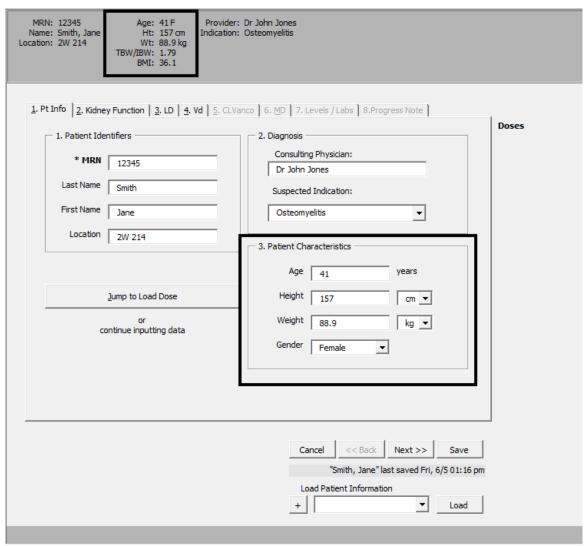1. Pt 1 | 2. Kidney Function | 3. LD | 4. Vd | 5. CLVanco | 6. MD | 7. Levels / Labs | 8.Progress Note

1. Patient Identifiers

* MRN

Last Name

First Name

Location

2. Diagnosis

Consulting Physician:

Suspected Indication:

3. Patient Characteristics

Age [   ] years

Height [   ] cm

Weight [   ] kg

Gender [   ]

Jump to Load Dose

or
continue inputting data

Cancel   << Back   Next >>   Save

Load Patient Information

+ [   ] Load

- No information is technically required on the 1st page.

1. Pharmacist can jump to "Kidney Function" or "Load Dose (LD)" tabs.

2. Pharmacist can press "ALT+J" to jump to load dose section.

3. Pharmacist can continue on by pressing "Next" button

3. Anthropomorphics: TBW/IBW and BMI

Anthropomorphics: `TBW/IBW` and `BMI`
* If `Age`, `Height`, `Weight` and `Gender` are inputted, `TBW/IBW` and `BMI` are calculated and displayed in patient information ribbon.

New Consult ✕

MRN: 12345   Age: 41 F   Provider: Dr John Jones
Name: Smith, Jane   Ht: 157 cm   Indication: Osteomyelitis
Location: 2W 214   Wt: 88.9 kg
                    TBW/IBW: 1.79
                    BMI: 36.1

1. Pt Info | 2. Kidney Function | 3. LD | 4. Vd | 5. CLVanco | 6. MD | 7. Levels / Labs | 8.Progress Note

Doses

1. Patient Identifiers

* MRN   12345

Last Name   Smith

First Name   Jane

Location   2W 214

Jump to Load Dose

or
continue inputting data

2. Diagnosis

Consulting Physician:

Dr John Jones

Suspected Indication:

Osteomyelitis ▼

3. Patient Characteristics

Age   41   years

Height   157   cm ▼

Weight   88.9   kg ▼

Gender   Female ▼

Cancel | << Back | Next >> | Save

"Smith, Jane" last saved Fri, 6/5 01:16 pm

Load Patient Information

+ [▼]   Load

---

4. Conversions: for Height and Weight

Conversions: for `Height` and `Weight`

- For `Height`, can either input as `cms` or `ft/ins`

3. Patient Characteristics

Age   41   years

Height   157   cm ▼
                     cm
Weight   88.9   in

Gender   Female ▼

➡

3. Patient Characteristics

Age   41   years

Height   5 ft   1.8 in ▼

Weight   88.9   kg ▼

Gender   Female ▼

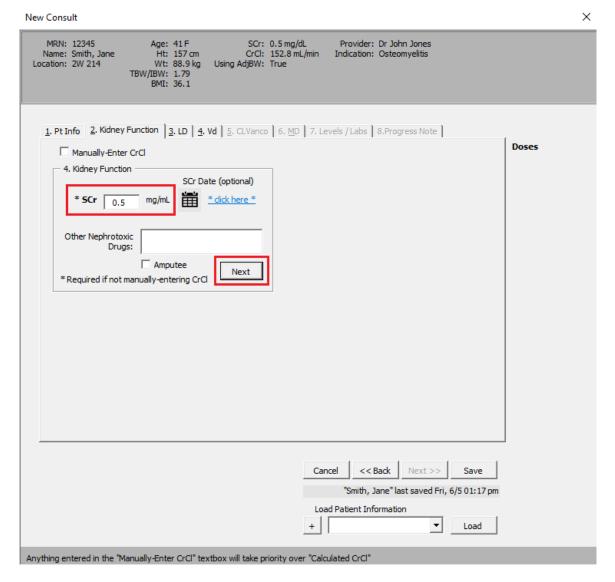- For `Weight`, can either input as `kgs` or `Lbs`

2. Kidney Function

- SCr: 0.5 (stable)
- no concurrent nephrotoxic drugs
- no amputations

Steps

1. Manually-enter CrCl or enter `SCr`
   - If entering `SCr`, then press `Next` button
2. If patient is muscle wasted or cachectic, the `SCr` can be rounded by selecting "Yes"
3. If patient is obese (>120% IBW) the `AdjBW` can be used to calculate CrCl by selecting "Yes"
4. Select "Accept ### ml/min as CrCl"

3. Loading Dose (LD)

4. Volume of Distribution (Vd)

5. Vancomycin Clearance (CLVanco)

6. Maintenance Dose Table (MD)

7. Levels / Labs

8. Progress Note

9. Monitoring Form