



Be competent, be safe



Essential Skills



Advanced Skills

**Student and Practitioner
*User Guide***



Authentic World
reducing medication error

SAFEMEDICATE
VERSION 3.0

Student and Practitioner User Guide

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Statement on Cognitive Competence Development

Where the terms ‘competence’ or ‘competency’ are used within **safeMedicate** and its associated documentation including user guides, sales and marketing materials and website content, we refer explicitly to Cognitive Competence as defined by the European Parliament (2008)¹ in its recommendations on the establishment of a European Qualifications Framework for Lifelong Learning. In this sense, *Cognitive Competence* relates only to the development and assessment of knowledge of the medication dosage calculation problem solving process and excludes any other forms of competence such as *functional, personal* or *ethical* competence that will be required for safe medication practice in a clinical setting.

¹ European Parliament (2008) Glossary: RECOMMENDATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 23 April 2008 on the establishment of the European Qualifications Framework for lifelong learning. [online] EUCEN. Available from: www.eucen.org/EQFpro/GeneralDocs/FilesFeb09/GLOSSARY.pdf [Accessed 28 September 2009]

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The safeMedicate Cognitive Competence Model

safeMedicate facilitates the learning and authentic diagnostic assessment of the cognitive competencies that establish the critical foundations of patient care knowledge within the domain of medication dosage problem solving.

Cognitive competence in medication dosage problem solving consists of three inter-related elements as illustrated in the figure below:

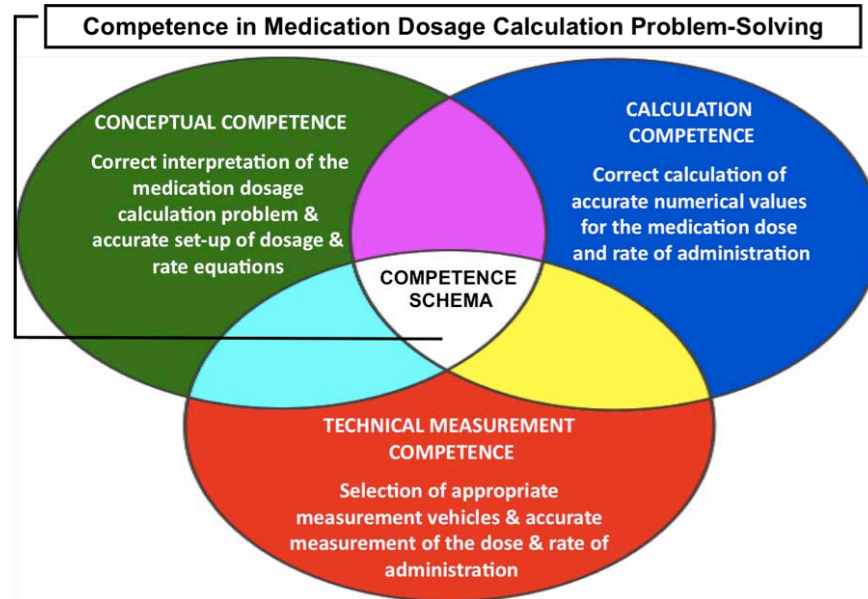


Figure 1 - the safeMedicate Cognitive Competence Model

- **Conceptual Competence:** which involves correctly interpreting a medication dosage calculation problem and accurately setting up a dosage equation.
- **Calculation Competence:** which involves correctly calculating an accurate numerical value for the dose or rate to be administered.
- **Technical Measurement Competence:** which involves selecting an appropriate measurement vehicle and accurately measuring the dose or rate to be administered.

The figure below demonstrates an example of the three competence elements of a liquid medicines dosage problem, which shows:

- **Conceptual Competence:** the extraction of essential numerical information and measurement units from medication orders and labels and the principles of dimensional analysis.
- **Calculation Competence:** the calculation of an appropriate numerical value for the dose to be administered.
- **Technical Measurement Competence:** the technical measurement of the dose to be administered in an appropriate measurement vehicle.

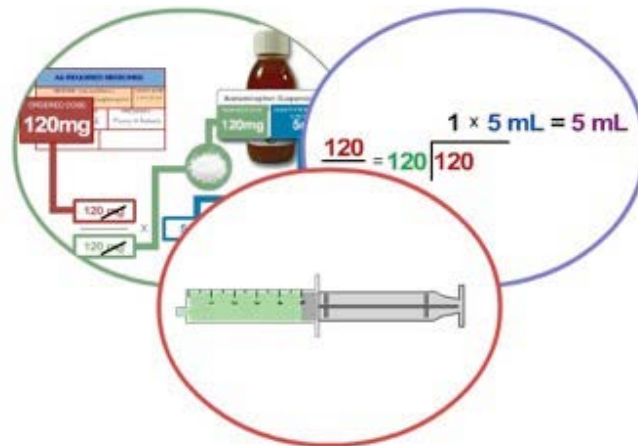


Figure 2 - the three competence elements of a liquid medicines dosage problem

The figure below shows how the *safeMedicate* cognitive competence model locates within the base layer of the Authentic World Hierarchy for Learning.

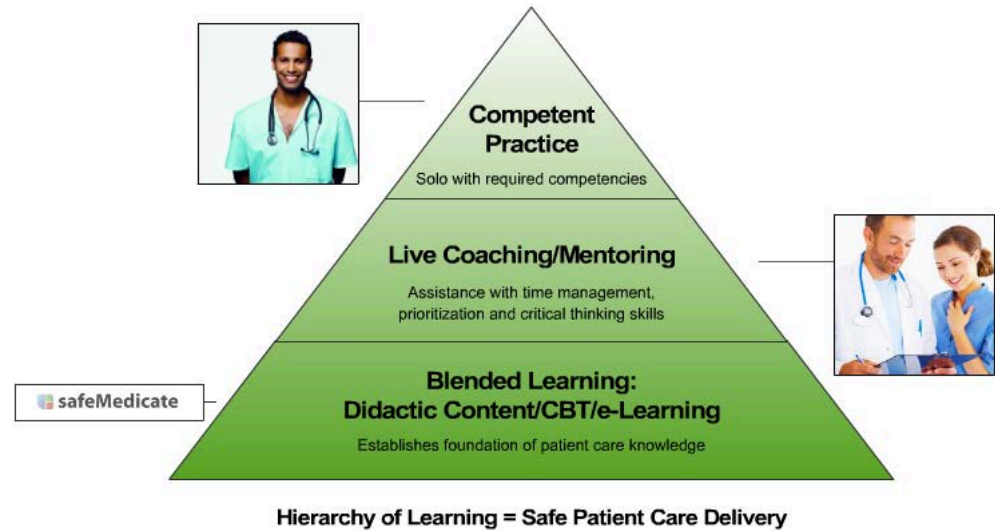


Figure 3 - the Authentic World Hierarchy for Learning

safeMedicate is designed to support the learning, synthesis and diagnostic measurement of cognitive competence in the critical elements of medication dosage problem solving that underpin the application of further competence development and evaluation within each of the remaining levels of the Authentic World Hierarchy for Learning.

- Competence evaluation during simulated clinical experiences and engagement with human patient simulators.
- Competence evaluation in clinical practice settings under the supervision of an experienced mentor.
- Competence achievement consistent with independent practice.

Getting Started

This latest release of *safeMedicate* is accessible from any Internet connected computer including tablet devices such as iPad and smartphones. Open a web browser and go to the following URL to access the *safeMedicate* home page:

www.safemedicate.com



Figure 4 – safeMedicate Home Page

Click on the Login button to get started.

safeMedicate

Login

Username / Email Address

Password

[Forgotten your password?](#)

Region

UK, Australia & Rest of the World

USA, Canada & Switzerland

Login

[Register a new account](#)

Figure 5 - safeMedicate Login Page

At the Login page enter your email address or username and password and click the *Login* button – you will be taken to the safeMedicate Home Page.

The Home Page



Figure 6 – the safeMedicate Home Page

All of the features and functions of *safeMedicate* are accessible from the main menu located at the top of this page. We will look at each menu option in detail in the following pages of this user guide.

Notification Area

The left hand column of the home page is the **Notification Area**. We'll use the *Updates & Notices* section to post news on any new features or changes we plan to safeMedicate or to draw your attention to important information. The *Upcoming Assessments* section is where you'll be alerted to any assessments that have been scheduled for you as in the example above – check this area frequently so that you don't miss an important test!

Social Buttons

At the bottom right of the page you'll find access to our various social channels including Facebook, Twitter, our Blog, LinkedIn and YouTube. We use Facebook and Twitter in particular to share information with you and also to invite you to participate in the various competitions we run throughout the year. Please take the time to like us on Facebook and follow us on Twitter!

Main Menu Options



Figure 7 – the Main Menu options

The first thing to note is that the Main Menu stays visible wherever you are within *safeMedicate*. This makes it easy to move around from one module to the next. Starting from the left, the menu options are:

- **Home** - this is just a quick way to always bring you back to the home page shown in Figure 6.
- **My Record** – this is where you access information relating to your usage of *safeMedicate* including your assessment results.
- **Modules** - hovering your mouse over this item opens a list of all the *safeMedicate* learning modules you have access to. You'll also find the **Assessments** module which is where you will access any assessments that have been scheduled for you.
- **Account Settings** - this is where you can update any of your details such as email address or change your password. You can also find a list of the *safeMedicate* modules you have access to and the dates on which these accounts will expire.
- **Support** - this menu item provides information on who to contact in your local institution for first level support. You can also get access to our *Customer Support Service* where you can get extra help directly from us should you need it.
- **Logout** - the very last item on the menu is the logout button. When you're finished working with *safeMedicate* just click here to log out safely.

Your User Record

Click on the **My Record** menu item to open the page shown below.

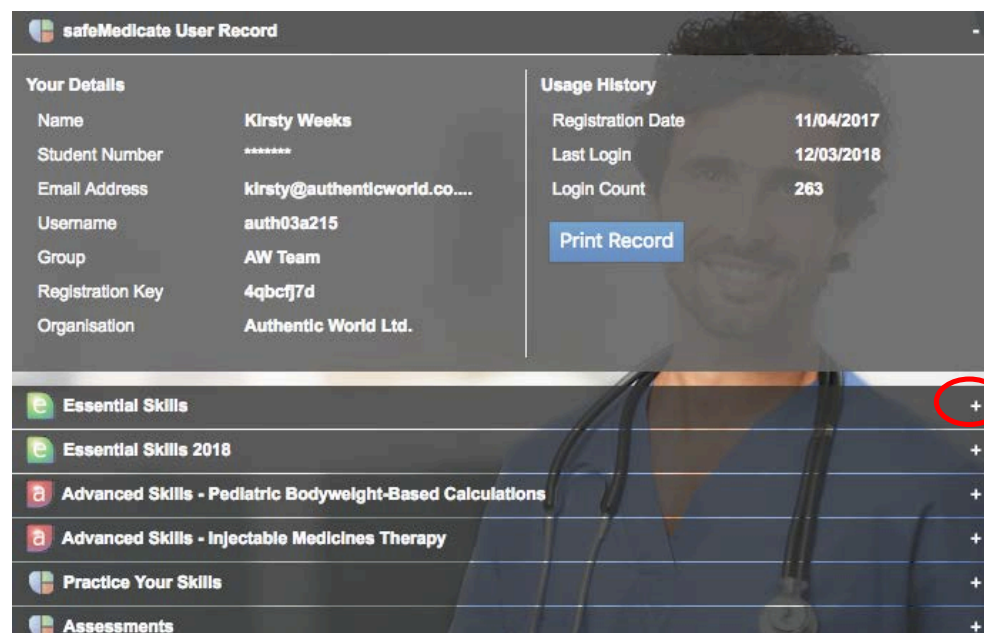


Figure 8 - your safeMedicate User Record

Your **User Record** contains up to 7 sections that are displayed as separate ‘panels’ of information. The number of sections will depend on which modules you have access to.

1. User Record
2. Essential Skills
3. Essential Skills 2018
4. Advanced Skills Pediatric Bodyweight-Based Calculations
5. Advanced Skills Injectable Medicines Therapy
6. Practice Your Skills
7. Assessments

User Record

By default, when the record displays only the top section/panel (User Record) is open as in the example. The left side of the panel contains your basic details while the right side of the panel shows your usage history.

To open any of the other panels of information click the + symbol located to the far right of the chosen panel as highlighted in the figure above.

Essential Skills

The left side of this panel (see figure below) shows your usage history and progress data for the module. Note that progress is shown as a % completion for each section of the module. You will show 100% complete only when you have accessed each page within that module.

The right side of the panel lists your assessment history. These are all the self-administered (practice) assessments you have taken in this module. Note the list shows the assessment date, medication domain and score. To view any of the detailed assessment results click directly over the chosen record. The assessment results are displayed as described in the next section of this guide.

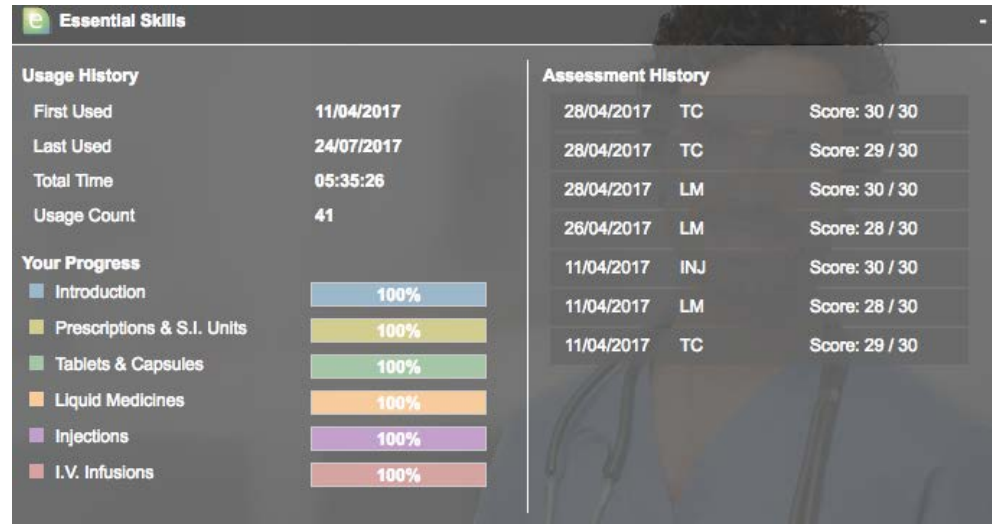


Figure 9 - the Essential Skill information panel

Advanced Skills Pediatrics Bodyweight-Based Calculations

Information on this panel is presented in a similar format as for *Essential Skills*.

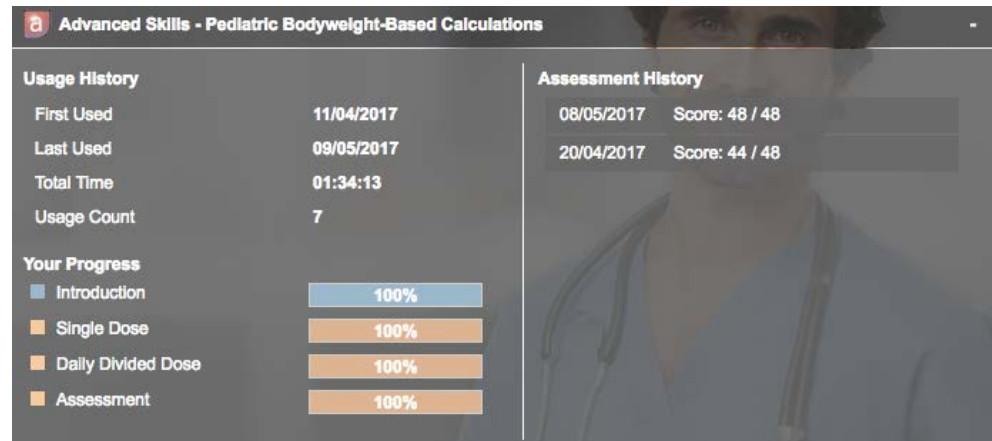


Figure 10 - the Advanced Skills Pediatrics Bodyweight-Based Calculations Information panel

Advanced Skills Injectable Medicines Therapy



Figure 11 Advanced Skills - Injectable Medicines Therapy information panel

Practice Your Skills

This panel lists all self-administered practice assessments you have taken. This is a combined list of all practice assessments across all modules (e.g. Essential Skills, Advanced Skills Pediatric Bodyweight-Based Calculations etc.).

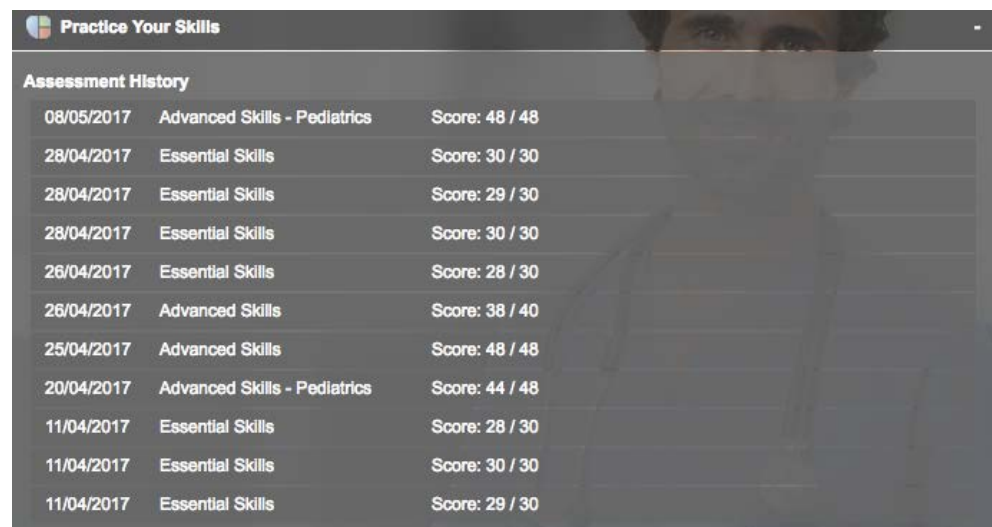


Figure 12 - Practice Your Skills information panel

Assessments

The *Assessment* panel lists assessments that have been scheduled for you by your institution as shown in the example below. Note that the list shows the date of the assessment and the module it is related to.

A screenshot of a software interface showing an 'Assessment History' section. The title 'Assessment History' is in bold. Below it, there are two rows of data. The first row shows the date '13/07/2017' followed by 'Essential Skills'. The second row shows the date '11/04/2017' followed by 'Foundation Numeracy'. The background of the screenshot is dark and slightly blurred.

Assessment History	
13/07/2017	Essential Skills
11/04/2017	Foundation Numeracy

Figure 13 - Assessment History list

To view any of the detailed assessment results click directly over the chosen record. The assessment results are displayed as described in the next section of this guide.

Printing Your User Record

On the *User Record* screen (see Figure 8) click **Print Record** to print a copy of your record. The report will provide a summary of your engagement with each of the modules.

How to generate your safeMedicate Certificate of Completion

Note that this applies only to users who have an account linked to a university or college.

Your Certificate of Completion is auto-generated by our system on successful completion of the safeMedicate module. All pages are downloadable and printable.

In order to generate your Certificate you must meet the following criteria:

1. Demonstrate 100% progress in each section of the module being studied.
2. Score 100% in a summative assessment scheduled by your university or college that covers all medication domains included in the module.

The following section illustrates how to generate your certificate.

Open your personal record

Click on **My Record** on the menu bar to open your personal record.

On the lower section of the screen, click directly on the name of the module you have been studying to open its panel.

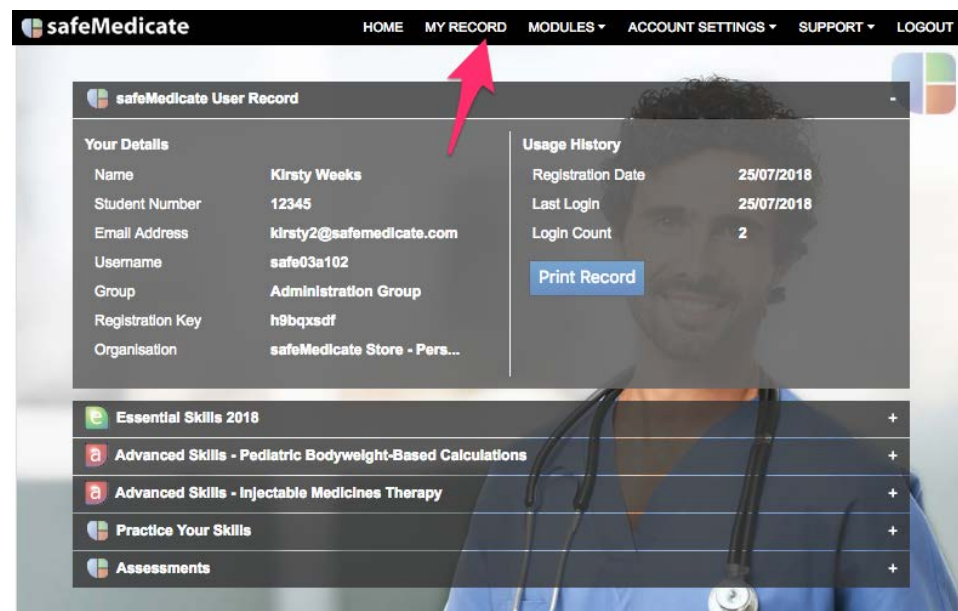


Figure 14 My Record

Check your module progress

On the left side of the panel you'll see your progress for each section of the module.

These must ALL show 100%. (Figure 15)

If any section shows less than 100% then you will need to re-visit that section and ensure that you open and complete every page associated with the section.

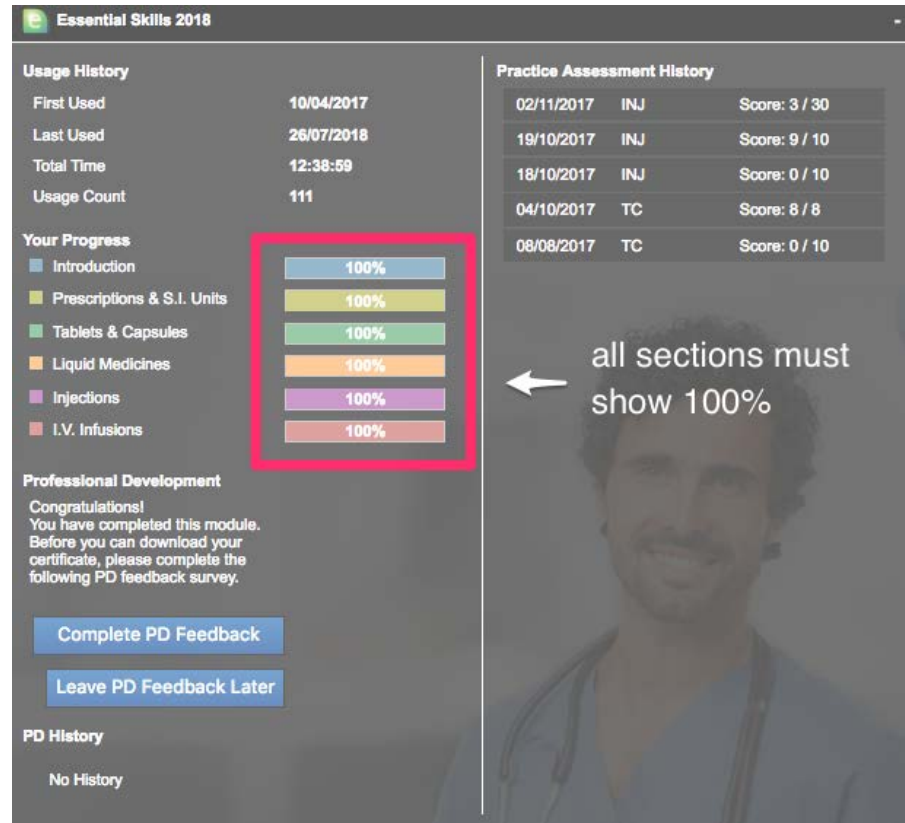


Figure 15 Module Progress Indicators

Complete your PD Feedback

In the Professional Development section at the lower left you will now see 2 buttons.

Select **Complete PD Feedback** to enable you to leave a review of safeMedicate.

Select **Leave PD Feedback Later** to print your certificate.

The screenshot displays the 'Essential Skills 2018' interface. It is divided into several sections:

- Usage History:** A table with the following data:

First Used	10/04/2017
Last Used	26/07/2018
Total Time	12:38:59
Usage Count	111
- Your Progress:** A list of topics with progress bars, all showing 100% completion:
 - Introduction: 100%
 - Prescriptions & S.I. Units: 100%
 - Tablets & Capsules: 100%
 - Liquid Medicines: 100%
 - Injections: 100%
 - I.V. Infusions: 100%
- Professional Development:** A message stating: "Congratulations! You have completed this module. Before you can download your certificate, please complete the following PD feedback survey." Below this are two buttons: "Complete PD Feedback" (highlighted with a red arrow) and "Leave PD Feedback Later".
- Practice Assessment History:** A table with the following data:

02/11/2017	INJ	Score: 3 / 30
19/10/2017	INJ	Score: 9 / 10
18/10/2017	INJ	Score: 0 / 10
04/10/2017	TC	Score: 8 / 8
08/08/2017	TC	Score: 0 / 10
- PD History:** A section at the bottom left stating "No History".

Figure 16 PD Feedback

Print your certificate

After leaving feedback or choosing to leave feedback until later, a record will appear in your **PD History** at the lower left of the panel.

Click the pencil icon to return to leaving feedback.

Click the printer icon to print your certificate.

Note that this applies only to users who have an account linked to a healthcare organisation, association or trust

Your CPD Certificate of Completion is auto-generated by our system on successful completion of the CPD activity. All pages are downloadable and printable.

In order to generate your Certificate, you must score 100% in a summative assessment scheduled by your healthcare organisation, association or trust that covers all medication domains included in the module.

The following section illustrates how to undertake an assessment and generate your certificate.

Open Your Personal Record

Click on **My Record** on the menu bar to open your personal record.

On the lower section of the screen, click directly on the name of the module you have been studying to open its panel.

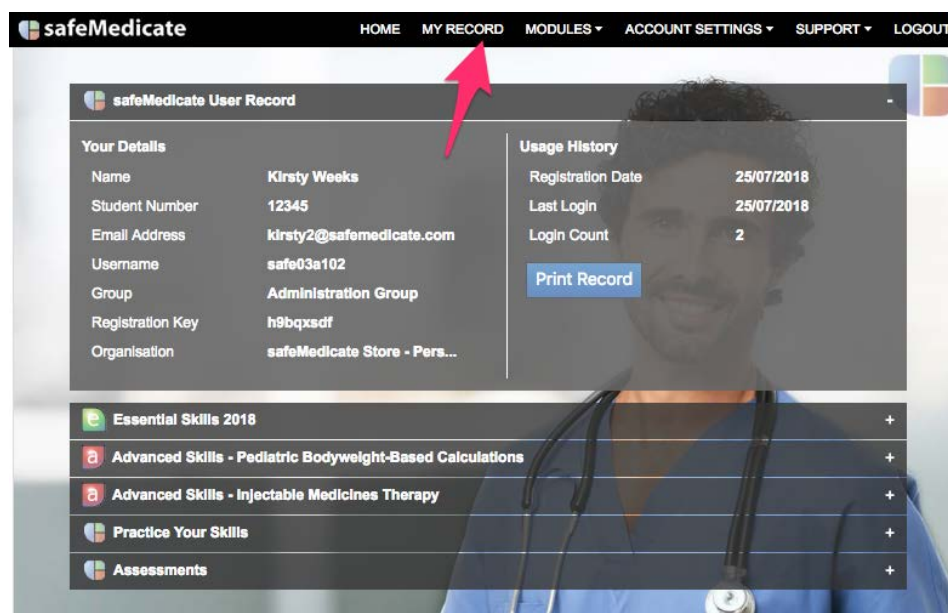


Figure 17 My Record

Complete your CPD Feedback

In the CPD section at the lower left you will now see 2 buttons.

Select **Complete CPD Feedback** to enable you to complete a reflective account of your learning that will be printed along with your certificate.

Select **Leave CPD Feedback Later** to print your certificate though the reflective account will not be included.



Figure 18 Complete CPD Certificate

Print your certificate

After leaving feedback or choosing to leave feedback until later, a record will appear in your **CPD History** at the lower left of the panel.

Click the pencil icon to return to leaving feedback.

Click the printer icon to print your certificate.

Essential Skills 2018
-

Usage History

First Used	10/04/2017
Last Used	24/07/2018
Total Time	12:37:28
Usage Count	110

Your Progress

- Introduction 100%
- Prescriptions & S.I. Units 37%
- Tablets & Capsules 72%
- Liquid Medicines 77%
- Injections 82%
- I.V. Infusions 42%

Continuing Professional Development

To access a Certificate of Completion for this module, you must achieve 100% in a summative assessment covering all medication domains included in this module.

Once you have completed the module check your CPD history below for all certificates that are available to print.

CPD History

04/10/2017	
------------	--

Practice Assessment History

02/11/2017	INJ	Score: 3 / 30
19/10/2017	INJ	Score: 9 / 10
18/10/2017	INJ	Score: 0 / 10
04/10/2017	TC	Score: 8 / 8
08/08/2017	TC	Score: 0 / 10

Figure 19 Print your certificate

Note that this applies only to users who have purchased an individual account.

Your CPD Certificate of Completion is auto-generated by our system on successful completion of the CPD activity. All pages are downloadable and printable.

In order to generate your certificate, you must score 100% in an assessment that covers all medication domains included in the module.

The following section illustrates how to undertake an assessment and generate your certificate.

Open the Assessment Module

Hover your mouse over the **Modules** menu item on the menu bar.

Scroll down to the **Assessments** module at the bottom of the list and click **Start Module**.

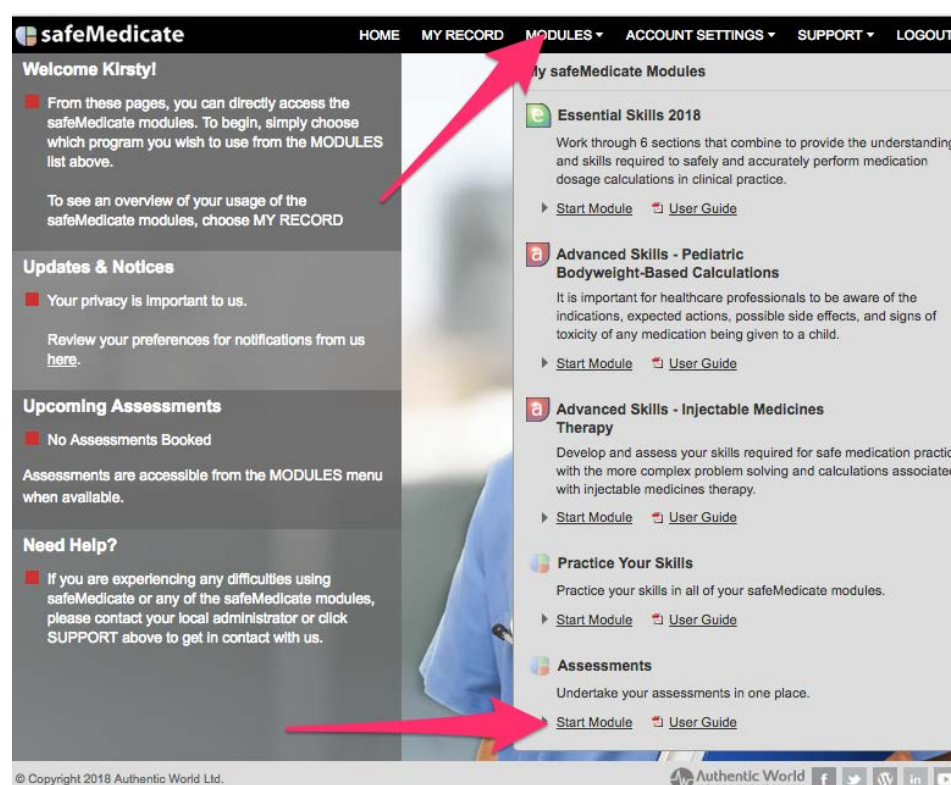


Figure 20 Modules menu

Select the module

A list of all modules available to you will be shown. Select the module title that you wish to be assessed on.

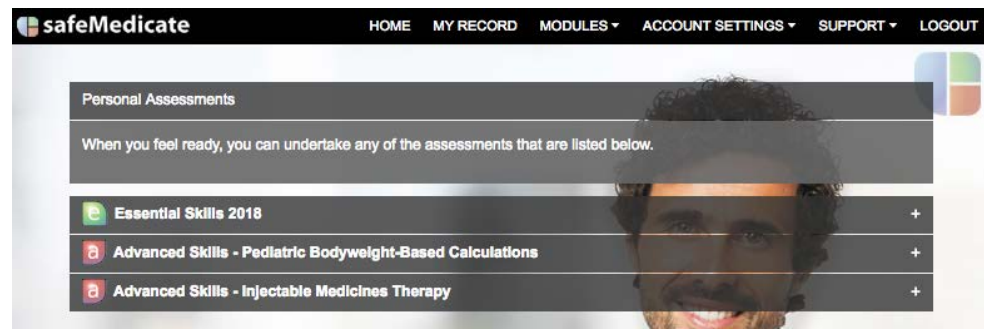


Figure 21 Module options available

Choose your assessment options

Choose an assessment type, format and area of practice from the available options. If you are unsure what each item refers to then click on the '?' symbol associated with the item.

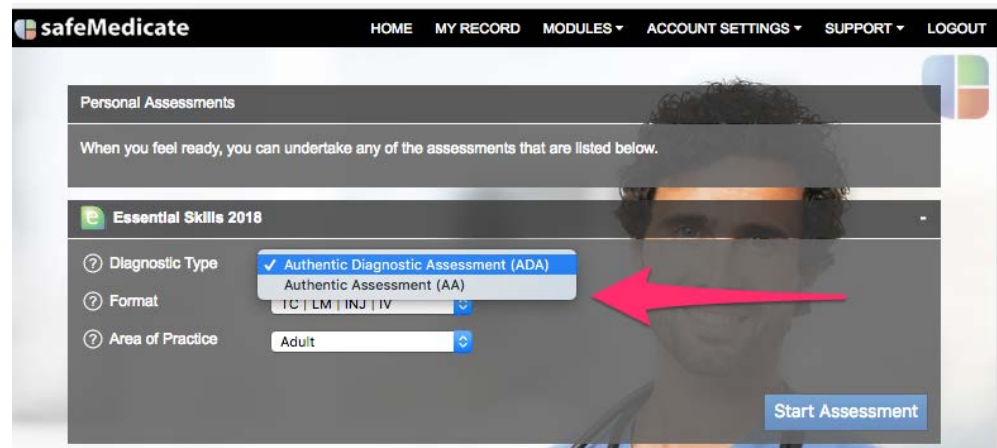


Figure 22 Choose assessment options

Start the assessment

When you have selected your assessment options, click on **Start Assessment**.

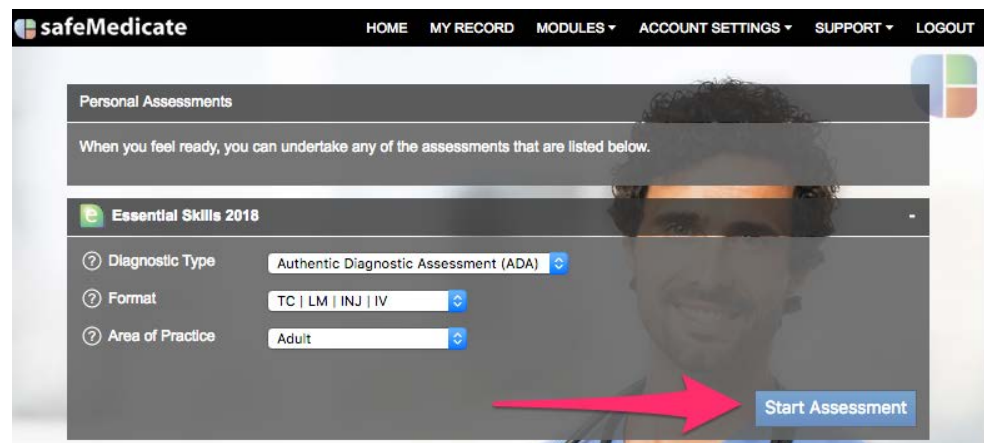


Figure 23 Assessment options

Check your results

After completing the assessment, open your Personal Record again and click on the **Assessments** panel to show a list of assessments taken.

Click directly over the chosen assessment in the list to open a summary of your results for that assessment.

The screenshot displays the 'safeMedicate User Record' interface. It is divided into several sections:

- Your Details:** A table listing personal information for Kirsty Weeks, including her student number (12345), email address (kirsty2@safemedicate.com), username (safe03a102), group (Administration Group), registration key (h9bqxsdf), and organisation (safeMedicate Store - Pers...).
- Usage History:** A table showing registration date (25/07/2018), last login (25/07/2018), and login count (2). A 'Print Record' button is located below this section.
- Assessments:** A list of assessment categories with expand/collapse icons: Essential Skills 2018 (+), Advanced Skills - Pediatric Bodyweight-Based Calculations (+), Advanced Skills - Injectable Medicines Therapy (+), Practice Your Skills (+), and Assessments (-).
- Assessment History:** A table listing completed assessments:

Assessment Name	Type	Submitted On
Essential Skills AA [C]	Summative	Submitted on 25/07/2018 at 15:28
Essential Skills ADA [B]	Summative	Submitted on 25/07/2018 at 15:13

Figure 24 Assessment History

Check your score

If you have achieved 100% you can proceed to access your certificate.

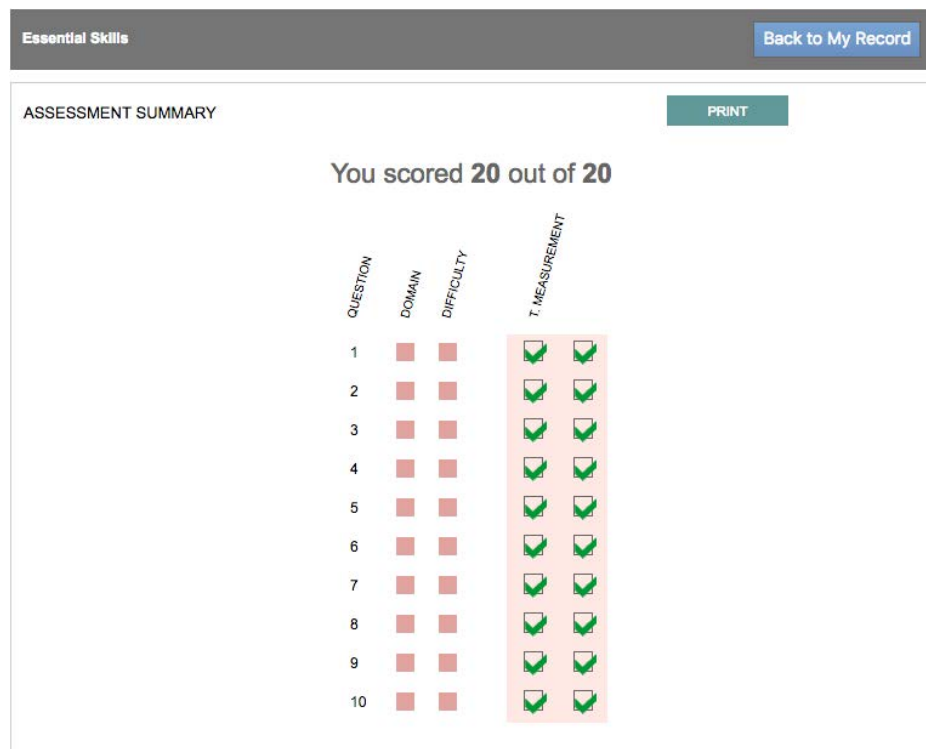


Figure 25 Assessment summary

Complete your CPD Feedback

Still in your personal record, click on the module name that you have been studying.

In the CPD section at the lower left you will now see 2 buttons.

Select **Complete CPD Feedback** to enable you to complete a reflective account of your learning that will be printed along with your certificate.

Select **Leave CPD Feedback Later** to print your certificate, though the reflective account will not be included.



Figure 26 User Record

Print your certificate

After leaving feedback or choosing to leave feedback until later, a record will appear in your **CPD History** at the lower left of the panel.

Click the pencil icon to return to leaving feedback.

Click the printer icon to print your certificate.

Essential Skills 2018
-

Usage History

First Used	10/04/2017
Last Used	24/07/2018
Total Time	12:37:28
Usage Count	110

Your Progress

- Introduction 100%
- Prescriptions & S.I. Units 37%
- Tablets & Capsules 72%
- Liquid Medicines 77%
- Injections 82%
- I.V. Infusions 42%

Continuing Professional Development

To access a Certificate of Completion for this module, you must achieve 100% in a summative assessment covering all medication domains included in this module.

Once you have completed the module check your CPD history below for all certificates that are available to print.

CPD History

04/10/2017	
------------	--

Practice Assessment History

02/11/2017	INJ	Score: 3 / 30
19/10/2017	INJ	Score: 9 / 10
18/10/2017	INJ	Score: 0 / 10
04/10/2017	TC	Score: 8 / 8
08/08/2017	TC	Score: 0 / 10

Figure 27 User Record - Print CPD options

Viewing Your Assessment Results and Feedback

To access your assessment results and feedback click directly over the chosen assessment in the *Assessment History* list (see Figs. 9&10).

An **Assessment Summary** screen is shown that provides a total score and an overview of every question showing how each element (*conceptual, calculation and technical measurement*) has been marked. Alongside each question number are color-coded blocks that relate to the problem domain (e.g. tablets and capsules) and problem complexity (e.g. unit dose). A key for these can be found at the foot of the **Assessment Summary** page.

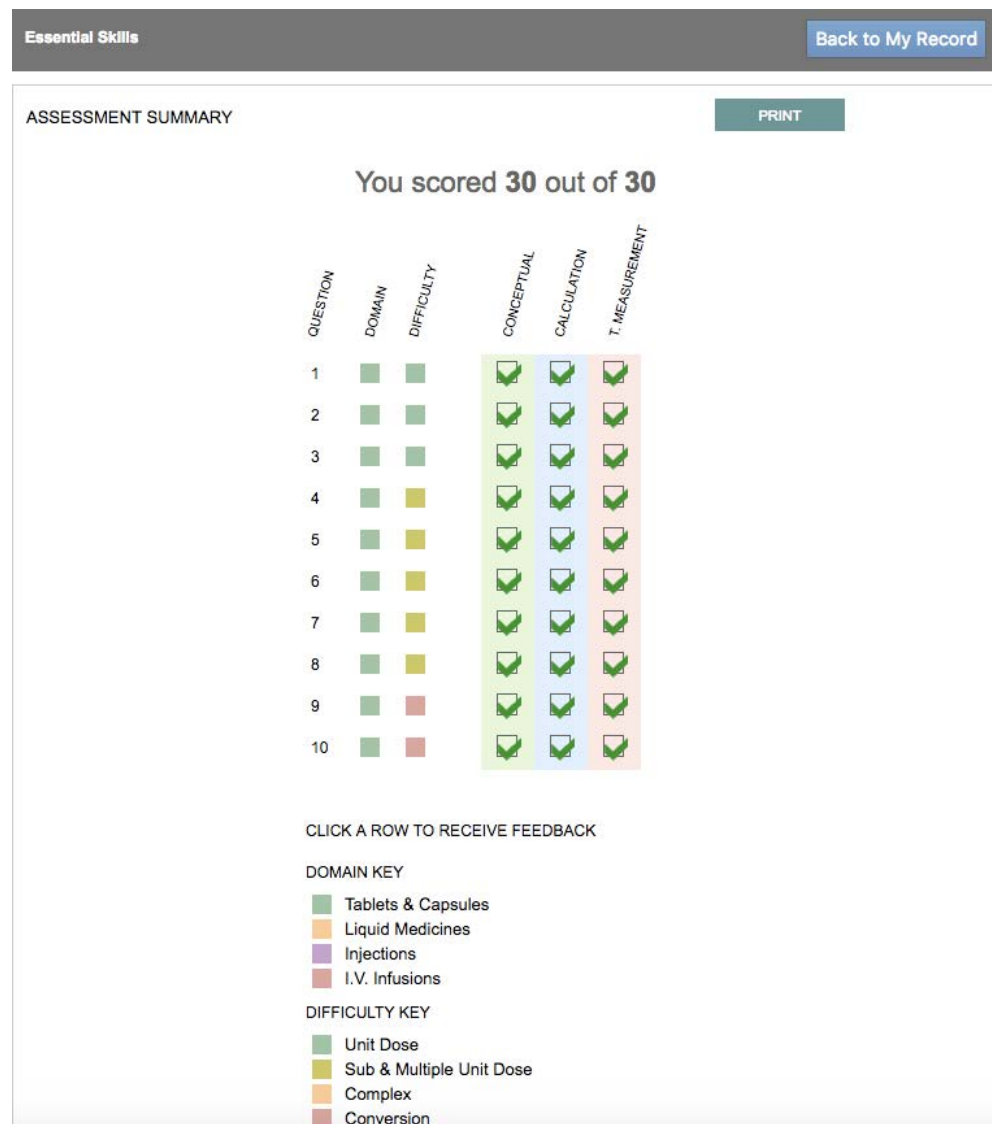



Figure 28 - Assessment Summary screen

Hover your mouse directly over a row to highlight a particular question and click to view the detailed feedback. The figure below illustrates the typical feedback format

for an Essential Skills ADA injections question. Feedback for other medication domains (tablets and capsules, liquid medicines and IVIs) will follow a similar format.

QUESTION 8 - You answered this question INCORRECTLY
CONTINUE



Name
Nga Lebowitz

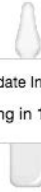
Age **91 years** Height **156 cm**

Bodyweight **94 kg** BSA **2.1 m²**

Allergies
Nil Known

Presenting Complaint
Induction Of Anaesthesia

ONCE ONLY MEDICINES		
Date	Medicine (print generic name)	
18/10/2017	Etomidate Injection	
Dose	18800 microgram	Route Slow Intravenous Injection
Dose Calculation	200 micrograms/kg	Max Dose / 24hrs 60 mg per dose
Indication	Induction Of Anaesthesia	Prescriber's Signature Pharm Dr. Jones A.P.



Etomidate Injection
2mg in 1mL

Medication Information Sheet
For Use In safeMedicate Only

Drug Name
Etomidate Injection

Indication
Induction Of Anaesthesia

Route
Slow Intravenous Injection

Dose
200 micrograms/kg

Maximum Dose
60 mg per dose

Dispensed Dose
2mg in 1mL

Special Instructions
Administer over 60 seconds

CORRECT ANSWER

18.8

mg

×

1

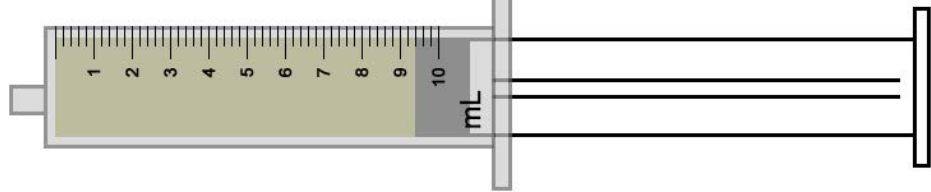
mL

=

CALCULATED ANSWER
9.4

↻

No Rounding Required



YOUR ANSWER

18800

mcg

×

1

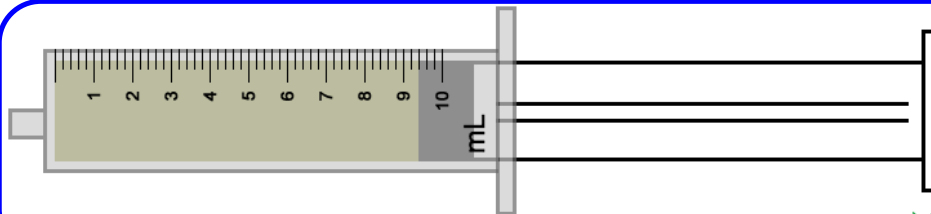
mL

×
=

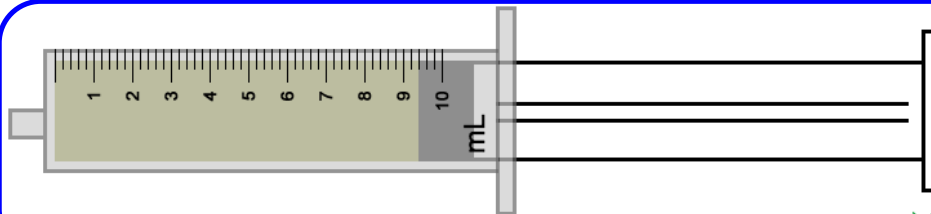
9.4

mL

✓



📱 18.8 / 2 = 9.4 C



Technical Measurement competence

Conceptual competence

Calculation competence

Calculator feedback

The problem
Correct answer
Your answer

Figure 29 - detailed feedback for an individual question

Note that there are 3 main components to the feedback for the question.

1. The top portion of the screen re-presents the key elements of the problem – i.e. the prescribed dose and the medication container label showing the dispensed dose and quantity/volume this is contained in.
2. The center portion of the screen shows the correct answer to the problem and includes problem setup (conceptual), calculation and technical measurement components.
3. The lower portion of the screen shows your answer to the problem and affords a discrete comparison with that of the correct solution above. For illustrative purposes the components of the answer have been highlighted to show how they relate to the components of the competence model.

If you've used a calculator to solve the problem, the keystrokes will be recorded in the calculator feedback section of the screen.

Note that in this example, the student has failed to convert the prescribed dose (18800mcg) to the same SI unit of weight as the dispensed dose (2mg). Although the calculation and technical measurement components are correct, the student is still marked down as failure to convert to the dispensed SI unit increases the potential for error and is considered poor practice.

Your safeMedicate Modules

The *Modules* menu item opens a list of all the *safeMedicate* modules you have access to as shown in the figure below.

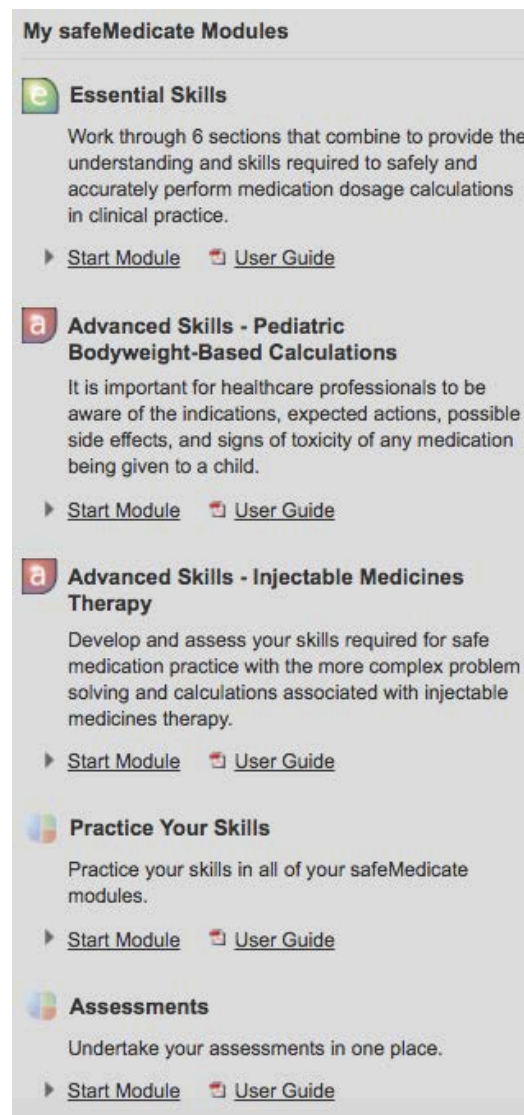


Figure 30- the My safeMedicate Modules menu item

In the above example, access is provided to the *Essential Skills*, *Advanced Skills*, *Practice Your Skills* and the *Assessments* module.

- To open any module, click on the **Start Module** link associated with the module you wish to use.

Working with the Learning Modules

To open any module, click on the **Start Module** link associated with the module you wish to use. The module will open and content will begin playing.

Page Navigation Tools

There are a number of tools available to help you navigate through and work with the module content as shown in the figure below.

The screenshot displays the following components:

- Module Title:** Essential Skills
- Navigation:** INJECTIONS ▾, TRYING THE CALCULATION FOR YOURSELF 1 ▾, Access User guide
- Task Instructions:** Try the Calculation Yourself. See if you can identify which of the answers is correct and drag the correct measurement of medicine into the answer box.
- Medication Table:**

ROUTINELY SCHEDULED MEDICINES			Date
Date	Medicine (print generic name)		16/10/2017
16/10/2017	Methadone Hydrochloride Injection		Administration Times
Dose	10 mg	Route	06:00
		Intramuscular Injection	-
Dose Calculation		Max Dose / 24hrs	14:00
-		40mg daily	-
Indication	Severe Pain	Prescriber's Signature	22:00
		Dr Jones	
		Pharm	
- Syringe Selection:** 0.1mL, 0.5mL, 1mL, 10mL
- Calculation Area:** Division, 10 mg, 10 mg, X, 1 mL, =, DRAG ANSWER HERE
- Page Navigation:** Move to previous page, Page 6 of 15, Move to next page
- Page Resources:** PAGE RESOURCES, No Additional Resources
- Footer:** © Copyright 2017 Authentic World Ltd., Authentic World logo, social media icons.

Figure 31 - the learning environment interface and page navigation tools

If there is additional content associated with the page, it will appear in the **Page Resources** section of the screen. Click on any resource to select and view additional content.

Media Playback Tools

Hover your mouse over the central part of the screen where the content plays to open a set of media playback tools as shown below.

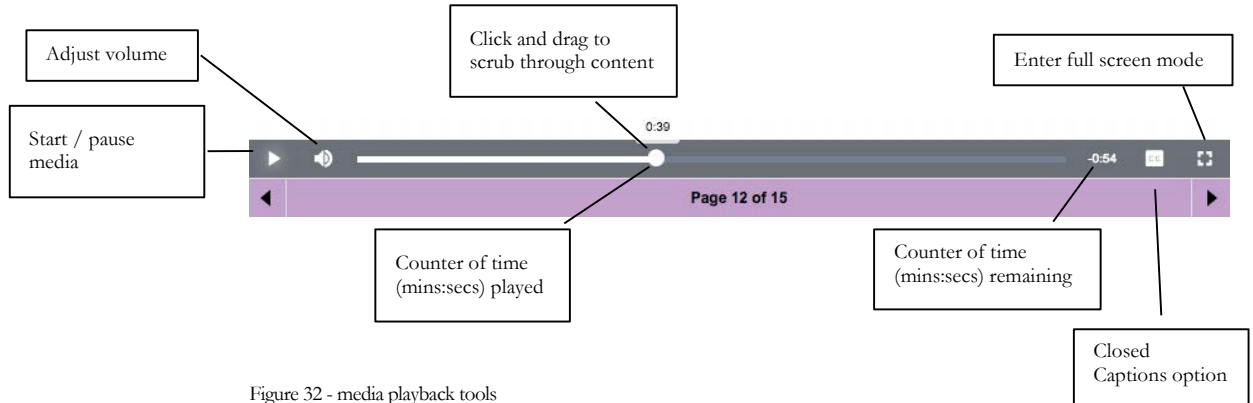


Figure 32 - media playback tools

Assessments

Working with the Assessments Module

All assessments scheduled by your university/institution are accessible and are taken via the **Assessments** module.

1. Click on **Modules** on the main menu.
2. On the drop down menu that opens, click on the **Start Module** link associated with the Assessments module (see Figure 16) to show the screen shown below.

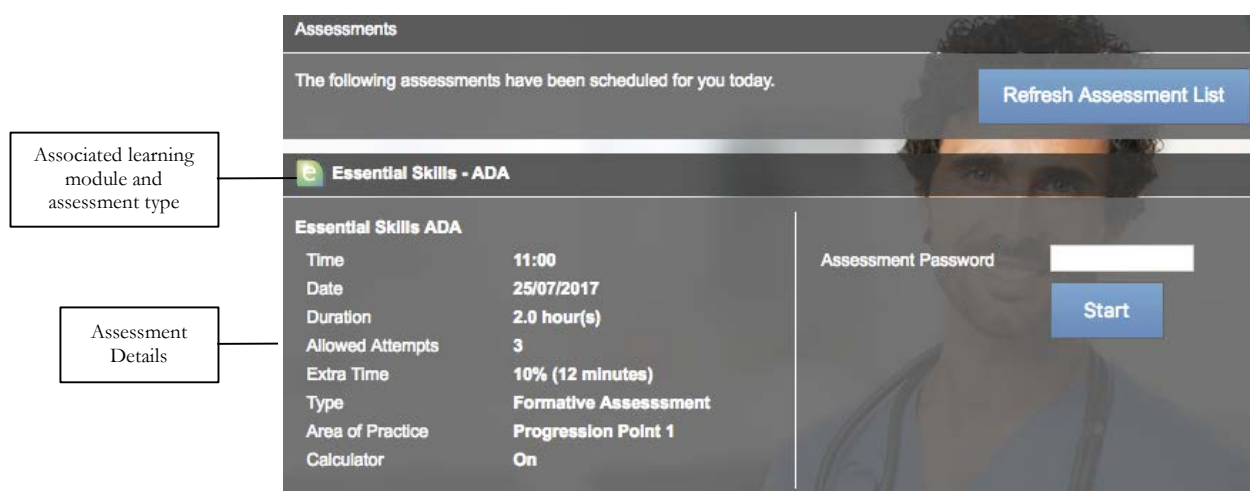


Figure 33 - viewing upcoming assessments

Any assessments that have been scheduled for you will be visible as in the example above.

The title bar of the assessment entry shows the associated learning module and type of assessment – in this example *Essential Skills ADA*.

The left side of the screen shows the details of the assessment including the date, time, duration, allowed attempts, extra time, type (formative or summative), area of practice and whether an on-screen calculator will be available. **Note that you can only sit an assessment on the day and time it has been scheduled for.**

The right side of the screen is where you enter the **Assessment Password** – your instructor or local *safeMedicate* administrator will give this to you in advance of the assessment.

Please note that the safeMedicate Team do not set these passwords and you have to contact your university/institution if you do not have the password for any assessment that has been scheduled.

To start an assessment enter the Assessment Password and click **Start**.

Authentic Diagnostic Assessment (ADA) Problems

Essential Skills - ADA

This assessment will comprise of 40 questions.

- 10 questions from Tablets & Capsules.
- 10 questions from Liquid Medicines.
- 10 questions from Injections.
- 10 questions from I.V. Infusions.

For each question you will be required to correctly setup and calculate the equation and prepare the correct dosage to be administered.

If you do not complete the assessment within the time limit you will be allowed to complete the question you are currently working on. The assessment will then be saved.

Essential Skills ADA		Rounding Requirements	
Time	11:00:00	Tablets & Capsules:	No Rounding Required.
Date	25/07/2017	Liquid Medicines & Injections:	Answers greater than 1mL, round to 1 decimal place. Answers less than 1mL, round 2 decimal places.
Duration	2.0 hour(s)	I.V. Infusions:	Answers rounded to the nearest whole number.
Remaining Attempts	3 of 3	Answers with trailing zeroes will not be accepted.	
Type	Formative Assessment		
Area of Practice	Progression Point 1		
Calculator	On		

Start Assessment Back to Assessment List

Figure 34 - beginning a scheduled assessment

After submitting the correct assessment password you will see the screen shown above. This screen provides more detailed information about the assessment you are about to take and reminds you of any rounding requirements should calculated answers not be a whole number.

Click **Start Assessment** when you are ready to begin.

If the assessment includes IV infusion problems then you will be invited to choose the form of equation you prefer to work with as in the example below.

Click to select the one you wish to use.

This assessment includes I.V. infusion questions

Which equation would you like to use?

Drop Rate Denominator

You will need to be familiar with the Drop Rate Denominator method to use this calculation method.

Traditional

You will need to be familiar with the traditional extended method to use this calculation.

Figure 35 - equation options for IV infusion questions

Tablet and Capsules Questions

Time Remaining: 147 minutes
Question 1 of 40

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

Name
Kara Simmons

Age **35 years** Height **162 cm**

Bodyweight **52 kg** BSA **1.54 m²**

Allergies
Nil Known

Presenting Complaint
Schizophrenia

ROUTINELY SCHEDULED MEDICINES			Date
Date	Medicine (print generic name)	Administration Times	
13/10/2017	Clozapine Tablet		
Dose	25 mg	Route	ORAL
Dose Calculation	-	Max Dose / 24hrs	900 mg per day
Indication	Schizophrenia	Prescriber's Signature	Pharm
		Dr. Jones	A.P.
			22:00

Clozapine Tablet
25mg in 1 Tablet

Medication Information Sheet
For Use In safeMedicate Only

Drug Name
Clozapine Tablet

Indication
Schizophrenia

Route
ORAL

Dose
-

Maximum Dose
900 mg per day

Dispensed Dose
25mg in 1 Tablet

Special Instructions
Monitor white blood cell count weekly

CALCULATING THE REQUIRED DOSE FOR ADMINISTRATION

Carefully study the information above. Use the equation frame below to setup and calculate the correct dose.
Click **NEXT** to continue.

25

mg

×

1

tab(s)

=

1

?

RESET

NEXT

Figure 36 - answering an Authentic Diagnostic Assessment question (Tabs & Caps)

In the above example you will see that the numbered boxes at the top of the screen identify your position within the question sequence – in this example Question 1 of 40. Your time remaining to complete the assessment is shown in the title bar of the screen.

In this first step you are prompted to extract the relevant information from the prescription chart and medication product label – insert this information in the equation model by clicking on each text box in turn and typing in the numeric values as shown above.

Click the ? symbol alongside each numeric value to reveal and select the correct measurement unit for each value as in the figure below.

Choose a measurement unit

g

mg

mcg

mL

L

tab(s)

cap(s)

unit(s)

Figure 37 - Measurement unit selector

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34

Calculate your answer and enter the numeric value and the associated measurement unit in the boxes following the equals (=) sign.

Click **Next** to proceed.

The second step of a typical tablets and capsules question requires you to represent your answer by clicking on and dragging the correct number of tablets/capsules required into the medicine cup as in the example below.

25 mg / 25 mg x 1 tab(s) = 1 tab(s)

Click and drag the correct number of tablets or capsules into the medicine cup

RESET NEXT

Figure 38 - representing your answer by dragging tablets to the medicine cup


If you make a mistake e.g. you drag in too many tablets, simply click on the **Reset** button to move the tablets back out of the medicine cup and try again.

When you are happy with your answer click on the **Next** button to proceed to the next question – note that as this is an assessment, you will not be told whether you are correct or otherwise until all questions have been answered.

Liquid Medicine Questions

Time Remaining: 143 minutes Question 11 of 40

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40



Name
Patricia Diaz

Age
69 years

Height
152 cm

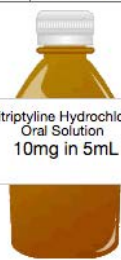
Bodyweight
50 kg

BSA
1.47 m²

Allergies
Nil Known

Presenting Complaint
Depression

ROUTINELY SCHEDULED MEDICINES			Date
Date	Medicine (print generic name)	Administration Times	
13/10/2017	Amitriptyline Hydrochloride Oral Solution	06:00	
Dose	10 mg	Route	ORAL
Dose Calculation	-	Max. Dose / 24hrs	200 mg per day
Indication	Depression	Prescriber's Signature	Pharm
		Dr. Jones	A.P.
			22:00



Amitriptyline Hydrochloride Oral Solution
10mg in 5mL

Medication Information Sheet
For Use in safeMedicate Only

Drug Name
Amitriptyline Hydrochloride Oral Solution

Indication
Depression

Route
ORAL

Dose
-

Maximum Dose
200 mg per day

Dispensed Dose
10mg in 5mL


Special Instructions
-

CALCULATING THE REQUIRED DOSE FOR ADMINISTRATION

Carefully study the information above. Use the equation frame below to setup and calculate the correct dose. Click **NEXT** to continue.

Rounding: For volumes greater than 1mL, round to tenths. For volumes less than 1mL, round to hundredths.

10	mg	x	5	mL	=	5	mL
10	mg						



RESET

NEXT

Figure 39 - answering an Authentic Diagnostic Assessment question (Liquid Medicines)

In this first step you are prompted to extract the relevant information from the prescription chart and medication product label – insert this information in the equation model by clicking on each text box in turn and typing in the values as in the example.

Click the **?** symbol alongside each numeric value to reveal and select the correct measurement unit for each value (see Figure 22).

When ready, click on **Next** to continue.

Figure 40 - selecting an appropriate measurement vehicle

10 mg
10 mg

x 5 mL = 5 mL

Medicine Cup

0.5mL 1mL 2mL 3mL 5mL 10mL 20mL

The second step of a typical liquid medicine question requires you to select an appropriate method/vehicle with which to administer the dose. You have the choice of selecting a medicine cup or up to two oral syringes from the seven available.

Select the vehicle of choice and click on **Next** to continue.

The third and final step of a typical liquid medicine question requires you to represent your answer as a volume of liquid in your chosen administration vehicle.

10 mg
10 mg

x 5 mL = 5 mL

5 mL

RESET NEXT

Figure 41 - measuring the correct dose using a syringe

Click on and drag the syringe plunger to the right until the desired volume of liquid medicine is drawn into the syringe – note how the syringe barrel is magnified to aid accurate measurement.

In the example above the 5 ml syringe was chosen and the answer represented by drawing the syringe to the **5 mL** graduation. (Please see the next section for how to represent your answer when using the medicine cup.)

When you are happy with your answer click on **Next** to continue to the next question.

Using the Medicine Cup

Time Remaining: 50 minutes Question 17 of 40

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Name
Dominique Drye

Age **88 years** Height **170 cm**

Bodyweight **70 kg** BSA **1.83 m²**

Allergies
Nil Known

Presenting Complaint
Epilepsy

ROUTINELY SCHEDULED MEDICINES			Date
Date	Medicine (print generic name)	Administration Times	
16/10/2017	Phenytoin Sodium Oral Solution	10:00	
Dose	210 mg	Route	ORAL
Dose Calculation	3 mg/kg/day	Max Dose / 24hrs	500 mg per day
Indication	Epilepsy	Prescriber's Signature	Pharm
		Dr. Jones	A.P.

Phenytoin Sodium Oral Solution
6mg in 1mL

Medication Information Sheet
For Use In safeMedicate Only

Drug Name
Phenytoin Sodium Oral Solution

Indication
Epilepsy

Route
ORAL

Dose
3 mg/kg/day

Maximum Dose
500 mg per day

Dispensed Dose
6mg in 1mL

Special Instructions
Monitor total plasma-phenytoin concentration

DRAWING UP THE CORRECT VOLUME FOR ADMINISTRATION

Choose an appropriate syringe and draw up your calculated dose for administration.

Rounding: For volumes greater than 1mL, round to tenths. For volumes less than 1mL, round to hundredths.

210	mg	x	1	mL	=	35	mL	
6	mg							

Figure 42 - selecting an appropriate measurement vehicle (Medicine cup example)

The above example shows a question that involves choosing a medicine cup as opposed to a syringe.

Click on the Medicine Cup and then on **Next** to proceed.

210	mg	x	1	mL	=	35	mL	
6	mg							

Click and drag the arrow until the correct volume is shown in the medicine cup

Figure 43 - measuring the correct volume using the medicine cup

To fill the medicine cup, click and drag the green arrow until the dotted line represents the correct volume as in the example above.

Click **Next** when you are done.

Note that as this is an assessment, you will not be told whether you are correct or otherwise until all questions have been answered.

Injection Questions

Time Remaining: 128 minutes
Question 21 of 40

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

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35


36

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38

39

40



Name
Susie Macias

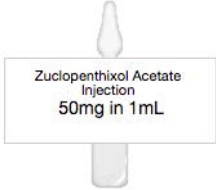
Age **21 years** Height **164 cm**

Bodyweight **58 kg** BSA **1.64 m²**

Allergies
Nil Known

Presenting Complaint
Acute Psychosis

ONCE ONLY MEDICINES			
Date	Medicine (print generic name)		
13/10/2017	Zuclopenthixol Acetate Injection		
Dose	50 mg	Route	Intramuscular Injection
Dose Calculation	-	Max. Dose / 24hrs	400 mg every 2 weeks
Indication	Acute Psychosis	Prescriber's Signature	Dr. Jones
		Pharm	A.P.



Zuclopenthixol Acetate Injection
50mg in 1mL

Medication Information Sheet
For Use In safeMedicate Only

Drug Name
Zuclopenthixol Acetate Injection

Indication
Acute Psychosis

Route
Intramuscular Injection

Dose
-

Maximum Dose
400 mg every 2 weeks

Dispensed Dose
50mg in 1mL

Special Instructions
Maximum of four injection;
maximum cumulative dose of 400mg in 2 weeks

CALCULATING THE REQUIRED DOSE FOR ADMINISTRATION

Carefully study the information above. Use the equation frame below to setup and calculate the correct dose. Click **NEXT** to continue.

Rounding: For volumes greater than 1mL, round to tenths. For volumes less than 1mL, round to hundredths.

50

mg

÷

50

mg

×


1

mL

=

1

mL



RESET

NEXT

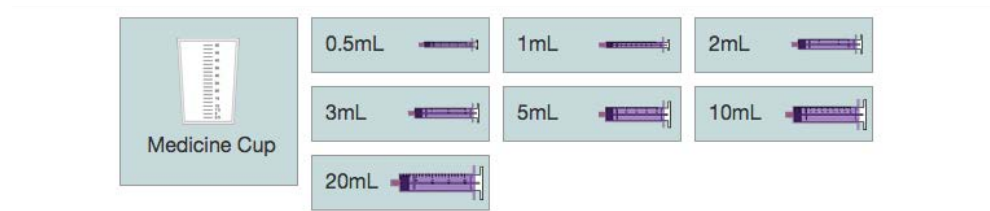
Figure 44 - answering an Authentic Diagnostic Assessment question (Injections)

In this first step you are prompted to extract the relevant information from the prescription chart and medication product label – insert this information in the equation model by clicking on each box in turn and typing in the numerical values.

Click the ? symbol alongside each numeric value to reveal and select the correct measurement unit for each value (see Figure 22).

Calculate your answer and type that in and select the appropriate measurement units.

When ready, click on **Next** to continue.



45 - selecting an appropriate measurement vehicle

The second step of a typical injections question requires you to select an appropriately sized syringe with which to administer the dose. Note that you have the choice of selecting one of eight syringes.

Click on the syringe of choice to continue.

The third and final step of a typical injections question requires you to represent your answer as a volume of liquid in your chosen syringe.

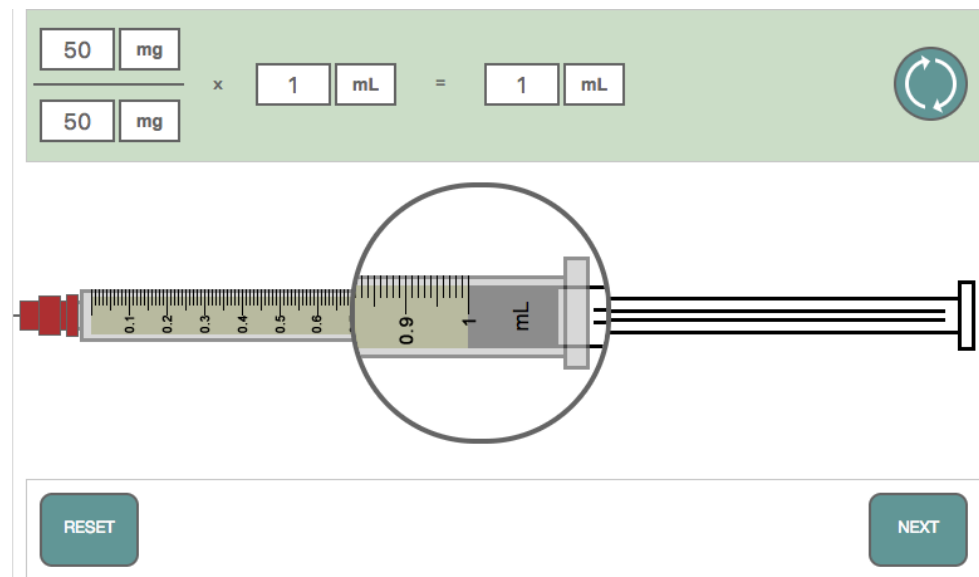


Figure 46 - measuring the correct dose using a syringe

Click on and drag the syringe plunger to the right until the desired volume of liquid is drawn into the syringe – note how the syringe barrel is magnified to aid accurate measurement.

When you are happy with your answer click on **Next** to proceed to the next question.

You will not be told whether you are correct or otherwise until all questions have been answered.

Intravenous Infusion Questions (Drop Rate Denominator Method)

INTRAVENOUS and SUBCUTANEOUS INFUSIONS					
Date	Infusion Fluid		Route	Medicine Added	
	Type / Strength	Volume		Approved Name	Dose
16/10/2017	0.9% Sodium Chloride	50 mL	I.V.	-	-
Indication	Fluid maintenance & replacement		Infusion Duration or Rate	1 hour(s)	
Max Dose / 24hrs	2000 mL/day			Prescriber's Signature	Given By
Instructions	Check plasma electrolytes every 24 hours whilst intravenous fluids are administered			Dr. Jones	

Name
Delicia Valdivia

Age **21 years** Height **164 cm**

Bodyweight **58 kg** BSA **1.64 m²**

Allergies
Nil Known

Presenting Complaint
Fluid Maintenance & Replacement

50 mL
0.9% Sodium Chloride

I.V. Administration Set
20 drops / mL

SETTING THE VOLUMETRIC PUMP

Now you have calculated the mL/hr set the volumetric pump correctly.
Click **RUN** on the pump to continue.

Rounding: When required, mL/hr and Drops per Minute must be rounded to a whole number.

50

mL

=

50

mL/hr

1

hour(s)

Figure 47 - answering an Authentic Diagnostic Assessment question (IVIs)

Solving an IVI assessment question using the drop rate denominator (DRD) method typically involves a two-stage process.

In this first stage you are required to calculate the volume of fluid to be infused per hour i.e. the hourly rate. The first step requires you to extract the relevant information from the prescription chart and intravenous fluid container – insert this information in the equation model by clicking on each box in turn and typing in the values as in the example.

Click the **?** symbol alongside each numeric value to reveal and select the correct measurement unit for each value (see Figure 22).

When ready, click on **Next** to continue.

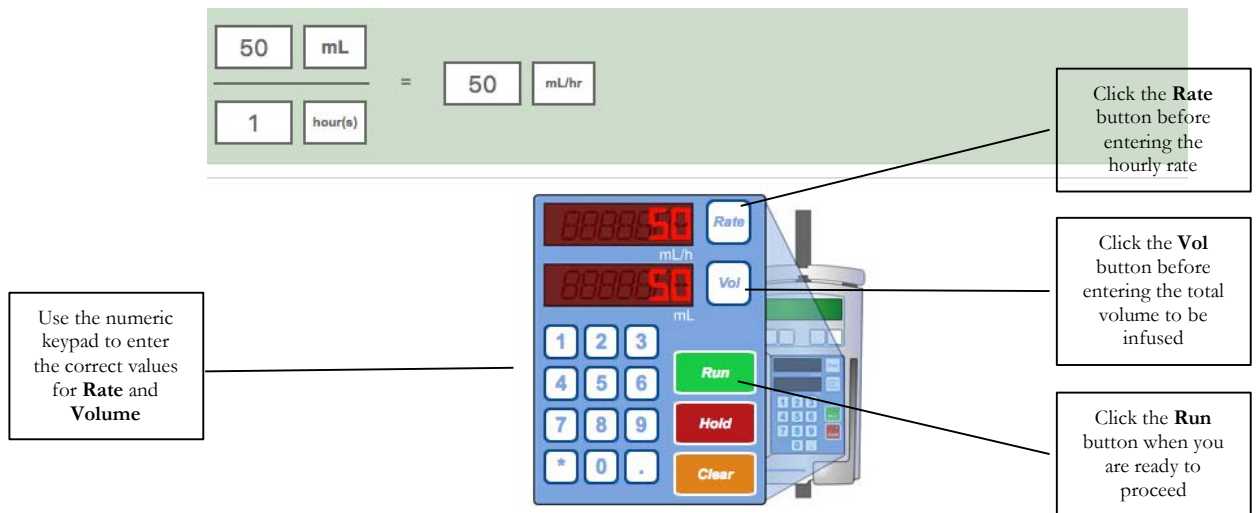


Figure 48 – representing your answer as mL/hour

In this next step you are required to represent the hourly rate and total infusion volume on a volumetric infusion pump. The above example shows how 50mL of fluid over 1 hour duration is represented.

To enter the hourly rate value on the pump click on the **Rate** button then click on the appropriate number keys to represent your answer (50 in the above example).

To enter the total volume to be infused on the pump click on the **Vol** button then click on the appropriate number keys to represent your answer.

When you are happy with your answer click on the **Run** button to proceed to the next stage of the problem.

CALCULATING DROPS PER MINUTE

Carefully study the information above. Use the equation frame below to setup and calculate the drops per minute. Click **NEXT** to continue.

Rounding: When required, mL/hr and Drops per Minute must be rounded to a whole number.

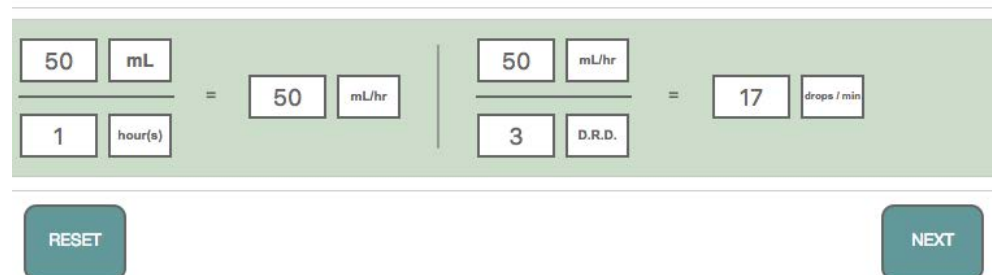


Figure 49 – calculating the drops per minute using the DRD method

In this second stage you are required to calculate the number of drops per minute required if you were to deliver this fluid via an IV administration set. Note that your hourly rate ‘answer’ is carried over from stage 1.

You now have to set up the calculation based upon this hourly rate and the drop rate denominator appropriate to the number of drops per mL that the administration set delivers (17 in this example).

Enter the correct numeric values and select the appropriate measurement units for each. Note that you should round the answer up or down depending on the decimal value (round up for .5 and above).

When you are happy with your answer click on **Next** to proceed to the next step.

The screenshot displays a calculation interface for determining the drops per minute (D.R.D.) for an IV administration set. At the top, there are two mathematical expressions. The first expression is $\frac{50 \text{ mL}}{1 \text{ hour(s)}} = 50 \text{ mL/hr}$. The second expression is $\frac{50 \text{ mL/hr}}{3 \text{ D.R.D.}} = 17 \text{ drops/min}$. Below the calculations is a diagram of an IV administration set, including a drip chamber and a drip chamber. A box labeled "17 drops/min" is positioned next to the drip chamber. A callout box on the left side of the diagram contains the text: "Click and drag the wheel on the flow control to set the correct drops per minute rate". At the bottom of the interface, there are two buttons: "RESET" on the left and "NEXT" on the right.

Figure 50 - representing your answer as drops per minute via an IV administration set

In this last step you are required to represent your answer as drops per minute by adjusting the administration set accordingly.

Click on the wheel of the fluid control mechanism and drag up or down - so that your answer is represented in the drops/min box (17 in the example).


When you are happy with your answer click on **Next** to proceed to the next question.

You will not be told whether you are correct or otherwise until all questions have been answered.

Intravenous Infusion Questions (Traditional Method)

Time Remaining: 52 minutes Question 31 of 40

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40



Name
Lino Gundlach

Age
56 years

Height
165 cm

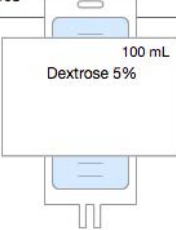
Bodyweight
62 kg

BSA
1.7 m²

Allergies
Nil Known

Presenting Complaint
Fluid Maintenance & Replacement

INTRAVENOUS and SUBCUTANEOUS INFUSIONS					
Date	Infusion Fluid		Route	Medicine Added	
	Type / Strength	Volume		Approved Name	Dose
16/10/2017	Dextrose 5%	100 mL	I.V.	-	-
Indication	Fluid maintenance & replacement		Infusion Duration or Rate	2 hour(s)	
Max Dose / 24hrs	2500 mL/day			Prescriber's Signature	Given By
Instructions	Check plasma electrolytes every 24 hours whilst intravenous fluids are administered			Dr. Jones	



I.V. Administration Set
15 drops / mL

SETTING THE VOLUMETRIC PUMP

Now you have calculated the mL/hr set the volumetric pump correctly.
Click **RUN** on the pump to continue.

Rounding: When required, mL/hr and Drops per Minute must be rounded to a whole number.

100	mL	=	50	mL/hr
2	hour(s)			

Figure 51 - answering an Authentic Diagnostic Assessment question (IVIs)

Solving an IVI assessment question using the traditional or extended formula method typically involves a two-stage process.

In this first stage you are required to calculate the volume of fluid to be infused per hour i.e. the hourly rate. The first step requires you to extract the relevant information from the prescription chart and intravenous fluid container – insert this information in the equation model by clicking on each box in turn and typing in the values as in the example.

Click the ? symbol alongside each numeric value to reveal and select the correct measurement unit for each value (see Figure 22).

When ready, click on **Next** to continue.

$$\frac{100 \text{ mL}}{2 \text{ hour(s)}} = 50 \text{ mL/hr}$$

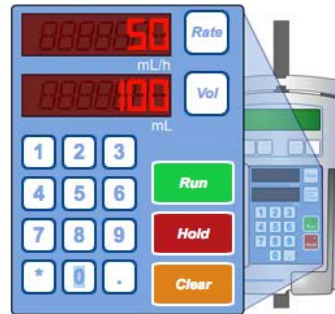


Figure 52 – representing your answer as ml/hour

In this next step you are required to represent the hourly rate and total infusion volume on a volumetric infusion pump. The above example shows how 100mL of fluid over 2 hours duration is represented.

To enter the hourly rate value on the pump click on the **Rate** button then click on the appropriate number keys to represent your answer (50 in the above example).

To enter the total volume to be infused on the pump click on the **Vol** button then click on the appropriate number keys to represent your answer.

When you are happy with your answer click on the **Run** button to proceed to the next stage of the problem.

$$\frac{100 \text{ mL} \times 15 \text{ drops / mL}}{2 \text{ hour(s)} \times 60 \text{ min/hr}} = 13 \text{ drops / min}$$

Figure 53 – calculating the drops/min using the traditional (extended formula) method

In this second stage you are required to calculate the number of drops per minute required if you were to deliver this fluid via an IV administration set.

The traditional or extended formula method is based upon four factors – the total volume to be infused (100mL), the duration of the infusion (2 hours), the drop factor of the IV administration set (15 drops/mL) and the number of minutes in an hour (60 min/hour). The equation is set up as in the example above.

First, multiply the two numerators: $100 \times 15 = 1500$

Second, multiply the 2 denominators: $2 \times 60 = 120$

Next, divide the first answer (1500) by the second (120): $1500/120 = 12.5$

This gives the drops per minute rate.

The screenshot shows a digital interface for calculating IV drip rates. At the top, there are two rows of input fields. The first row contains '100' in a box, 'mL' in a box, a multiplication sign 'x', '15' in a box, and 'drops / mL' in a box. The second row contains '2' in a box, 'hour(s)' in a box, a multiplication sign 'x', '60' in a box, and 'min/hr' in a box. An equals sign '=' is placed between the two rows. To the right of the equals sign is a box containing '13' and another box containing 'drops / min'. Below the calculation is a diagram of an IV administration set, including a blue drip chamber and a white drip chamber. A box next to the drip chamber displays '13' and 'drops/min'. At the bottom of the interface are two buttons: 'RESET' on the left and 'NEXT' on the right.

Figure 54 – representing your answer as drops per minute via an IV administration set

In this last step you are required to represent your answer as drops per minute by adjusting the administration set accordingly.

Click on the wheel of the fluid control mechanism and drag up or down - your answer is represented in the drops/min box (13 in this example).

When you are happy with your answer click on **Next** to proceed to the next question.

You will not be told whether you are correct or otherwise until all questions have been answered.

Completing the Assessment

When all questions have been answered you will be told that the exercise is complete and offered the opportunity to review any questions before finishing the assessment – this provides an opportunity to check your answers or to retry any question you might have been unhappy with.

Using Review Mode

Click on the small box that represents the question number to enter review mode.

Click a question number to enter review mode

Time Remaining: 37 minutes

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

You have completed the assessment.

You may review your answers by clicking the question numbers above.

Click **FINISH** at any time to save & exit the assessment.

Once you have clicked **FINISH** you will be returned to the main assessment page.

You will not be able to retry any questions in this assessment.


FINISH

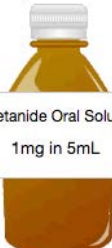
Figure 55 - completing the assessment and being invited to review any questions

YOU ARE REVIEWING QUESTION 12

RETRY QUESTION

CONTINUE

 <p>Name Tia Drake</p> <p>Age 47 years</p> <p>Height 160 cm</p> <p>Bodyweight 72 kg</p> <p>BSA 1.83 m²</p> <p>Allergies Nil Known</p> <p>Presenting Complaint Oedema</p>	ROUTINELY SCHEDULED MEDICINES			Date 16/10/2017	
	Date 16/10/2017	Medicine (print generic name) Bumetanide Oral Solution		Administration Times	
	Dose 1 mg	Route ORAL		10:00	
	Dose Calculation -		Max Dose / 24hrs 5 mg per day		
	Indication Oedema	Prescriber's Signature Dr. Jones	Pharm A.P.		



Bumetanide Oral Solution
1mg in 5mL

Medication Information Sheet For Use In safeMedicate Only	
Drug Name Bumetanide Oral Solution	
Indication Oedema	
Route ORAL	
Dose -	
Maximum Dose 5 mg per day	
Dispensed Dose 1mg in 5mL	
Special Instructions -	

YOUR ANSWER

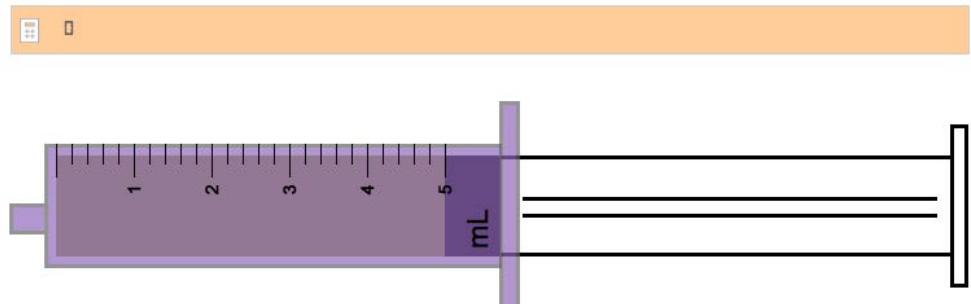


Figure 56 - Reviewing an assessment question

In the above example we have chosen to review Question 12 - note that the question is re-presented and beneath is your solution to the problem.

If you wish to change this answer then click on the **Retry Question** button – you will need to redo the entire question.

If you are happy with your answer then click on the **Continue** button to move on.

Ending the Assessment

Once you have finished reviewing any questions click **Finish** (see Fig. 41).

You will be returned to the main assessment page and you will not be able to retry any further questions in this assessment.

Authentic Assessment (AA) Problems



Figure 57 - beginning the assessment

Launch the **Assessments** module as described in the previous section of this guide. Any assessments scheduled for you will be listed as in the example above.

Enter the assessment password and click **Start**.

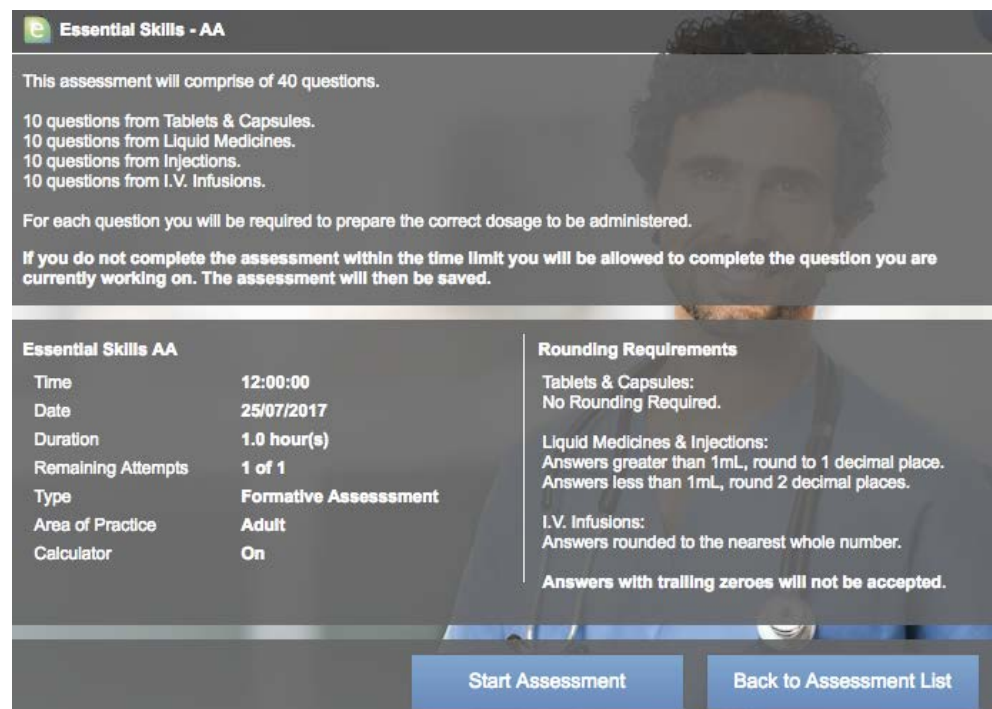


Figure 58 - details of the assessment


The next screen provides an overview of the assessment format. Click **Start Assessment** when you are ready to begin.

A typical Authentic Assessment question requires you to extract the relevant information from the medication prescription and medication product label and calculate the answer. You are not required to show how to set up the problem in an equation. All that is required is a final answer. Your instructor will inform you whether you are able to use pencil and paper or a calculator to assist you.

Tablets and Capsules Questions

Time Remaining: 57 minutes Question 7 of 40

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40



Name
Salina Leisure

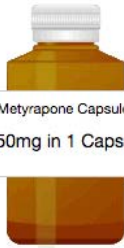
Age 19 years **Height** 162 cm

Bodyweight 54 kg **BSA** 1.57 m²

Allergies
Nil Known

Presenting Complaint
Cushing's Syndrome

ROUTINELY SCHEDULED MEDICINES			Date
Date	Medicine (print generic name)	Administration Times	
16/10/2017	Metyrapone Capsule	10:00	
Dose	750 mg	Route	Oral
Dose Calculation	-	Max. Dose / 24hrs	6 g/day
Indication	Cushing's Syndrome	Prescriber's Signature	Pharm
		Dr. Jones	A.P.



Metyrapone Capsule
250mg in 1 Capsule

Medication Information Sheet
For Use In safeMedicate Only

Drug Name
Metyrapone Capsule

Indication
Cushing's Syndrome

Route
Oral

Dose
-

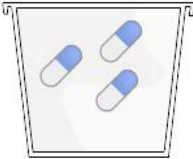

Maximum Dose
6 g/day

Dispensed Dose
250mg in 1 Capsule

Special Instructions
-

CALCULATING THE REQUIRED DOSE FOR ADMINISTRATION

Using whichever method you are most comfortable with, calculate and place into the pot the correct number of tablets / capsules to administer to the patient.
Click **NEXT** to continue.

RESET

NEXT

Figure 59 - answering an Authentic Assessment problem (tablets and capsules)

Using the information available to you on the prescription chart and medication container label, calculate the dose to be administered.

Represent the amount of medication that should be administered by clicking on and dragging the correct number of tablets/capsules required into the medicine cup as in the example above.


Click the **Reset** button if you need to change your answer.

When you are happy with your answer, click the **Next** button to proceed to the next question.

Liquid Medicines Problems

Time Remaining: 54 minutes Question 11 of 40

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40



Name
Maureen Reames


Age 69 years **Height** 152 cm

Bodyweight 50 kg **BSA** 1.47 m²

Allergies
Nil Known

Presenting Complaint
Asthma

ROUTINELY SCHEDULED MEDICINES			Date
Date	Medicine (print generic name)		16/10/2017
Dose	2 mg	Route	Oral
Dose Calculation	-	Max Dose / 24hrs	8 mg/dose
Indication	Asthma	Prescriber's Signature	Dr. Jones
		Pharm	A.P.
			22:00



Salbutamol Oral Solution
2mg in 5mL

Medication Information Sheet
For Use In safeMedicate Only

Drug Name
Salbutamol Oral Solution

Indication
Asthma

Route
Oral

Dose
-

Maximum Dose
8 mg/dose

Dispensed Dose
2mg in 5mL

Special Instructions
-

CALCULATING THE REQUIRED DOSE FOR ADMINISTRATION

Using whichever method you are most comfortable with, calculate the required volume for administration and choose a suitable delivery method below with which to draw up the medication.
Click **NEXT** to continue.

Rounding: For volumes greater than 1mL, round to tenths. For volumes less than 1mL, round to hundredths.

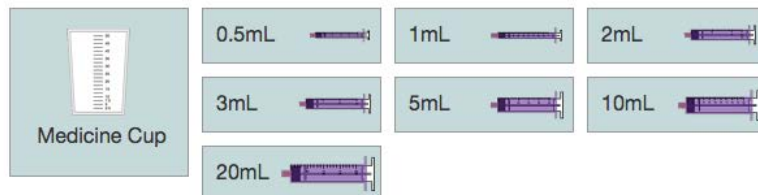


Figure 60 - answering an Authentic Assessment problem (Liquid Medicines)


Using the information available to you on the prescription chart and medication container label, calculate the dose to be administered.

Click to choose the most appropriate vehicle with which to administer the dose. You have the choice of selecting a medicine pot or from a range of oral syringes.

Note that you may select up to two oral syringes if this will assist you to make an accurate measurement.

Select the vehicle of choice and click **Next**.

The second step of a typical liquid medicine question requires you to represent your answer as a volume of liquid in the chosen administration vehicle – in this case a 5 mL syringe.



Name
Maureen Reames


Age **69 years** Height **152 cm**

Bodyweight **50 kg** BSA **1.47 m²**

Allergies
Nil Known

Presenting Complaint
Asthma

ROUTINELY SCHEDULED MEDICINES			Date
Date	Medicine (print generic name)	Administration Times	
16/10/2017	Salbutamol Oral Solution	06:00	
Dose	2 mg	Route	Oral
Dose Calculation	-	Max. Dose / 24hrs	8 mg/dose
Indication	Asthma	Prescriber's Signature	Pharm
		Dr. Jones	A.P.
			22:00



Salbutamol Oral Solution
2mg in 5mL

Medication Information Sheet
For Use in safeMedicate Only

Drug Name
Salbutamol Oral Solution

Indication
Asthma

Route
Oral

Dose
-

Maximum Dose
8 mg/dose

Dispensed Dose
2mg in 5mL

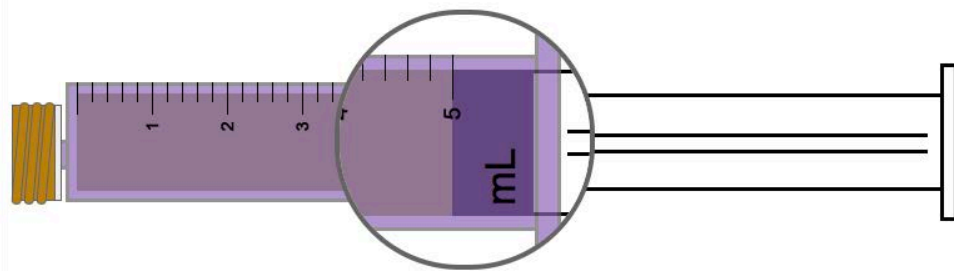
Special Instructions
-

CALCULATING THE REQUIRED DOSE FOR ADMINISTRATION

Using whichever method you are most comfortable with, calculate the required volume for administration and choose a suitable delivery method below with which to draw up the medication.

Click **NEXT** to continue.

Rounding: For volumes greater than 1mL, round to tenths. For volumes less than 1mL, round to hundredths.



RESET


NEXT

Figure 61 - representing your answer in an oral syringe

Click on the syringe plunger and drag to the right until the syringe is filled with the correct volume of medication. Note how the syringe barrel is magnified as you drag to aid accurate measurement.

When you are satisfied with your answer click the **Next** button to proceed to the next question.

Using the Medicine Cup



Name
Jolene Ferrell

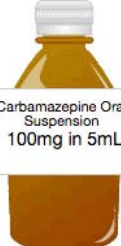
Age 53 years **Height** 158 cm

Bodyweight 36 kg **BSA** 1.24 m²

Allergies
Nil Known

Presenting Complaint
Epilepsy

ROUTINELY SCHEDULED MEDICINES			Date
Date	Medicine (print generic name)		16/10/2017
	Carbamazepine Oral Suspension		Administration Times
Dose	400 mg	Route	ORAL
Dose Calculation	-	Max Dose / 24hrs	10:00
		2 g per day	
Indication	Epilepsy	Prescriber's Signature	22:00
		Dr. Jones	
		Pharm	A.P.



Carbamazepine Oral Suspension
100mg in 5mL

Medication Information Sheet
For Use In safeMedicate Only

Drug Name
Carbamazepine Oral Suspension

Indication
Epilepsy

Route
ORAL

Dose
-

Maximum Dose
2 g per day

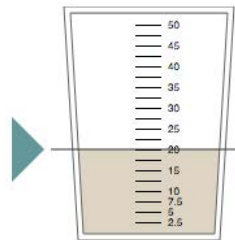
Dispensed Dose
100mg in 5mL

Special Instructions
-

CALCULATING THE REQUIRED DOSE FOR ADMINISTRATION

Using whichever method you are most comfortable with, calculate the required volume for administration and choose a suitable delivery method below with which to draw up the medication.
Click **NEXT** to continue.

Rounding: For volumes greater than 1mL, round to tenths. For volumes less than 1mL, round to hundredths.



RESET

NEXT

Figure 62 - representing your answer in a medicine cup


To represent your answer as a volume of liquid in the Medicine Cup, click on and drag the green arrow to the required level on the medicine cup.

Click the **Next** button when you are satisfied with your answer and you will proceed to the next question.

Injection Questions

Time Remaining: 41 minutes Question 22 of 40

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40



Name
Cari Creek

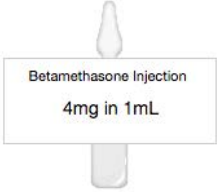
Age **7 years** Height **122 cm**

Bodyweight **23 kg** BSA **0.9 m²**

Allergies
Nil Known

Presenting Complaint
Congenital Adrenal Hyperplasia

ROUTINELY SCHEDULED MEDICINES			Date
Date	Medicine (print generic name)		16/10/2017
	Betamethasone Injection		
Dose	4 mg	Route	Slow Intravenous Injection
Dose Calculation	-	Max. Dose / 24hrs	4 mg/dose
Indication	Congenital Adrenal Hyperplasia	Prescriber's Signature	Dr. Jones
		Pharm	A.P.



Medication Information Sheet
For Use In safeMedicate Only

Drug Name
Betamethasone Injection

Indication
Congenital Adrenal Hyperplasia

Route
Slow Intravenous Injection

Dose
-

Maximum Dose
4 mg/dose

Dispensed Dose
4mg in 1mL

Special Instructions
Administer over 60 seconds

CALCULATING THE REQUIRED DOSE FOR ADMINISTRATION

Using whichever method you are most comfortable with, calculate the required volume for administration and choose a suitable delivery method below with which to draw up the medication.
Click **NEXT** to continue.

Rounding: For volumes greater than 1mL, round to tenths. For volumes less than 1mL, round to hundredths.

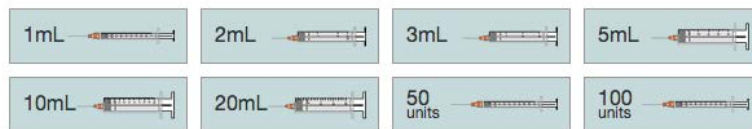


Figure 63 - answering an injections question

Using the information available to you on the prescription chart and medication container label, calculate the dose to be administered.

Click to choose the most appropriate syringe with which to administer the dose. You have a choice of eight syringes.


The second step of an injection question requires you to represent your answer as a volume of liquid in your chosen syringe.

Click on the syringe plunger and drag to the right until the syringe is filled with the correct volume of medication. Note how the syringe barrel is magnified as you drag to aid accurate measurement (see figure below).

When you are satisfied with your answer, click **Next** to proceed to the next question.

ROUTINELY SCHEDULED MEDICINES			Date
Date	Medicine (print generic name)	Administration Times	
16/10/2017	Betamethasone Injection	10:00	
Dose	Route		
4 mg	Slow Intravenous Injection		
Dose Calculation	Max Dose / 24hrs		
-	4 mg/dose		
Indication	Prescriber's Signature	Pharm	
Congenital Adrenal Hyperplasia	Dr. Jones	A.P.	

Medication Information Sheet For Use In safeMedicate Only	
Drug Name Betamethasone Injection	
Indication Congenital Adrenal Hyperplasia	
Route Slow Intravenous Injection	
Dose -	
Maximum Dose 4 mg/dose	
Dispensed Dose 4mg in 1mL	
Special Instructions Administer over 60 seconds	

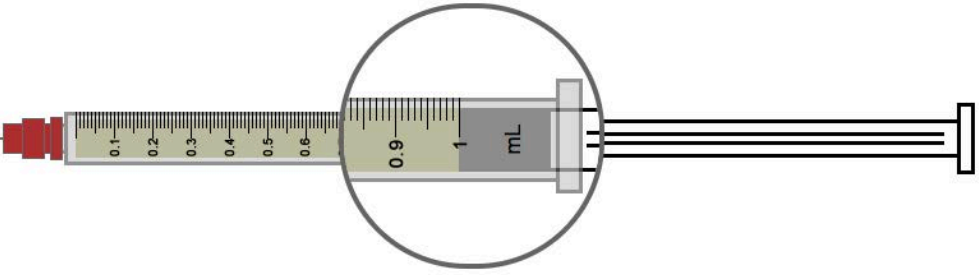


Betamethasone Injection
4mg in 1mL

CALCULATING THE REQUIRED DOSE FOR ADMINISTRATION

Using whichever method you are most comfortable with, calculate the required volume for administration and choose a suitable delivery method below with which to draw up the medication.
Click **NEXT** to continue.

Rounding: For volumes greater than 1mL, round to tenths. For volumes less than 1mL, round to hundredths.



RESET


NEXT

Figure 64 - representing your answer in your chosen syringe

Intravenous Infusion Questions

Time Remaining: 119 minutes Question 1 of 10

1 2 3 4 5 6 7 8 9 10



Name
Delicia Valdivia

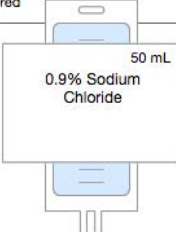
Age Height
21 years 164 cm

Bodyweight BSA
58 kg 1.64 m²

Allergies
Nil Known

Presenting Complaint
Fluid Maintenance & Replacement

INTRAVENOUS and SUBCUTANEOUS INFUSIONS					
Date	Infusion Fluid		Route	Medicine Added	
	Type / Strength	Volume		Approved Name	Dose
16/10/2017	0.9% Sodium Chloride	50 mL	I.V.	-	-
Indication	Fluid maintenance & replacement		Infusion Duration or Rate	1 hour(s)	
Max Dose / 24hrs	2000 mL/day			Prescriber's Signature	Given By
Instructions	Check plasma electrolytes every 24 hours whilst intravenous fluids are administered			Dr. Jones	



I.V. Administration Set
20 drops / mL

SETTING THE VOLUMETRIC PUMP

Now you have calculated the mL/hr set the volumetric pump correctly.
Click **RUN** on the pump to continue.

Rounding: When required, mL/hr and Drops per Minute must be rounded to a whole number.




Figure 65 – representing your answer as mL./hour using an IV infusion pump

Using the information available to you on the prescription chart and medication container label, calculate the dose to be administered.

Represent your answer by correctly setting the volumetric pump to deliver the dose. Enter the hourly rate value on the pump by clicking the **Rate** button and then clicking the appropriate number keys to represent the answer (50 in the above example).

After entering the rate, enter the total volume to be infused on the pump by clicking the **Vol** button and then clicking the appropriate number keys to represent the answer (50 in the above example).

When you are satisfied with your answer, click on the **Run** button to proceed to the next step.



Name
Delicia Valdivia

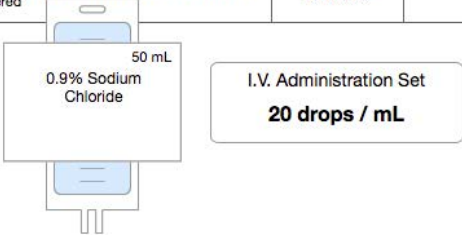
Age 21 years **Height** 164 cm

Bodyweight 58 kg **BSA** 1.64 m²

Allergies
Nil Known

Presenting Complaint
Fluid Maintenance & Replacement

INTRAVENOUS and SUBCUTANEOUS INFUSIONS					
Date	Infusion Fluid		Route	Medicine Added	
	Type / Strength	Volume		Approved Name	Dose
16/10/2017	0.9% Sodium Chloride	50 mL	I.V.	-	-
Indication	Fluid maintenance & replacement		Infusion Duration or Rate	1 hour(s)	
Max Dose / 24hrs	2000 mL/day			Prescriber's Signature	Given By
Instructions	Check plasma electrolytes every 24 hours whilst intravenous fluids are administered			Dr. Jones	



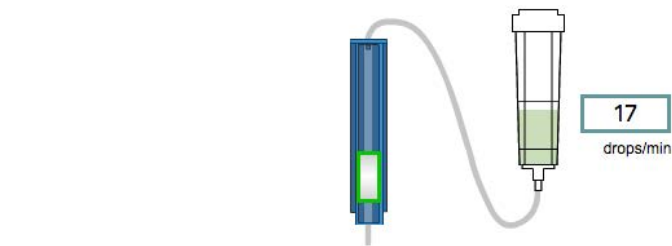
50 mL
0.9% Sodium Chloride

I.V. Administration Set
20 drops / mL

SETTING THE GIVING SET

Using whichever method you are most comfortable with, calculate the drops per minute and then set the giving set appropriately. Click **NEXT** to continue.

Rounding: When required, mL/hr and Drops per Minute must be rounded to a whole number.



RESET

NEXT

Figure 66 - representing your answer using an IV administration set

In the final step, you are required to represent your answer as drops per minute by adjusting the flow control on the IV administration set.

Click the “wheel” of the fluid control mechanism and drag the wheel up or down until the desired answer is shown in the **drops/min** box.

When you are satisfied with the answer, click the **Next** button to proceed to the next question.

Completing the Assessment

When all questions have been answered you will be told that the exercise is complete and offered the opportunity to review any questions before finishing the assessment – this provides an opportunity to check your answers or to retry any question you might have been unhappy with.

Using Review Mode

Click on the small box that represents the question number to enter review mode.

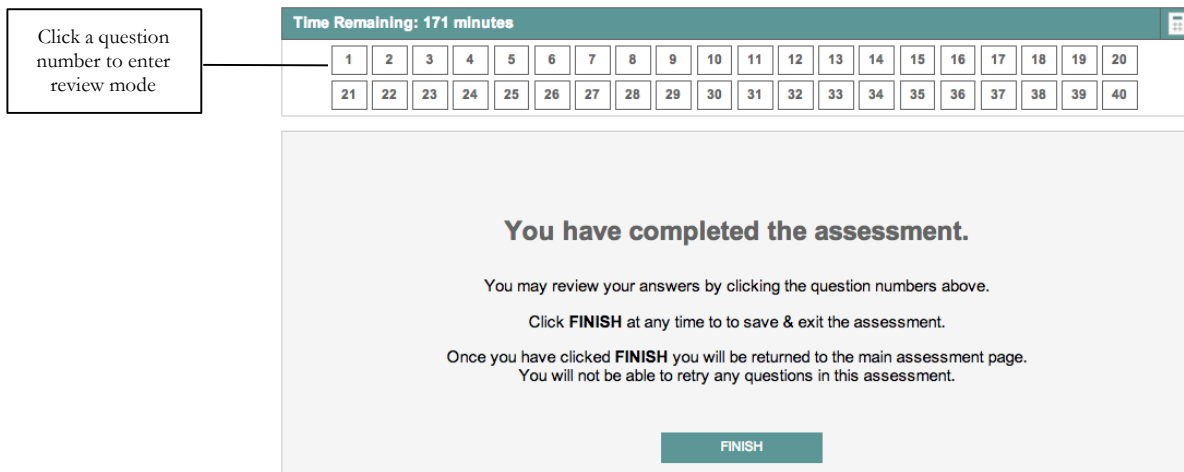



Figure 67 - completing the assessment and being invited to review any questions

YOU ARE REVIEWING QUESTION 11 RETRY QUESTION CONTINUE



Name
Rosanne Hinton


Age **71 years** Height **165 cm**

Bodyweight **75 kg** BSA **1.89 m²**

Allergies
Nil Known

Presenting Complaint
Psychomotor Agitation

ROUTINELY SCHEDULED MEDICINES			Date
Date	Medicine (print generic name)	Administration Times	
16/10/2017	Promazine Hydrochloride Oral Solution	06:00 12:00 18:00 24:00:00	
Dose	50 mg	Route	ORAL
Dose Calculation	-	Max Dose / 24hrs	200 mg per dose
Indication	Psychomotor Agitation	Prescriber's Signature	Pharm
		Dr. Jones	A.P.



Medication Information Sheet
For Use In safeMedicate Only

Drug Name
Promazine Hydrochloride Oral Solution

Indication
Psychomotor Agitation

Route
ORAL

Dose
-

Maximum Dose
200 mg per dose

Dispensed Dose
50mg in 5mL

Special Instructions
-

YOUR ANSWER

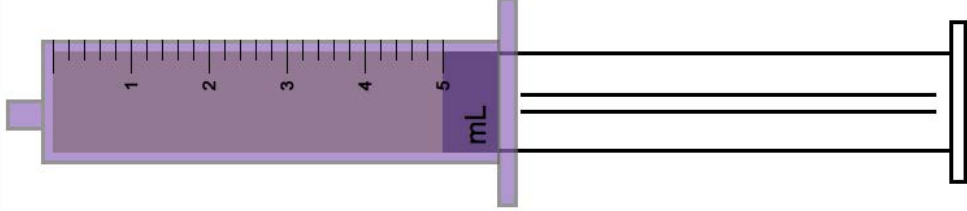


Figure 68 – using Review Mode to retry a question

In the above example we have chosen to review Question 11 - note that the question is re-presented and beneath is your solution to the problem.

If you wish to change this answer then click on the **Retry Question** button – you will need to redo the entire question.

If you are happy with your answer then click on the **Continue** button to move on.

Ending the Assessment

Once you have finished reviewing any questions click **Finish** (see Fig. 53).

You will be returned to the main assessment page and you will not be able to retry any further questions in this assessment.

Your Account Settings

Hovering your mouse over the **Account Settings** menu item will open a sub menu comprising three options:

1. Your Details
2. Module Access

3. Terms and Conditions

Your Details

The **Your Details** menu item will show your basic contact details and course related information as shown in the example below.

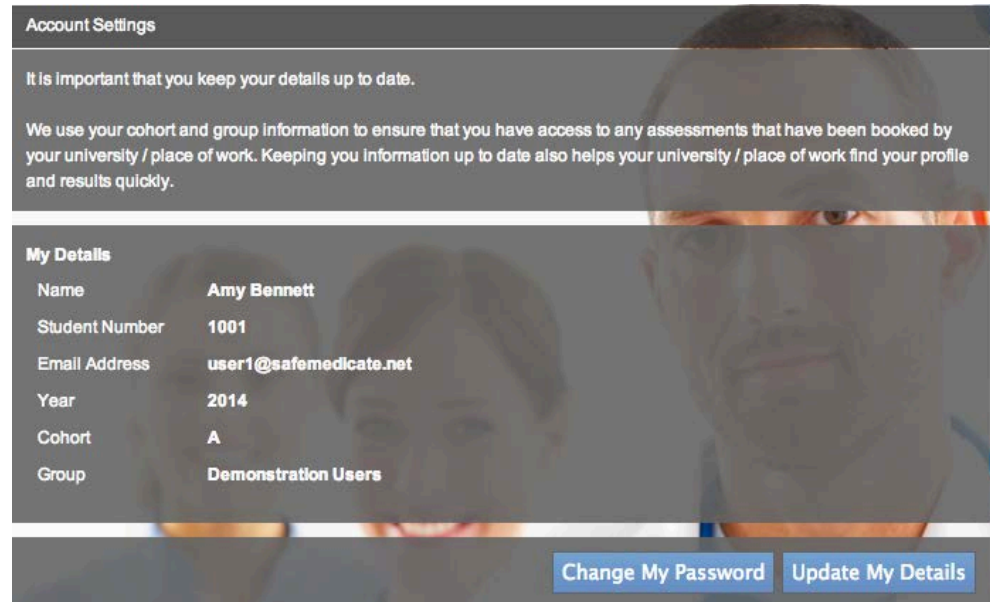


Figure 69 - Account Settings | Your Details

Changing Your Password

1. Click on the **Change My Password** button to open the dialog shown below.



Figure 70 - the Change My Password dialog

2. Enter your current password.
3. Enter your new password.
4. Enter your new password a second time to confirm.
5. Click on **Change My Password** to complete the action.

Editing Your User Details

Click **Update My Details** (see Figure 55) to open the dialog shown below to make changes to your user record. Please keep this information up-to-date as it's important for your university/hospital in terms of ensuring they can find your profile and assessment results easily.

Make any necessary changes and click **Update Changes** to complete the action.

Account Settings

It is important that you keep your details up to date.

We use your cohort and group information to ensure that you have access to any assessments that have been booked by your university / place of work. Keeping you information up to date also helps your university / place of work find your profile and results quickly.

My Details

First Name	<input type="text" value="Amy"/>
Last Name	<input type="text" value="Bennett"/>
Student Number	<input type="text" value="1001"/>
Email Address	<input type="text" value="user1@safemedicate.net"/>
Group	<input type="text" value="Demonstration Users"/>

Figure 71 - the Edit User Details dialog

Note: Only change your group allocation if asked to do so by your instructor or administrator. If you are not associated with the correct group you will not be able to sit any assessments that have been scheduled for you.

Module Access

The **Module Access** menu item lists your *safeMedicate* modules and their expiration dates as in the example below.

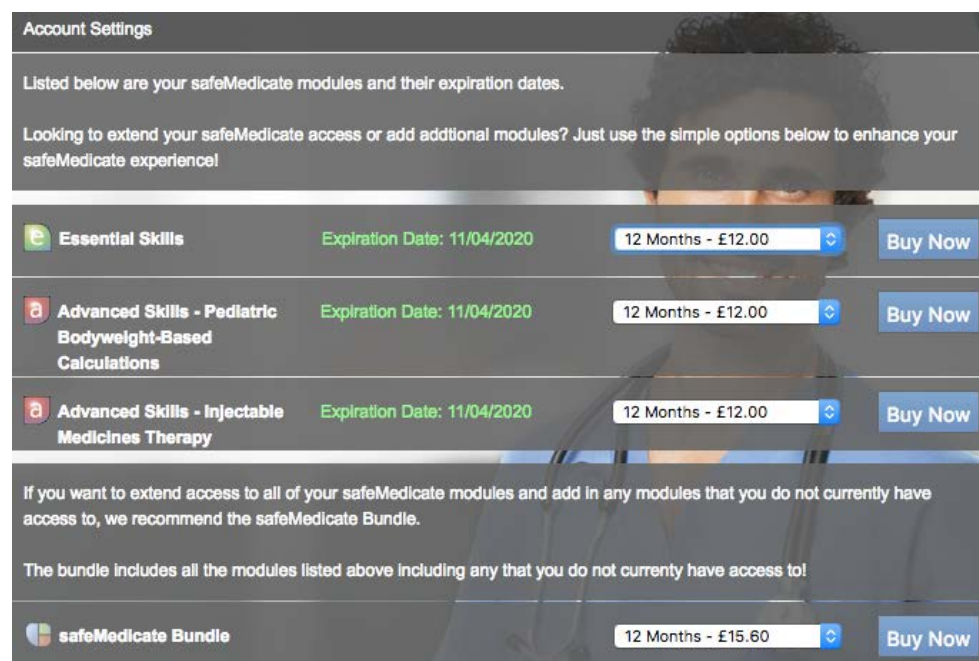


Figure 72 – Account Settings | Module Access page

If you need to extend access to your *safeMedicate* account then you can make an in-app purchase of individual modules or the **safeMedicate Bundle** that comprises all modules.

1. Use the list box associated with the module(s) you wish to purchase to select a time period (e.g. 12 months) for the new licence.
2. Click on **Buy Now**.
3. You will be taken to the secure **PayPal** payment screen to complete your purchase. You can choose to pay using your PayPal account or with any major debit or credit card.

Terms and Conditions

The **Terms and Conditions** menu item will open the screen shown below.

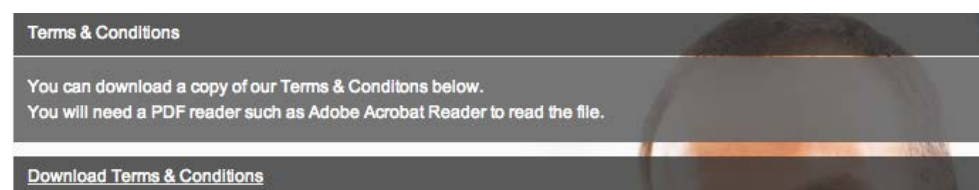


Figure 73 - Account Settings | Terms and Conditions

Click the **Download Terms & Conditions** link to download a copy of our *End User Terms and Conditions* in PDF format.

Getting Help When You Need It

If you are experiencing problems, we provide direct access to our Customer Support Services. Hovering your mouse over the **Support** menu item will open a sub menu comprising 5 options:

1. User Guide
2. Knowledge Base
3. Video Tutorials
4. Local Administrator
5. Submit Support Ticket

User Guide

Use this menu item to open or download an online copy of this guide.

Knowledge Base

Click on the **Knowledge Base** menu item to open the Knowledge Base in a separate window shown below.

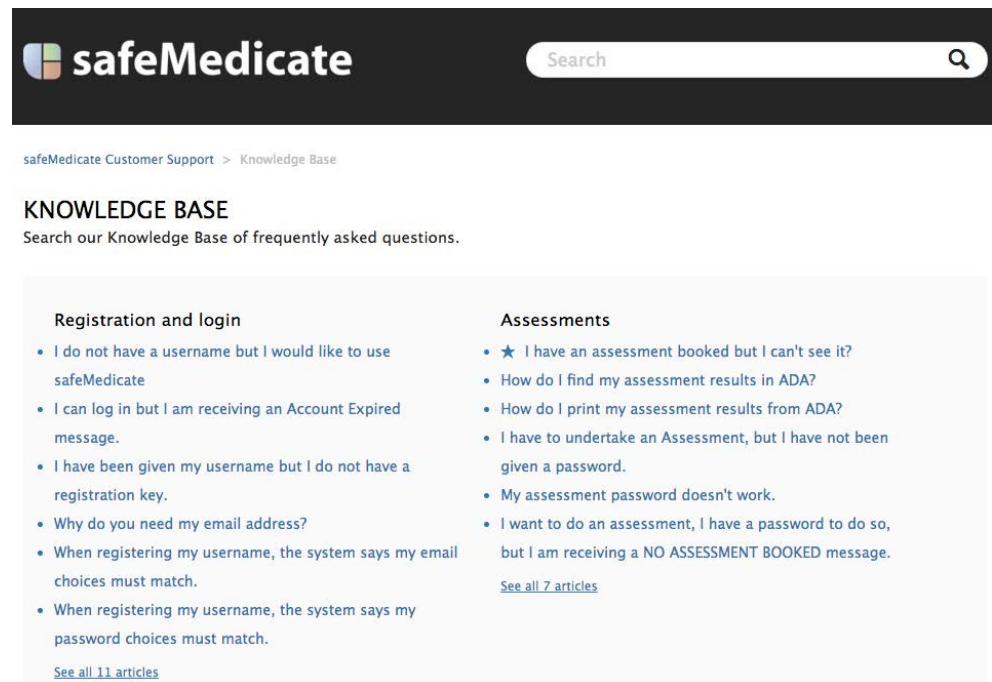


Figure 74 - Knowledge Base Home Screen

Here you will be able to search or view through our frequently asked questions and potential solutions to a particular problem.

Video Tutorials

Click on the **Video Tutorials** menu item to open the Video Tutorials in a separate window shown below.

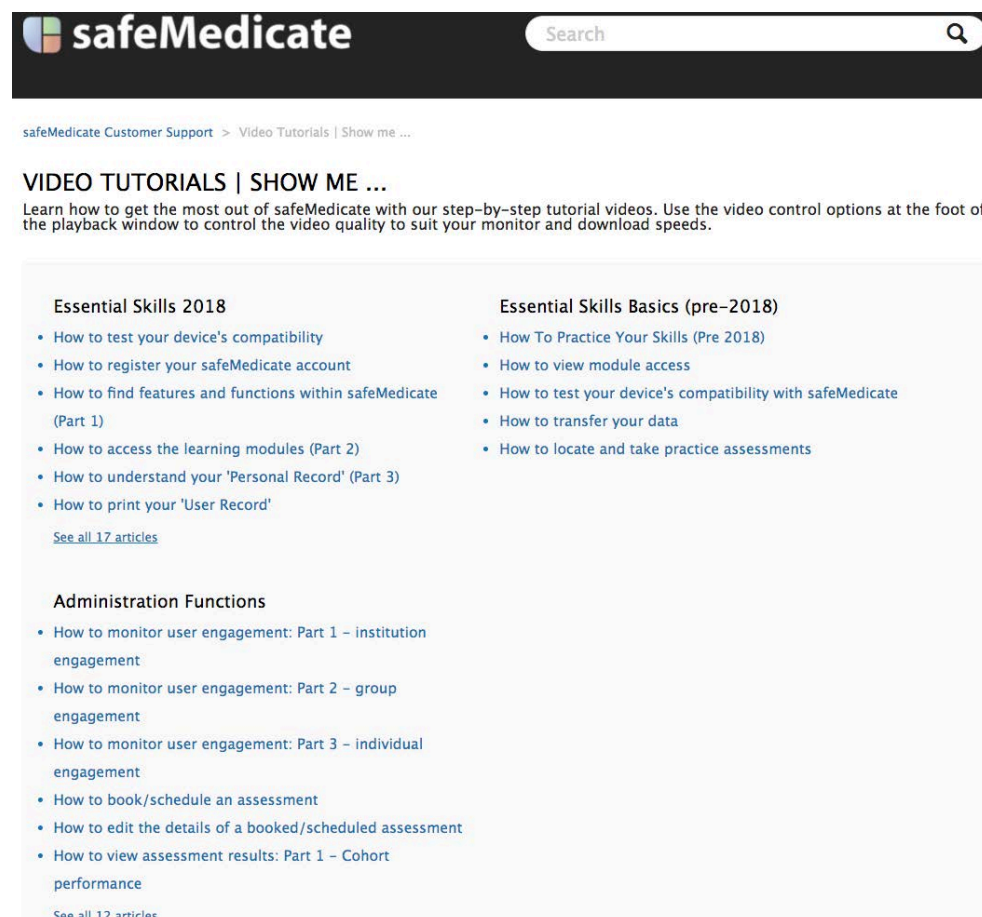


Figure 75 Video Tutorials homepage

Here you will be able to view our step-by-step tutorial videos on using aspects of Essential Skills.

Local Administrator

The Local Administrator is the person within your university/organization that you should contact for support in the first instance. Click on the **Local Administrator** menu item to show the figure below.

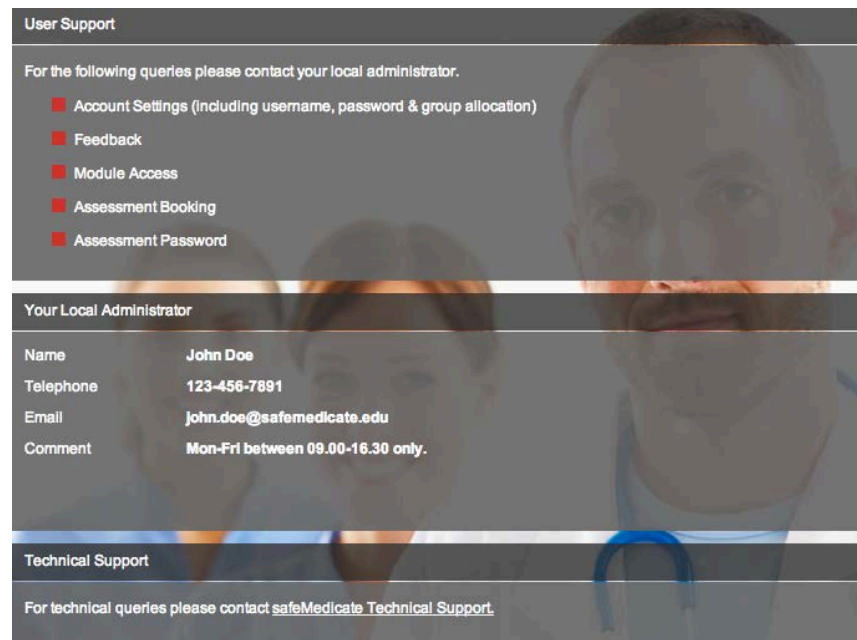


Figure 76 - the User Support page

The top section of the screen shows a list of the typical things that you should contact your Local Administrator about.

The contact details for your Local Administrator should be visible in the central section of the screen.

The lower section of the screen provides direct access to the *safeMedicate Technical Support* services as described below.

Submit Support Ticket

Click on the **Submit Support Ticket** menu item to open the dialog shown below at the bottom right of the screen.

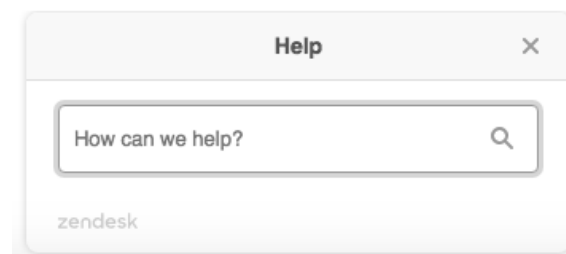


Figure 77 – submitting a support ticket

Please try and describe your problem as best you can – this will assist our intelligent search function to scan our *Knowledge Base* to try and provide an immediate answer.

Type in your question to start searching FAQ's related to your problem from our *Knowledge Base*.

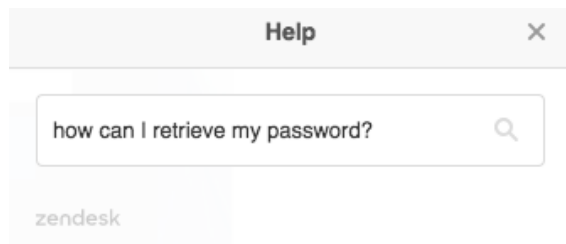


Figure 78 - searching the Knowledge Base for an answer

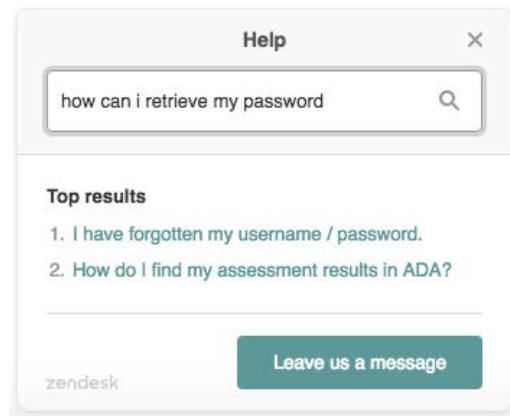


Figure 79 Top results of Knowledge Base

The figure above shows the Top Results from our Knowledge Base that may provide an immediate answer to your query.

If a topic appears to address your problem then click on the link to open the answer directly from our *Knowledge Base*. Answers may take the form of a set of instructions or even a video resource as illustrated in Figure 66 below.

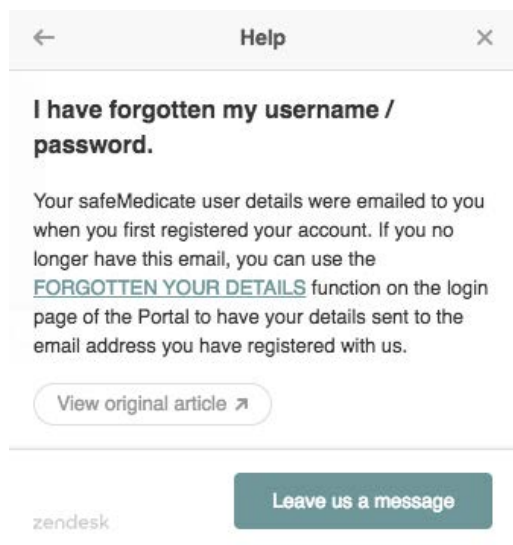


Figure 80 - Knowledge Base entry that answers problem posed

If none of the listed answers appear to address your problem then click the button at the bottom right of the dialog – **Leave us a message**. This will open another dialog shown below.

Figure 81 - providing additional details to submit a Support Ticket

Note that as you are already logged in to safeMedicate, your name, username (in brackets following your name) and email address have already been entered for you.

Select your country location from the list box if it is not correct by default. This will ensure that the appropriate support team deals promptly with your support request.

Use the **How can we help you?** box to provide us with as much information as you can about your query. For example, what were you trying to do? / what actually happened? / did you receive an error message?

Use the **Attachments** section to optionally include any file such as a screenshot that will help us to resolve your query.

When you have entered the details click **Send** – you will receive a confirmation. Our Customer Support Team will be alerted to your Support Ticket and will be in touch with you shortly via email.

Please note that our Customer Support Team operates **between 09.00–17.00 on Monday to Friday only**. This may result in a delay to your query being answered depending on the day/time it is submitted on.