aranzmedical

Silhouette v4.2
Administration User's Guide

Note: This system is developed for use only by qualified medical professionals trained and experienced in its use. Do not use the system before reading and understanding this user's guide.

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Contents

Introduction to Silhouette

This guide is intended for Silhouette administrators and is focused on the system administration features. Other user guides available:

- The Silhouette Installation and Configuration guide, which covers the installation and initial configuration of SilhouetteCentral and SilhouetteConnect.

- The Silhouette Clinical User's Guide, which covers the clinical features for clinical users.

Document Conventions

Throughout this user's guide, screen, menu, and field names in Silhouette are displayed in a **bold font**. Series of actions are referred to as follows:

Admin > Organization > Settings

which means to select the **Settings** option in the **Organization** menu in the Silhouette Admin section.

The screens your browser displays may differ slightly from the screen captures shown in this document. However, such differences are minor and do not affect the performance of Silhouette.

Throughout this user's guide, references to Silhouette mean both the SilhouetteConnect Microsoft Windows application and the SilhouetteCentral web application. Where a feature or function is only applicable to one of the Silhouette applications then that application is specifically stated.

System Description

SilhouetteCentral is a computerized wound imaging, analysis, and documentation system. SilhouetteCentral enables users to review, report, securely share and analyze the wound data collected by SilhouetteConnect, SilhouetteLite+ and SilhouetteLite applications. SilhouetteCentral is accessed via a web-based application and can collect wound data directly with the SilhouetteStar 2 camera.

SilhouetteCentral is divided into two parts:

- Clinical UI - Provides access to the patient medical data stored in the Silhouette database for reviewing, editing, and updating. Reports, images, and wound measurement data can also be exported for further processing and importing into other applications.

- Administration - Provides facilities to manage units, groups, patients, and system users. SilhouetteCentral can also be used to configure and customize the Silhouette system.

> ❓ In this version of SilhouetteCentral there is limited configurability available via the main web app. Contact ARANZ support if configuration changes need to be made.

SilhouetteConnect is the software installed on a Microsoft Windows tablet, laptop or desktop computer. SilhouetteStar cameras connect via USB to a computer with SilhouetteConnect. SilhouetteConnect enables wound assessments to be performed without connection to a network, and the data is synchronized with SilhouetteCentral when a network connection is available.

SilhouetteConnect can be used in two modes of operation:

- Standalone mode provides the power of Silhouette on a single PC. Data is collected and stored on the PC. PDF reports can be generated to enable sharing of the results.

- Synchronized mode provides offline and wired camera support for SilhouetteCentral systems. Data collected by SilhouetteConnect can be uploaded to SilhouetteCentral and data stored in SilhouetteCentral can be downloaded and used offline in SilhouetteConnect.

In synchronized mode the majority of the administration for the system is controlled by SilhouetteCentral.

> In this version of SilhouetteConnect there is limited configurability available via the main web app. Contact ARANZ support if configuration changes need to be made.

SilhouetteStar 2 is a camera that captures wound images and non-contact 3D measurements of wounds at the point of care. The images and data captured with SilhouetteStar 2 are uploaded to SilhouetteCentral over a secure Wi-Fi network or to SilhouetteConnect over a USB cable.

SilhouetteStar 1 is a camera that captures wound images and non-contact 3D measurements of wounds at the point of care. The SilhouetteStar 1 operates over a USB cable connected to a computer running SilhouetteConnect software.

SilhouetteLite+ is comprised of an application and a range finding sensor for Apple® iPhone®, iPod® touch and iPad® devices. SilhouetteLite+ enables users to take wound images, obtain non-contact 2D measurements, and record patient notes on their mobile device. The data collected at the patient's bedside is synchronized with SilhouetteCentral over a secure connection when available.

SilhouetteLite is an application designed for Apple® iPhone®, iPod® touch and iPad® devices. SilhouetteLite is a simplified application that enables users to add patients, wound images and simple notes (without measurements) to SilhouetteCentral. The data collected at the patient's bedside is synchronized with SilhouetteCentral over a secure network connection when available.

Topics

This user's guide is divided into the following high level topics:

[Using Silhouette](#)

[Silhouette Administration](#)

[System Requirements and Operating Conditions](#)

[Appendices](#)

Using Silhouette

This section describes the basics of using with Silhouette. It is divided into the following sections:

Logging In to Silhouette

Navigating in Silhouette

Logging Out from Silhouette

Logging In to Silhouette

To log in to SilhouetteCentral, navigate to the website address of your SilhouetteCentral instance using a Web Browser.

To log in to SilhouetteConnect, start the SilhouetteConnect application on your computer.

The log on screen will appear. Enter the **User Name** and **Password** supplied to you. Select **Login**.

It is important to log on using the **User Name** and **Password** assigned to you. Silhouette records the names of users viewing, creating, and modifying patient records, and using the correct user name ensures accurate auditing.

While logging on to Silhouette you may occasionally be prompted to change your password if a system administrator has made use of the password expiry features. In this case you will need to pick a new password that meets the password complexity requirements and enter it before Silhouette will allow you to log on.

When logging in to SilhouetteCentral, web browsers may prompt you to save a **User Name** and **Password**. If using a shared computer, it is recommended that you do not permit the browser to save your login detail for SilhouetteCentral. Doing so, means that anyone using your computer can log on, access and potentially modify patient medical records that will be recorded as having been completed by you.

Changing Passwords

For users with permission to manage Users and Groups, your own and others passwords are managed via the Users screen.

Note that user names and passwords are used across the Silhouette Product Suite, so you will also need to use the new password when logging in to SilhouetteCentral, SilhouetteConnect, SilhouetteLite or SilhouetteLite+.

For users without permissions to manage Users and Groups to change their Silhouette password:

1. Navigate to the **Admin > Profile** screen.

2. Select the **Change Password** button.

3. Enter your existing password in the **Current Password** box.

4. Enter your new password in both the **New Password** and **Confirm Password** boxes.

5. Select the **Save** button to update the system with your new password.

When SilhouetteConnect is operating in Synchronized mode, in addition to changing their password in SilhouetteCentral, as above, all users can change their password by accessing **Admin > Profile** in SilhouetteConnect. A synchronization must be performed before the password change is applied across the system. During synchronization SilhouetteConnect needs to ask for the user's old Silhouette password (which SilhouetteCentral still has) to successfully complete. If the old password can't be remembered the password can be reset via SilhouetteCentral, before the sync can proceed.

Logging in to an offline SilhouetteConnect after a password has been changed in SilhouetteCentral requires the users original password until a synchronization is completed. When SilhouetteConnect is online, it allows the new password to be used.

Recovering Forgotten Password
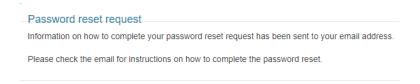
If you have forgotten your password, use the **"Forgot your Password?"** link on the SilhouetteCentral log in screen. This link is only available in SilhouetteCentral, not SilhouetteConnect. If you do not see this link, your administrator may have chosen to disable this feature, in which case contact your system administrator for further advice on how to regain access to your account.
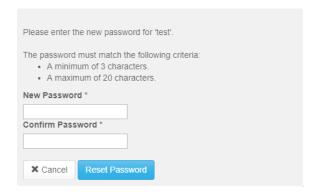
Once the "Forgot your password?" link is selected you will be prompted to enter your email address. You should enter the email address that is associated with your Silhouette user name.

You will get a message that an email with instructions to reset your password has been sent to the email address you specified.
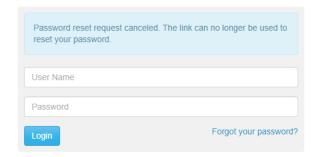
When you check your email account and receive the email sent by Silhouette you will find a link that can be used to reset your password. Selecting the link will load the Silhouette website and prompt you to enter a new password.

Please enter the new password for 'test'.

The password must match the following criteria:
- A minimum of 3 characters.
- A maximum of 20 characters.

New Password *

Confirm Password *

✖ Cancel   Reset Password

You will receive a confirmation that your password has been changed and you can now proceed to log on with the new password.

Password Reset

Your password has been reset, please proceed to log on with your new password.

If you receive a password reset request email and do not remember requesting it, an additional link in the email may (depending upon system configuration) be provided that allows you to cancel the password reset request so any other person who manages to view the email can not reset your password.

Password reset request canceled. The link can no longer be used to reset your password.

User Name

Password

Login   Forgot your password?

In some circumstances you may get a password reset email that indicates your user account is not able to have its password reset via email. In this scenario contact your system administrator for further instructions on how to reset your password.
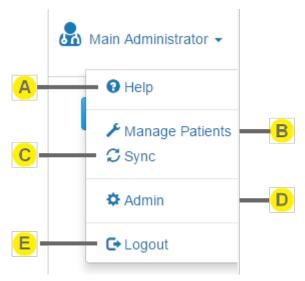
Navigating in Silhouette

The basics of navigating within Silhouette are described in the following topics:

- Application Menu

- Identifying Patients

- Searching for Patients

- Patient Sidebar

- Capturing Wound Images

Application Menu

Once you have logged in to Silhouette, your name is shown in the top right-hand corner, with a drop down menu, known as the Application Menu:

A **Help**

Contains links to the User Guides to help you use Silhouette. It also contains the links to legal and licensing information for Silhouette.

B **Manage Patients**

Opens the Manage Patients screen on SilhouetteConnect, allowing the selection of patients to download to this instance of SilhouetteConnect.

This menu item is only shown in SilhouetteConnect if it is running in Synchronized mode and if the current user has the **Can Manage Patients** permission.

C **Sync**

Initiates a Sync to SilhouetteCentral.

This menu item is only shown in SilhouetteConnect if it is running in Synchronized mode and if the current user has the **Can Synchronize** permission.

D **Admin**

Change your account settings such as your name, email address and password.

Also, if your account has the correct permissions, then you can administer settings for the application. See "Silhouette Administration".

E **Logout**

Log out of SilhouetteCentral. See "Logging Out from Silhouette".

Identifying Patients

Silhouette uses three (3) pieces of information to positively identify patients. By default, this information is setup for clinical practice environments:

- Patient name (first name + last name)
- Patient ID
- Patient Date of Birth

These bits of information are displayed throughout the system to help positive identification of the patient being imaged.

Silhouette requires that every patient in the system has an ID. The patients name and date of birth can be made optional for clinical research focused deployments.

Contact ARANZ Medical support to make changes to the patient identifiers.

Searching for Patients

In some Silhouette screens, you can search for patients by their first name, middle name, last name, or Patient ID.

A **Search box**

Enter part of the patient's name or Patient ID. The search will be performed after the typing has stopped.

For example, searching for the letters "an" filters the list so that it displays patients whose name or Patient ID begins with the letter sequence "an".

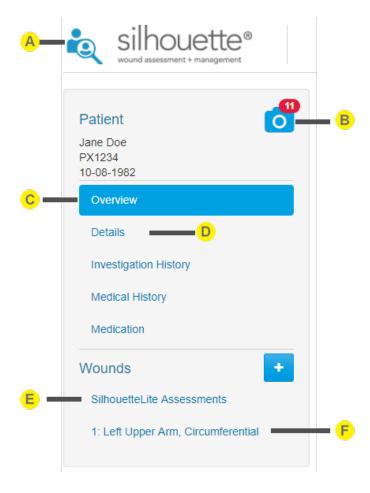Narrow the search further by entering more of a patient's name or Patient ID.

B **Clear button**

Select the **x** button to clear the search box and display the full list of patients.

Patient Sidebar

Once a patient is selected a sidebar is displayed that can be used for navigating between sections. The current section is highlighted in blue.

A Select the patient search icon or the logo to go back to the **Patient Select** screen

B The camera icon opens the **Portfolio** dialog, containing the unassigned captured images and the SilhouetteStar connection information.

C Opens the **Patient Overview**

D   Opens the **Patient Details** (name, date of birth, etc). The patient note sections available on the sidebar are configurable in the **Admin** section.

E   View all the **SilhouetteLite** assessments

F   Opens the **Wound Overview** for the selected wound

Note that it is possible to use multiple tabs to view SilhouetteCentral. Care should be taken to ensure the correct patient data is being reviewed when using this feature.

Capturing Wound Images

> **?** To get more comprehensive help with the Clinical UI in Silhouette, please see the Clinical User's Guide.

In order to capture wound images, Silhouette must be connected to a SilhouetteStar camera.

Connecting a SilhouetteStar camera to SilhouetteConnect using USB

SilhouetteConnect allows connection of either the SilhouetteStar 1 or the SilhouetteStar 2 camera via a USB cable.

The USB connected camera automatically connects, if plugged in, once as the user is logged in to SilhouetteConnect.

To check that the camera is detected and connected, either check the screen of the SilhouetteStar 2 camera or navigate to the portfolio dialog for a patient. The Portfolio dialog is accessed by selecting the **camera icon** on the Patient sidebar.

Patient   📷

Jane Doe
PX1234
10-08-1982

The portfolio dialog provides a message indicating that the camera is connected and is ready to capture images.

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Connecting a SilhouetteStar 2 camera to SilhouetteCentral using Wi-Fi

SilhouetteCentral allows connection of the SilhouetteStar 2 camera using Wi-Fi. For this, Silhouette needs at least one SilhouetteStar 2 network configured. See Creating a Network Configuration.

Connect the camera to SilhouetteCentral via Wi-Fi by opening the Portfolio dialog. To do this, select the **camera icon** on the Patient sidebar.

If the Portfolio shows the captured images instead of the networks available, use the **'Connect the SilhouetteStar'** link.

The dialog will display a QR code if there is only one network available. If there are multiple networks configured, it will show a dropdown so that the correct network can be selected.

Press the button on the SilhouetteStar 2 camera to turn on the lasers. Hold the camera with the button facing up and point the lasers at the QR code to connect to Silhouette.

Once it has connected, the Patient details will be shown on the SilhouetteStar 2 camera display, and images can be captured.

Using the SilhouetteStar camera to capture images

Images can be captured whenever the SilhouetteStar camera (SilhouetteStar 1 or SilhouetteStar 2) is connected and there is a patient selected.

To capture images:

- Press the button on the SilhouetteStar camera to turn the lasers on.

- Form a star with the lasers inside the wound, making sure one laser is crossing the deepest part of the wound.

- Press the button on the SilhouetteStar camera to take the image, holding the camera as still as possible for approx. 2 seconds. The SilhouetteStar 1 camera initiates the image capture when the button is pressed, while the SilhouetteStar 2 camera initiates the image capture when the button is released.

- The lasers turn off after a timeout. If the lasers turn off and there are still more images to be captured, then press the button to turn them on again.

Captured images are uploaded to the selected patient's portfolio and can be used when creating assessments. If using SilhouetteConnect, the images in the patient's portfolio are stored locally on the computer and are not synchronized to SilhouetteCentral. Images stay in the portfolio until they are used in an assessment or until the are deleted by the user.

The user is able to navigate between patients in Silhouette while the camera is connected. When using a Wi-Fi camera connection to SilhouetteCentral then the camera connection is linked to the browser tab to which it was originally connected. If that browser tab is closed then the camera is disconnected and must be re-connected to another browser tab.

Disconnecting the SilhouetteStar camera

The SilhouetteStar camera will remain connected until the Silhouette session ends (e.g. by logging out, by application lock timeout, by closing the web browser, etc).

When operating in Wi-Fi mode, the SilhouetteStar 2 camera will go to sleep after a period of inactivity to preserve the battery power. When the button is pressed, the camera will wake up and attempt to reconnect to the last session if it is still open.

If using the SilhouetteStar 2 camera the battery in the camera still needs to be changed, even when operating in a USB connected configuration.

Logging Out from Silhouette

You can log out of Silhouette by using the Application Menu in the upper right-hand corner, and selecting the **Logout** option.

Note that you will be automatically logged out of Silhouette after a period of inactivity. This period is configurable, but by default is 10 minutes.

Logging Out from Silhouette

Silhouette Administration

Silhouette administration is controlled through either SilhouetteCentral or SilhouetteConnect, see Using Silhouette.

The administration options available depend on what application you are using and what mode it is operating in. Each administration topic identifies specific application and mode dependency. A high level description of application and mode dependency is listed here:

- SilhouetteCentral (any mode) contains most administration, except wired mode specific settings for SilhouetteStar 2.

- SilhouetteConnect, Synchronized mode contains only administration settings applicable to the administration of the specific PC. All system wide settings are configured in SilhouetteCentral and updated in SilhouetteConnect when a synchronization is performed.

- SilhouetteConnect, Standalone mode contains a subset of all system administration. Settings that are not applicable to standalone (non-enterprise) settings are not available.

The admin section is accessed through the **Application Menu** and is organized into sections, which are displayed in the sidebar.

Users

Groups

Assessments

[Patient Notes](#)   [Unit Administration](#)   [SilhouetteStar 2](#)
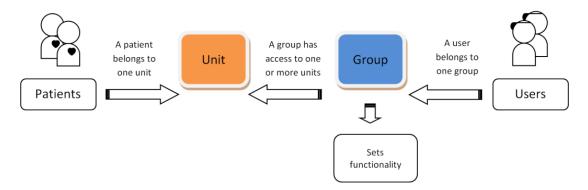
> ❓ The sections displayed to any given user will depend upon the permissions that have been configured for that users assigned group.

Groups, Users, and Units in Silhouette

Access to the Silhouette data is managed through units and groups. Additionally, the group controls functionality available to the users.

Where:

- Every patient belongs to a single unit. While a patient can only belong to one unit at a time, this can change over time.
- Each user belongs to a single group.
- A group can be associated with one, several, or all units of the organization.

A Silhouette user has access to:

- patients that belong to the unit(s) to which the user's group is associated with; and
- perform actions that are allowed by the user's group permissions.

As an example, your organization might have a set of users who belong to the same group that can only access patients from a specific unit in the organization. A user might also be limited in what changes they can make to patient records or might be prevented from creating new patients in the system. At the same time, there may be a set of users who belong to a different group that has access to every patient and can use any Silhouette feature available in the system.

Organizations use units in different ways, depending upon how the organization is structured. For example, an organization may use units to differentiate different departments, wards, or facilities. Clinical research organizations typically create a unit per research site.

Putting patients into Units within Silhouette is an important way of controlling who has access to patient data. It also controls how much patient data can be stored in offline devices using SilhouetteConnect, SilhouetteLite+ or SilhouetteLite.

Units can be defined in the Unit Administration screen. Group settings, including which units members of a group can access, are defined in the Groups screen. Users can be created and edited in the Users screen, which allows assignment of a user to one of the groups defined in the Groups screen.

When configuring Silhouette for your organization, first define and configure Units, then Groups and finally users.

Automated Groups, Users and Units Set Up

If you have access to the physical server running SilhouetteCentral you can alternatively make use of a more direct import process, as an alternative to using the administration user interface to configure additional groups, users, or units.

Files with the following special filenames can be placed in the Files\Setup folder of SilhouetteCentral's installation folder and will be automatically detected and processed during the next application pool restart. If successfully processed, the file will be deleted from the Files\Setup folder to indicate its successful import.

- Units.csv - a comma separated list of units to import into Silhouette.

- Groups.csv - a comma separated list of groups to import into Silhouette.

- Users.csv - a comma separated list of users to import into Silhouette.
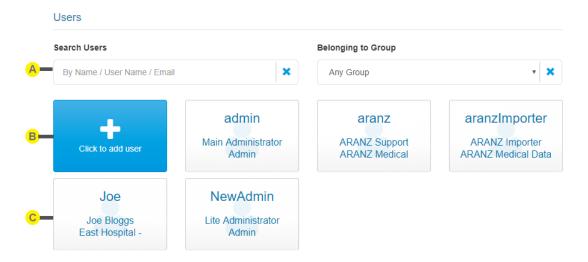
As an example if you wanted to quickly add 50 additional units to a Silhouette installation you could create a Units.csv file describing the details of the 50 additional units and then place this file in the Files\Setup folder. Once the file is in place, restarting the IIS application pool would cause the 50 units to be imported into the system.

Please contract ARANZ Medical Limited support for assistance preparing the csv files for importing.

Users

Users must have a user account to access any of the Silhouette applications (SilhouetteCentral, SilhouetteLite, or SilhouetteLite+). The **Users** screen allows you to add and manage Silhouette user accounts.

To define and manage users, select **Admin > Users**. The **Users** option is not available in SilhouetteConnect when it is running in synchronized mode. In Synchronized mode, user administration is performed in SilhouetteCentral.

A   **Filter options**

Limit the users shown in the list using these options.

B   **Create button**

See "Creating a User".

C   **User tile**

Select the user tile to view or edit the user. See "Editing a User".

Creating a User

To add a new user to Silhouette, in the **Users** screen select the **Click to add user** button. The **Create User** screen is displayed, with compulsory fields marked with an asterisk. Enter the required information.
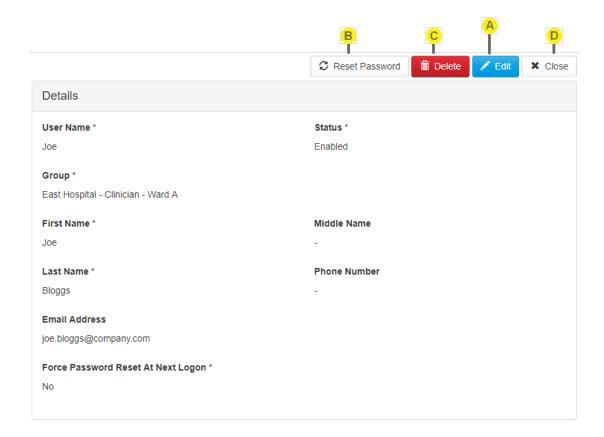
Note that every user within the organization must have a unique **User Name**.

The **Group** a user is assigned to determines what Silhouette features and patients the user has access to. See Groups for more information.

When you have entered the user's details, select the **Save** button at the bottom of the screen to save the user's information. After saving you are returned to the Users screen.

Editing a User

To edit an existing user's details (including your own), select that user's tile in the **Users** screen. The information for the user is displayed in a read-only view.

A Edit

Select the **Edit** button to change from read-only mode to edit mode.

In Edit mode, compulsory fields are marked with an asterisk. After editing the user's details, select the **Save** button at the bottom of the screen to save the user's information and return you to the read-only view.

B Reset Password

Select **Reset Password** to change the user's password.

C Delete

Select **Delete** to delete a user. A confirmation prompt is presented before the user is deleted.

A user can be disabled instead of deleted by selecting **Edit** and changing the **Status** field. The **Status** drop-down controls if a user can log in to Silhouette. A user is able to log in when their status is "Enabled". To temporarily stop a user from logging in, you can set their status to "Disabled". The status is set to "Locked" if the system has automatically disabled an account. The distinction between "Disabled" and "Locked" can be used to determine which user accounts have been explicitly disabled by a system administrator, and those which a user has accidentally disabled due to entering the incorrect password too many times.

D Close

Select **Close** to go back to the Users screen.

Groups

To ease support burdens, individual user accounts are assigned to groups based upon similar needs with respect to the features and patients they are allowed to access. This allows the permissions to be configured once and applied immediately across a number of user accounts.

As an example, you may create a group to allow data correction tools to be utilized by research staff, while another group containing your clinical staff would not have access to these tools. Groups can also be used to restrict users to interacting with a subset of patients (via units).

To define and manage groups, select **Admin > Groups**. The **Groups** option is not available in SilhouetteConnect when it is running in synchronized mode. In Synchronized mode, group administration is performed in SilhouetteCentral.

A **Create button**
See "Creating a Group".

B **Group tile**
Select the group tile to view or edit the group. See "Editing a Group".

Creating a Group

To create a new group, in the **Group Administration** screen select the **Click to add group** button. The **Create Group** screen is displayed, with compulsory fields marked with an asterisk.

The Save and Cancel buttons are at the bottom of the screen.

Select the **Save** button at the bottom of the screen to create the group.

Select the **Cancel** button at the bottom of the screen to exit the screen without creating the group.
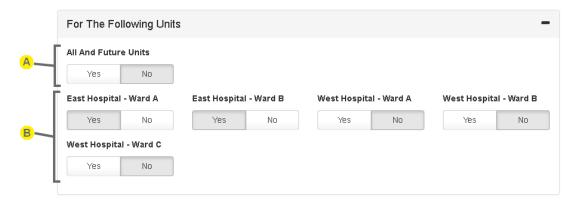
Group Details

Enter a **Group Name** and **Description**.

Group and Unit Relationship

Each group must select which Units that the group permissions apply to in the **For The Following Units** section. The selection of unit limits the patients, users and groups that the group members can access. See "Groups, Users, and Units in Silhouette" for more information on how the relationship between Users, Patients, Groups and Units work.

For The Following Units   —

All And Future Units

(A)   [Yes | No]

East Hospital - Ward A   **East Hospital - Ward B**   **West Hospital - Ward A**   **West Hospital - Ward B**

(B)   [Yes | No]   [Yes | No]   [Yes | No]   [Yes | No]

West Hospital - Ward C

[Yes | No]

A   **All And Future Units**

Select Yes for **All And Future Units** to give the group access to all existing units and all new units as they are created within Silhouette.

Select No for **All And Future Units** to manually select which individual units the group has access to.

B   **Individual unit selection**

Select which units this group of users has access to.

Selecting Yes to **All And Future Units** hides the individual unit selection options.

When a new unit is created in the system then any existing groups do not automatically get permission to access it.

Group Permissions
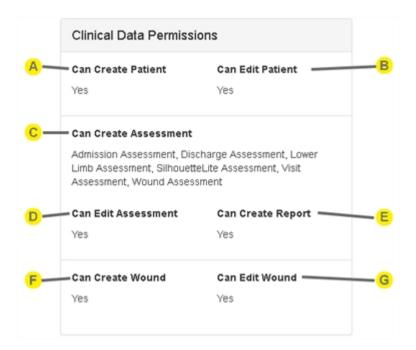
Below is a description of each permission that can be assigned to a group. The permissions are divided up into areas:

- Clinical Data Permissions.
- Silhouette Permissions.
- Administrator Permissions.

The permissions listed in italics below are intended to control features that are not yet implemented in the current version of Silhouette and so do nothing as yet.

Clinical Data Permissions

Clinical Data Permissions control the access to patient data.

A · Can Create Patient

Controls if users assigned to this group can create patients.

B · Can Edit Patient

Controls if users assigned to this group can edit patient details or any of the patient notes.

The ability to view the patient notes in the Clinical UI is also linked to the application the user is using. See "Patient Notes " to show how to control which patient notes are visible in each of the Silhouette applications.

C · Can Create Assessment

Controls which assessments (if any) the user is allowed to create. Creating assessments includes the ability to use images from the portfolio in an assessment (assigns the image to a wound) and perform measurements with that image.

This is a multi-selection list box, listing all of the assessment types available in the system. Leaving the selection list empty means that the user can not create any assessments.

The ability to create different assessments is also linked to the application the user is using. See "Assessments" to show how to control the assessments that are creatable in each of the Silhouette applications.

D · Can Edit Assessment

Controls if users assigned to this group can edit assessments. Editing assessments includes the ability to add or remove images and edit image tracings after the initial assessment creation.

E · Can Create Report

Controls if users assigned to this group can create reports for assessments.

F · Can Create Wound

Controls if users assigned to this group can create wounds.

G **Can Edit Wound**
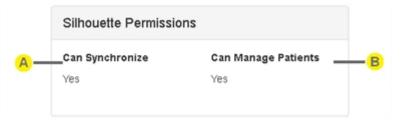
Controls if users assigned to this group can edit wounds.

> A group with permissions to a unit can view all patients, wounds and assessments for that unit , i.e. there is no separate view permission above.

Silhouette Permissions

Silhouette Permissions control the access to system functions.

A **Can Synchronize**

Controls if users assigned to this group can synchronize a SilhouetteConnect with SilhouetteCentral.
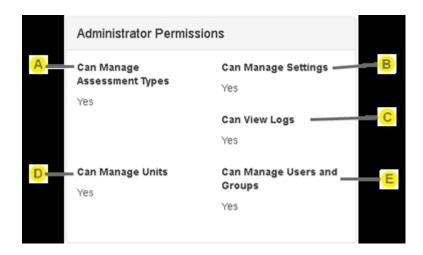
B **Can Manage Patients**

Controls if users assigned to this group can add/remove patients from the offline dataset held in a SilhouetteConnect install. Groups with **Can Manage Patients** also need **Can Synchronize** permission.

Administrator Permissions

Administrator permissions control access to various sections in the admin sidebar.

Most of the options listed under administrator permissions are only available if the group is set to access **All And Future Units**. The administration permissions that are not available are hidden if **All And Future Units** is set to No. This is because some administrator functionality allows interaction with any patient within the system, or affects all users. See the description of **Can Manage Users and Groups** below.

A   **Can Manage Assessment Types**

Controls if users assigned to this group can edit assessment types.

This permission controls the visibility of the **Admin > Assessments** and the **Admin > Patient Notes** items in the Silhouette admin sidebar.

B   **Can Manage Settings**

Controls if users assigned to this group can access the organization settings.

This permission controls the visibility of the **Admin > SilhouetteStar 2** item in the Silhouette admin sidebar.

C   *Can View Logs*

Controls if users assigned to this group can view the logs.

D   **Can Manage Units**

Controls if users assigned to this group can add/edit/delete units.

This permission controls the visibility of the **Admin > Units** item in the Silhouette admin sidebar.

E   **Can Manage Users and Groups**

Controls if users assigned to this group can add/edit/delete users and groups.

This permission controls the visibility of the **Admin > Users** and **Admin > Groups** items in the Silhouette admin sidebar.
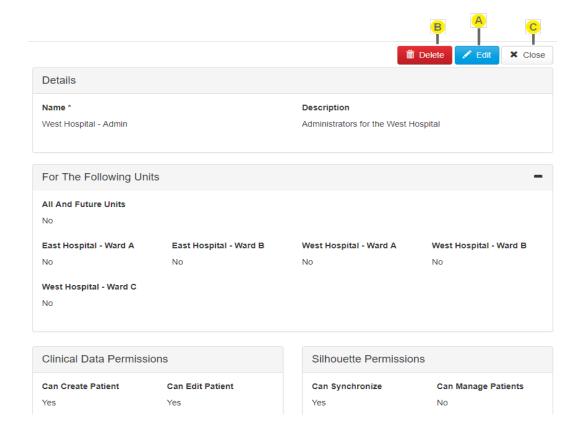
If a group does not have this permission then the users will have access to **Admin > Profile** to see their own user profile and will be able to change their own password.

The **Can Manage Users and Groups** administrator permission remains available, even when the group does not have access to **All And Future Units**. The scope of this permission is set by the Unit selection for the current group, allowing for the creation of limited administrators.

A limited administrator is a user who can manage users and groups for a limited set of units. A limited administrator is created by assigning a user to a group that has access to a limited set of units and has **Can Manage Users and Groups** enabled. A limited administrator can manage users and groups that have access to the same set (or a subset) of units that the limited administrator has access to. When creating or editing a group, a limited administrator can only select unit(s) for the group that the limited administrator has access to.

Editing a Group

To edit a group to Silhouette, in the **Group Administration** screen, select the group from the groups list. The information for the group is displayed in a read-only view.

A Edit

Select the **Edit** button to change to edit mode from read only mode. Update the information, as required. To save the group's settings, select the **Save** button at the bottom of the screen.

A user cannot edit the **Units** and **Can Manage Users and Groups** permission for its own group in order to prevent them from accidentally changing permissions they cannot restore. For example, if user has access to all units and was to change their own group permissions to limited unit access, they would then not be able restore their own permissions to all units as the system would see this as an attempt to escalate their own access to patient data. However, the user change the **Can Create Patient** permission for their own group, as they can always restore that permission.

B Delete

Select the Delete button to delete the group. Before deleting you will be asked to confirm the delete operation.

If a group has users assigned to it, then it can not be deleted.

C Close

Select the Close button to go back to the Groups screen.

Assessments

Assessments are the main charting mechanism within Silhouette. Assessments appear on a patient's timeline and represent a set of data recorded at a point in time. Silhouette allows for two different types of assessments:

- Patient Assessments, which are about the patient as a whole (rather than a particular wound) and are useful to record patient risk assessments or similar whole of patient assessments.
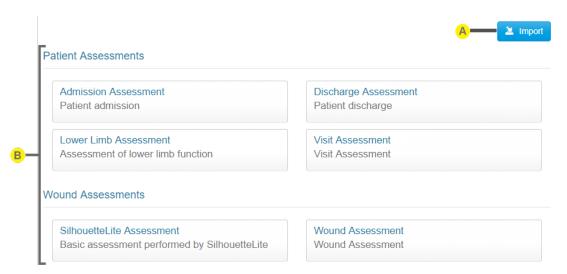
- Wound Assessments, which are about a particular wound on the patient and are the main assessment used to track progress of a given wound.

Silhouette comes with some pre-loaded Patient Assessments and Wound Assessments. Extra assessments can be added to the system to suit your organization.

Assessments are different to patient notes, which appear in the patient sidebar and do not relate to a point in time. For example, a patients allergies may change over time but they are not assessed every week. See "Patient Notes " for help administering patient notes.

To define and manage assessments, select **Admin > Assessments**. The **Assessments** option is not available in SilhouetteConnect when it is running in synchronized mode. In Synchronized mode, assessment administration is performed in SilhouetteCentral.

A   **Import button**

Allows an assessment definition zip file to be imported, which either creates a new assessment or modifies the definition of an existing assessment.

A newly imported Assessment is not be accessible to any users by default. See "Editing a Group" for information on granting users access to create the new Assessment.

Contact ARANZ Medical Limited for help to configure the assessments you need.
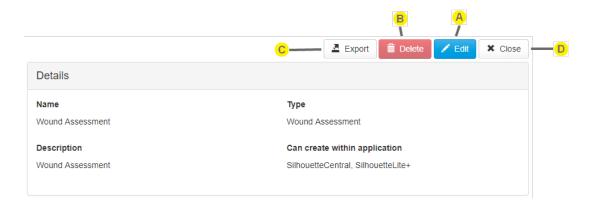
B   **Assessment Tiles**

Selecting an assessment opens the assessment definition to show the detail and allow editing, See "Editing an Assessment Type".

⚠   Use caution when modifying the definition of existing assessments when there are users using your system offline with either SilhouetteConnect or SilhouetteLite(+). Simple changes, such as making a field required, may cause sync errors when offline data created with previous definitions is attempting to sync.

Editing an Assessment Type

To edit an assessment in Silhouette, in the **Admin > Assessments** screen, select the assessment from the list. The information for the assessment is displayed in a read-only view.

A Edit

Select the **Edit** button and update the information as required.

- The **Name** is displayed to users when they create assessments and is displayed at the top of the assessment.

- The **Type** can be Wound Assessment or Patient Assessment.

- The **Description** is provided to show as additional detail to the user when they create the assessment.

- The **Can create within application** allows the selection of which application can be used to create an assessment of this type. Selecting SilhouetteCentral means both SilhouetteCentral and SilhouetteConnect.

Once edited, select the **Save** button at the bottom of the screen to save the settings.

B Delete

Select the **Delete** button to delete the assessment type. The system prevents you from deleting assessment types which have been used to create assessments for patients. If you wish to prevent more assessments being created of a given type then disable new assessments by unticking all applications under the **Can create within application** option.

C Export

Select the **Export** button to download a zip file containing the assessment type definition. The assessment type can then be imported into another Silhouette system (e.g. between a test and production system) or provided to ARANZ Medical for modification.

D Close
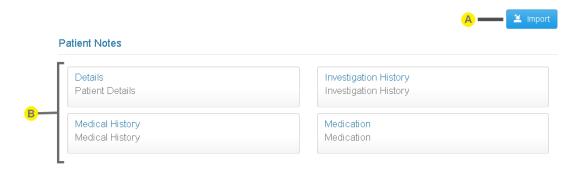
Select **Close** to go back to the Assessments screen.

Patient Notes

The Patient Notes admin section shows the patient notes categories which appear on the patient sidebar (includes Details, Investigation History, Medical History and Medication by default). Patients notes can be added or removed from the system to suit your organization.

To define and manage Patient Notes, select **Admin > Patient Notes**. The **Patient Notes** option is not available in SilhouetteConnect when it is running in synchronized mode. In Synchronized mode, assessment administration is performed in SilhouetteCentral.

A — Import button

Allows patient notes definition zip file to be imported, creating a new patient note or modifying an existing patient notes.

Contact ARANZ Medical Limited for help to configure the Patient Notes you need.
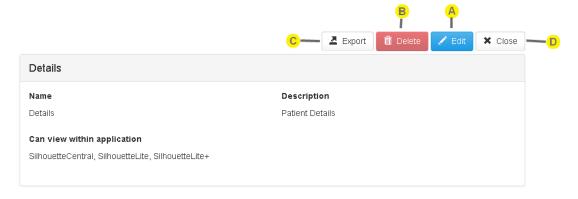
B — Patient Note tile

Select the patient note to view and edit the details. See "Editing Patient Notes"

Editing Patient Notes

To edit Patient Notes setup in Silhouette, select the patient note tile from the list of patient notes in the **Admin > Patient Notes**. The information for the patients notes is displayed in a read-only view.

A Edit

Select the **Edit** button to update the information, as required.

- The **Name** is displayed in the patient sidebar.

- The **Description** allows some text to help keep track of what the patient notes are for.

- The **Can view within application** controls where the patient notes are visible. SilhouetteCentral means both SilhouetteCentral and SilhouetteConnect. Selecting SilhouetteLite or SilhouetteLite+ has no effect as these applications do not have features to view the patient notes.

Once edited, select the **Save** or **Cancel** button at the bottom of the screen to save or cancel the changes.

B Delete

Select the **Delete** button to delete the patient notes from the system. The system allows you to delete patient notes even if there are some patients with notes recorded against them.

C Export

Select the **Export** button to download a zip file containing the patient notes definition. The patient notes can then be imported into another Silhouette system (e.g. between a test and production system) or provided to ARANZ Medical for modification.

D Close

Select **Close** to go back to the Patient Notes screen.

Unit Administration

A unit defines an entity which patients can be assigned to. Different organizations use units in different ways, depending upon how the organization is structured. For example, an organization may use units to differentiate different departments, wards, or facilities.

To define and manage units, select **Admin > Units**. The **Units** option is not available in SilhouetteConnect when it is running in synchronized mode. In Synchronized mode, assessment administration is performed in SilhouetteCentral.

A Create button

B Unit tile

Select the tile for a unit to view and edit the unit, See "Editing a Unit".

Editing a Unit

To edit a unit in Silhouette, in the **Unit Administration** screen, select the unit from the units list. The information for the unit is displayed in a read-only view.

A

Edit

Select the Edit button to change from ready-only view to editing mode.

- The **name** is used through-out the system to represent the Unit, including when creating and editing patients.

Once edited, select the **Save** or **Cancel** button at the bottom of the screen to save or cancel the changes.

B

Delete

To delete the unit, use the **Delete** button.

Silhouette does not allow all units to be deleted.

Silhouette prevents a unit with patients assigned to it from being deleted.

C

Close

Select **Close** to go back to the Unit Administration screen.

SilhouetteStar 2
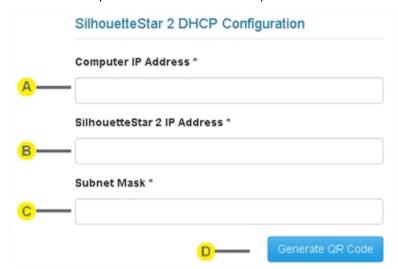
The SilhouetteStar 2 settings available depend on if you are using the camera in wired USB mode with SilhouetteConnect or in Wi-Fi mode with SilhouetteCentral.

- Wired mode with SilhouetteConnect has options for SilhouetteStar 2 DHCP Configuration.

- Wi-Fi mode with SilhouetteCentral has options for Network Configurations and Wireless Camera Tools.

SilhouetteStar 2 DHCP Configuration

When operating with SilhouetteConnect in wired USB mode, the SilhouetteStar 2 establishes a network connection with the computer using an Internet Protocol (IP) address. The SilhouetteStar 2 camera provides the computer an IP address via the Dynamic Host Configuration Protocol (DHCP). The default IP addressesused by the camera is 192.168.7.2 /24 and it assigns the address 192.168.7.1 /24 to the computer. In some rare cases the network used may cause a conflict with other networks used in the organization and the SilhouetteStar 2 will not be able to establish a connection to SilhouetteConnect.

The **Admin > SilhouetteStar 2** page provides SilhouetteStar 2 DHCP Configuration settings. These settings are available in SilhouetteConnect in both synchronized and standalone operational modes.

A **Computer IP Address**

Enter the IPv4 Address (in dotted decimal notation) that the SilhouetteStar 2 camera should be assigned to the computer. This address must be in the same IPv4 subnet as the SilhouetteStar 2 IP Address, with respect to the Subnet Mask.

The default factory setting is 192.168.7.1

B **SilhouetteStar 2 IP Address**

Enter the IPv4 Address (in dotted decimal notation) for the SilhouetteStar 2 camera . This address must be in the same IPv4 subnet as the Computer IP Address, with respect to the Subnet Mask.

The default factory setting is 192.168.7.2

C **Subnet Mask**

Enter the IPv4 Subnet Mask (in dotted decimal notation) for the SilhouetteStar 2 / Computer link network. This Subnet Mask must allow the network to span the Computer IP Address and the SilhouetteStar 2 IP Address.

The default factory setting is 255.255.255.0

D **Generate QR Code**

Once valid IP addresses have been entered, click on the **Generate QR Code** button. A QR Code encoding the settings is displayed on the screen.

Apply the Settings to Camera

To apply the settings to the SilhouetteStar 2 camera:

- With the SilhouetteStar 2 camera turned on and not connected to Silhouette,

- Press the camera button to turn on the lasers (begins scanning for QR Code),

- Hold the SilhouetteStar 2 up to the screen with the button at the top and so that the lasers form a star over the QR code,

- The camera will display "DHCP Updated" once the QR Code has been scanned and the settings have been applied.
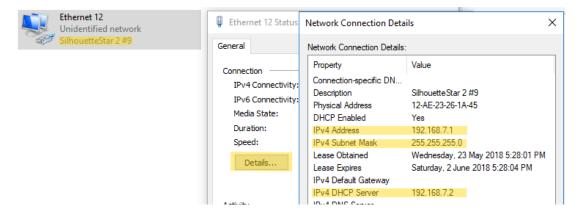
Once these settings are applied to a camera, they are remembered until the camera firmware is updated.

The QR code can be printed and used to set all your cameras to the same settings. There is no need to generate a new QR code each time. The QR code in the example diagram above can be used to set the camera back to default settings.

Checking the SilhouetteStar 2 DHCP Configuration

If you wish to confirm the settings the camera is using then you can check the settings once the camera is plugged into a PC by:

- Navigating to the Control Panel > Network and Internet > Network Connections.

- Right-click on the Ethernet Adapter that has a SilhouetteStar 2 label and selecting **Status**.

- On the Ethernet Adapter status page click the **Details...** button.

- The IPv4 Address, IPv4 Subnet Mask and IPv4 DHCP Server are all listed in the Network Connection Details dialog and correspond to the Computer IP Address, the Subnet Mask, and the SilhouetteStar 2 IP Address settings in Silhouette.
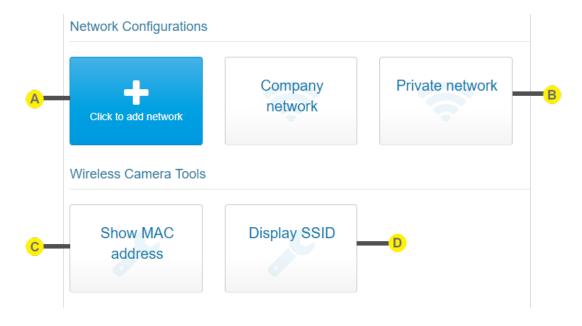
Network Configurations and Wireless Camera Tools

The settings in the **SilhouetteStar 2** screen are used to allow the SilhouetteStar 2 camera to connect to the organization's Wi-Fi network.

These settings are displayed within the user application through a QR code which the camera uses to read the network settings and successfully connect.

To define and manage network configurations or to access the wireless camera tools, select **Admin > SilhouetteStar 2** in SilhouetteCentral. The **Network Configurations** and **Wireless Camera Tools** sections are not available in SilhouetteConnect.

A **Create button**

See "Creating a Network Configuration".

B **Network Configuration tile**

See "Editing a Network Configuration".

C **Show MAC Address**

Select **Show MAC address** to navigate to a QR code that can be scanned by a SilhouetteStar 2 camera to show the Wi-Fi MAC address of the camera on the camera display.

Once scanned, the camera shows the Wi-Fi MAC address until it is dismissed with a camera button press.

D **Display SSID**

Select **Display SSID** to navigate to a QR code that can be scanned by a SilhouetteStar 2 camera to cause the network SSID to be displayed on the camera display.

The SSID is shown on the third line of the display, replacing the Patient DoB. The SSID of the network is displayed whenever the camera is connected, or is attempting to connect, to a Wi-Fi network.

The SilhouetteStar 2 continues show the SSID on the display until it is power cycled or until the **Display SSID** QR code is scanned again.
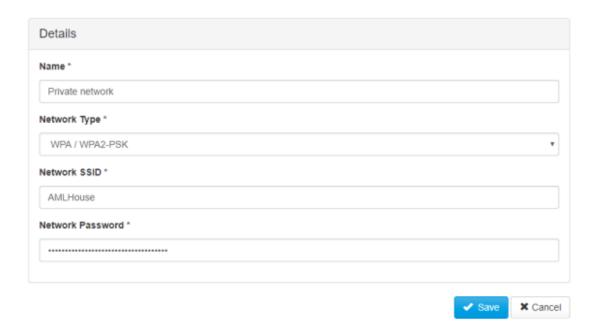
> The Wireless Camera Tools QR codes can only be scanned if the camera is not already connected to a network.

> The Wireless Camera Tools QR codes can be printed, or downloaded as images and emailed. This may help if you need Silhouette users without admin access to scan them for diagnostic or setup purposes.

Creating a Network Configuration
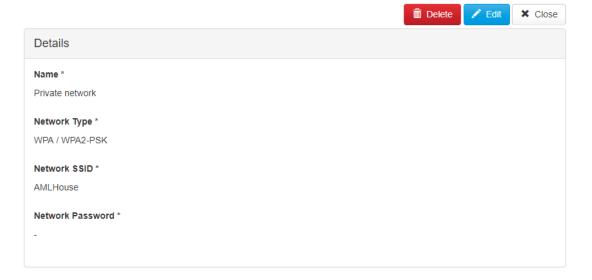
Select the **Click to add network** button in the **SilhouetteStar 2** screen to create a new network configuration. The **Create Network** screen is displayed, with compulsory fields marked with an asterisk. Enter a **Name**, **Type**, **Network SSID**, and **Network Password**.

To save the network's settings, select the **Save** button at the bottom of the screen.

Editing a Network Configuration

To edit a network configuration, in the **SilhouetteStar 2** screen, select the network from the networks list. The information for the network is displayed in a read-only view.

Select the **Edit** button. Update the information, as required. To save the network's settings, select the **Save** button at the bottom of the screen.

To delete the group, use the **Delete** button.

Select **Close** to go back to the Network Configurations and Wireless Camera Tools screen.

System Requirements and Operating Conditions

This section may not list the full set of system specifications. A full system specification sheet can be obtained from ARANZ Medical.

SilhouetteCentral Web Application - Minimum Requirements

Web Browsers Supported	Safari, IE, Edge, Firefox, Chrome
	Note: The web application is not designed to work on phone screens. An iPad mini or larger is recommended.

SilhouetteConnect - Minimum Requirements

Operating System	Windows 10
	Windows 7 and Windows 8.1 may be supported where extended support is in place. Contact ARANZ medical for verification.
Processor	2.0 GHz (Multi-core recommended)
Memory	2 GB RAM (4 GB Recommended)
Network	Ethernet or Wi-Fi TCP/IP Connection required for synchronization to SilhouetteCentral
Hard Disk	10 GB Available Space
	The required space depends on how many images and assessments are needed to be held offline. The 10 GB space allowance is sufficient for approximately 5000 images. Each image can vary in space requirements depending on the complexity of the image contents.
Database	Included in SilhouetteConnect (SQL Compact Edition)
	The maximum database size is approximately 250 MB. This typically equates to 30000 to 40000 assessments for offline patients.
Display Resolution	1024 x 768 (Minimum)

SilhouetteStar 2 - Minimum Requirements

Wi-Fi Network Support	Wi-Fi 802.11 a,b,g at 2.4 GHz

Wi-Fi Security Supported	WPA/WPA2-PSK
	Note: Network passwords must be at least 8 characters long
	Note: 802.1x Authentication with MAC Authentication Bypass can also be used with a WPA2-PSK. This configuration requires site testing to confirm operation with site access points and authentication servers.
Minimum bandwidth required	14 Mbps uplink and downlink between the exam room and the SilhouetteCentral server.
Maximum network latency	300 ms round trip between the exam room and the SilhouetteCentral server.
Lighting	100 lux minimum
	400 lux nominal (normal office)
	1000 lux max (bright office)
Operating Temperature	10 C (50 F) min
	30 C (86 F) max
Operating Humidity	0% RH min
	80% RH max
Storage Temperature	-5 C (23 F) min
	50 C (122 F) max

The SilhouetteStar 2 camera uses Wi-Fi to send captured images to SilhouetteCentral. The Wi-Fi network at the point of care (i.e. in the exam rooms) must be reliable to provide dependable camera operation. A reasonable heuristic for the Wi-Fi performance required is that the Wi-Fi should support a 10 minute video conference session without glitches and with good video quality.

The bandwidth and latency requirements above are minimum recommendations for end-to-end network performance requirements based on testing. They do not cater for the number of other services using the network or packet loss in the network. As part of the deployment it is recommended that some testing be carried out to confirm reliable and timely performance of the system.

SilhouetteLite and SilhouetteLite+ App - Minimum Requirements

iOS version	iOS 11 or newer
Device support	iPhone 5s and later
	The application interface is designed primarily for iPhone Plus and iPad Mini devices but has been tested on a wider range of device sizes.

Security	Passcode / Touch ID enabled
	It is recommended that passcode / Touch ID is enabled on the device. Doing so enables the Apple device to encrypt the SilhouetteLite files, protecting them from untrusted access.
Maximum number of patients	4000
Maximum number of images per image capture field	10

SilhouetteLite+ Sensor - Operating Conditions

x offset	-12 mm to +20 mm
	Horizontal offset for placement of the SilhouetteLite+ sensor optics relative to the device optics.
y offset	-12 mm to +30 mm
	Vertical offset for placement of the SilhouetteLite+ sensor optics relative to the device optics.
Sensor Operating Temperature	0°C to 40°C (32°F to 104°F)
Sensor Charging Temperature	0°C to 45°C (32°F to 113°F)
Sensor Storage Temperature	-5°C to 60°C (23°F to 140°F) for < 2 hours
	0°C to 45°C (32°F to 113°F) for up to 1 month
	0°C to 35°C (32°F to 95°F) for > 1 month

Appendices

The appendices include:

[Appendix A: Getting Support](#)

[Appendix B: Anatomical Sites](#)

[Appendix C: Notes Definitions](#)

[Appendix D: Regular Expressions](#)

Appendix A: Getting Support

You can contact ARANZ Medical support by using the contact information listed below:

Customer Support

Email: support@aranzmedical.com

Phone (International): +64 3 961 1988

Phone (US Customers): +1 877 274 5468

Please contact your system administrator for first level support contact information.

Sales Enquiries

Phone (International): +64-3-374-6120

Phone (US customers): 866-467-0934

Fax: +64-3-374-6130

Email: sales@aranzmedical.com

ARANZ Medical Website

www.aranzmedical.com

Appendix B: Anatomical Sites

Wounds recorded within SilhouetteConnect and SilhouetteCentral are always assigned to an anatomical site for reporting and identification purposes.

When specifying an anatomical site the user is prompted to select options from a series of hierarchical drop-down lists. The options available in the next drop-down list depend upon the selection the user made in the previous.

The following tables outline the available anatomical sites and the selections a user must make in the Gross Division, Handedness and Location drop-down lists in order to select them.

The anatomical sites described in this appendix reflect the default set of anatomical sites that SilhouetteCentral and SilhouetteConnect are setup with. They do not show any customisations made.

Head & Neck

Gross Division	Handedness	Location	Display within Silhouette
Scalp		Superior	Scalp, Superior
		Posterior	Scalp, Posterior
		Left Lateral	Scalp, Left Lateral
		Right Lateral	Scalp, Right Lateral
Forehead		Anterior	Forehead, Anterior
		Left Lateral	Forehead, Left Lateral
		Right Lateral	Forehead, Right Lateral
Temple	Left		Left Temple
	Right		Right Temple
Orbit	Left	Superior	Left Orbit, Superior
		Inferior	Left Orbit, Inferior
		Eyeball	Left Orbit, Eyeball
		Medial	Left Orbit, Medial
		Lateral	Left Orbit, Lateral
	Right	Superior	Right Orbit, Superior
		Inferior	Right Orbit, Inferior
		Eyeball	Right Orbit, Eyeball
		Medial	Right Orbit, Medial
		Lateral	Right Orbit, Lateral

Gross Division	Handedness	Location	Display within Silhouette
Cheek	Left	Superior	Left Cheek, Superior
		Inferior	Left Cheek, Inferior
		Anterior	Left Cheek, Anterior
		Posterior	Left Cheek, Posterior
		Central	Left Cheek
	Right	Superior	Right Cheek, Superior
		Inferior	Right Cheek, Inferior
		Anterior	Right Cheek, Anterior
		Posterior	Right Cheek, Posterior
		Central	Right Cheek
Ear	Left	Superior	Left Ear, Superior
		Inferior	Left Ear, Inferior
		Anterior	Left Ear, Anterior
		Posterior	Left Ear, Posterior
	Right	Superior	Right Ear, Superior
		Inferior	Right Ear, Inferior
		Anterior	Right Ear, Anterior
		Posterior	Right Ear, Posterior
Nose		Superior	Nose, Superior
		Inferior	Nose, Inferior
		Anterior	Nose, Anterior
		Left Lateral	Nose, Left Lateral
		Right Lateral	Nose, Right Lateral
Lip		Upper	Lip, Upper
		Lower	Lip, Lower
		Left Angle	Lip, Left Angle
		Right Angle	Lip, Right Angle
Jaw		Anterior	Jaw, Anterior
		Inferior	Jaw, Inferior
		Left Lateral	Jaw, Left Lateral
		Right Lateral	Jaw, Right Lateral

Gross Division	Handedness	Location	Display within Silhouette
Neck		Anterior	Neck, Anterior
		Left Lateral	Neck, Left Lateral
		Right Lateral	Neck, Right Lateral
		Posterior	Neck, Posterior

Torso

Gross Division	Handedness	Location	Display within Silhouette
Thorax	Left	Clavicular region	Left Clavicular region
		Axilla	Left Axilla
		Lateral region	Left Lateral region, Thorax
	Right	Clavicular region	Right Clavicular region
		Axilla	Right Axilla
		Lateral region	Right Lateral region, Thorax
Sternum		Superior	Sternum, Superior
		Inferior	Sternum, Inferior
Breast	Left	Superior	Left Breast, Superior
		Inferior	Left Breast, Inferior
		Anterior	Left Breast, Anterior
		Medial	Left Breast, Medial
		Lateral	Left Breast, Lateral
		Nipple	Left Breast, Nipple
	Right	Superior	Right Breast, Superior
		Inferior	Right Breast, Inferior
		Anterior	Right Breast, Anterior
		Medial	Right Breast, Medial
		Lateral	Right Breast, Lateral
		Nipple	Right Breast, Nipple

Gross Division	Handedness	Location	Display within Silhouette
Abdomen		Right upper quadrant	Abdomen, Right upper quadrant
		Right lower quadrant	Abdomen, Right lower quadrant
		Left upper quadrant	Abdomen, Left upper quadrant
		Left lower quadrant	Abdomen, Left lower quadrant
		Midline - upper	Abdomen, Midline - upper
		Umbilical	Abdomen, Umbilical
		Midline - lower	Abdomen, Midline - lower
		Left flank	Abdomen, Left flank
		Right flank	Abdomen, Right flank
Back	Left	Scapular region	Left Back, Scapular region
		Thoracic region	Left Back, Thoracic region
		Lumbar region	Left Back, Lumbar region
	Right	Scapular region	Right Back, Scapular region
		Thoracic region	Right Back, Thoracic region
		Lumbar region	Right Back, Lumbar region
Spine		Thoracic	Spine, Thoracic
		Lumbar	Spine, Lumbar

Pelvis

Gross Division	Handedness	Location	Display within Silhouette
Spine/Gluteal cleft		Sacrum	Sacrum
		Coccyx	Coccyx
		Peri-anal	Peri-anal
Buttock	Left	Superior	Left Buttock, Superior
		Inferior	Left Buttock, Inferior
		Central	Left Buttock
		Medial	Left Buttock, Medial
		Lateral	Left Buttock, Lateral
	Right	Superior	Right Buttock, Superior
		Inferior	Right Buttock, Inferior
		Central	Right Buttock
		Medial	Right Buttock, Medial
		Lateral	Right Buttock, Lateral

Gross Division	Handedness	Location	Display within Silhouette
Misc. bony prominences	Left	Iliac Crest	Left Iliac Crest
		Greater trochanter	Left Trochanter
		Ischial Tuberosity	Left Ischial Tuberosity
	Right	Iliac Crest	Right Iliac Crest
		Greater trochanter	Right Trochanter
		Ischial Tuberosity	Right Ischial Tuberosity
Groin	Left		Left Groin
	Right		Right Groin
Genital Male		Scrotum	Scrotum
		Penis	Penis
		Perineum	Perineum
Genital Female		Vulva	Vulva
		Labia	Labia
		Perineum	Perineum

Upper Extremity

Gross Division	Handedness	Location	Display within Silhouette
Shoulder	Left	Superior	Left Shoulder, Superior
		Anterior	Left Shoulder, Anterior
		Posterior	Left Shoulder, Posterior
		Lateral	Left Shoulder, Lateral
	Right	Superior	Right Shoulder, Superior
		Anterior	Right Shoulder, Anterior
		Posterior	Right Shoulder, Posterior
		Lateral	Right Shoulder, Lateral

Gross Division	Handedness	Location	Display within Silhouette
Upper Arm	Left	Anterior	Left Upper Arm, Anterior
		Posterior	Left Upper Arm, Posterior
		Medial	Left Upper Arm, Medial
		Lateral	Left Upper Arm, Lateral
		Circumferential	Left Upper Arm, Circumferential
	Right	Anterior	Right Upper Arm, Anterior
		Posterior	Right Upper Arm, Posterior
		Medial	Right Upper Arm, Medial
		Lateral	Right Upper Arm, Lateral
		Circumferential	Right Upper Arm, Circumferential
Elbow	Left	Anterior	Left Elbow, Anterior
		Posterior	Left Elbow, Posterior
		Medial	Left Elbow, Medial
		Lateral	Left Elbow, Lateral
		Circumferential	Left Elbow, Circumferential
	Right	Anterior	Right Elbow, Anterior
		Posterior	Right Elbow, Posterior
		Medial	Right Elbow, Medial
		Lateral	Right Elbow, Lateral
		Circumferential	Right Elbow, Circumferential
Forearm	Left	Anterior	Left Forearm, Anterior
		Posterior	Left Forearm, Posterior
		Medial	Left Forearm, Medial
		Lateral	Left Forearm, Lateral
		Circumferential	Left Forearm, Circumferential
	Right	Anterior	Right Forearm, Anterior
		Posterior	Right Forearm, Posterior
		Medial	Right Forearm, Medial
		Lateral	Right Forearm, Lateral
		Circumferential	Right Forearm, Circumferential

Gross Division	Handedness	Location	Display within Silhouette
Wrist	Left	Anterior	Left Wrist, Anterior
		Posterior	Left Wrist, Posterior
		Medial	Left Wrist, Medial
		Lateral	Left Wrist, Lateral
		Circumferential	Left Wrist, Circumferential
	Right	Anterior	Right Wrist, Anterior
		Posterior	Right Wrist, Posterior
		Medial	Right Wrist, Medial
		Lateral	Right Wrist, Lateral
		Circumferential	Right Wrist, Circumferential
Hand	Left	Palm	Left Hand, Palm
		Dorsum	Left Hand, Dorsum
		Medial	Left Hand, Medial
		Lateral	Left Hand, Lateral
		Circumferential	Left Hand, Circumferential
	Right	Palm	Right Hand, Palm
		Dorsum	Right Hand, Dorsum
		Medial	Right Hand, Medial
		Lateral	Right Hand, Lateral
		Circumferential	Right Hand, Circumferential
Finger	Left	Thumb	Left Thumb
		Index Finger	Left Index Finger
		Middle Finger	Left Middle Finger
		Ring Finger	Left Ring Finger
		Little Finger	Left Little Finger
	Right	Thumb	Right Thumb
		Index Finger	Right Index Finger
		Middle Finger	Right Middle Finger
		Ring Finger	Right Ring Finger
		Little Finger	Right Little Finger

Lower Extremity

Gross Division	Handedness	Location	Display within Silhouette
Thigh	Left	Anterior	Left Thigh, Anterior
		Posterior	Left Thigh, Posterior
		Medial	Left Thigh, Medial
		Lateral	Left Thigh, Lateral
		Circumferential	Left Thigh, Circumferential
	Right	Anterior	Right Thigh, Anterior
		Posterior	Right Thigh, Posterior
		Medial	Right Thigh, Medial
		Lateral	Right Thigh, Lateral
		Circumferential	Right Thigh, Circumferential
Knee	Left	Anterior	Left Knee, Anterior
		Posterior	Left Knee, Posterior
		Medial	Left Knee, Medial
		Lateral	Left Knee, Lateral
		Circumferential	Left Knee, Circumferential
	Right	Anterior	Right Knee, Anterior
		Posterior	Right Knee, Posterior
		Medial	Right Knee, Medial
		Lateral	Right Knee, Lateral
		Circumferential	Right Knee, Circumferential
Lower leg	Left	Shin	Left Shin
		Calf	Left Calf
		Medial	Lower left leg, Medial
		Lateral	Lower left leg, Lateral
		Circumferential	Lower left leg, Circumferential
	Right	Shin	Right Shin
		Calf	Right Calf
		Medial	Lower right leg, Medial
		Lateral	Lower right leg, Lateral
		Circumferential	Lower right leg, Circumferential

Gross Division	Handedness	Location	Display within Silhouette
Ankle	Left	Medial Malleolus	Left Medial Malleolus
		Lateral Malleolus	Left Lateral Malleolus
		Ankle Flexure	Left Ankle Flexure
		Posterior	Left Ankle, Posterior
	Right	Medial Malleolus	Right Medial Malleolus
		Lateral Malleolus	Right Lateral Malleolus
		Ankle Flexure	Right Ankle Flexure
		Posterior	Right Ankle, Posterior
Foot	Left	Dorsum	Left Foot, Dorsum
		Sole	Left Foot, Sole
		Medial	Left Foot, Medial
		Lateral	Left Foot, Lateral
		Heel	Left Foot, Heel
	Right	Dorsum	Right Foot, Dorsum
		Sole	Right Foot, Sole
		Medial	Right Foot, Medial
		Lateral	Right Foot, Lateral
		Heel	Right Foot, Heel
Toe	Left	Big	Left Toe, Big
		Second	Left Toe, Second
		Third	Left Toe, Third
		Fourth	Left Toe, Fourth
		Fifth	Left Toe, Fifth
	Right	Big	Right Toe, Big
		Second	Right Toe, Second
		Third	Right Toe, Third
		Fourth	Right Toe, Fourth
		Fifth	Right Toe, Fifth

Appendix C: Notes Definitions

In addition to images and measurements SilhouetteConnect and SilhouetteCentral can be used to capture notes. Notes can be associated with a particular patient, visit or wound assessment. The following section of this document outlines the note fields available for clinicians to enter.

The notes described in this appendix reflect the default set of notes that SilhouetteCentral and SilhouetteConnect are setup with. They do not show any customisations made.

Patient admission

Details

Item	Variable	Data Type	Visibility	
Expected Discharge	expected_discharge_date	Date	Active	Yes
			Required	No
			Visible	Yes
Palliative Care	palliative_care	Boolean	Active	Yes
			Required	No
			Visible	Yes

Physicians

Item	Variable	Data Type	Visibility	
Treating	admission_and_discharge_ treating_physician	Text • Max Length: 255 • Multi-Line: No	Active Required Visible	Yes No Yes
Referring	admission_and_discharge_ referring_physician	Text • Max Length: 255 • Multi-Line: No	Active Required Visible	Yes No Yes

Patient Details

Details

Item	Variable	Data Type	Visibility	
Patient ID	details_patient_id	Text • Max Length: 128 • Multi-Line: No	Active	Yes
			Required	Yes
			Visible	Yes
Unit	details_unit	Unit	Active	Yes
			Required	Yes
			Visible	Yes
Last Name	details_last_name	Text • Max Length: 128 • Multi-Line: No	Active	Yes
			Required	Yes
			Visible	Yes
First Name	details_first_name	Text • Max Length: 128 • Multi-Line: No	Active	Yes
			Required	Yes
			Visible	Yes
Middle Name	details_middle_name	Text • Max Length: 128 • Multi-Line: No	Active	Yes
			Required	No
			Visible	Yes
Date of Birth	details_date_of_birth	Date	Active	Yes
			Required	Yes
			Visible	Yes
Gender	details_is_female	List (single selection)	Active	Yes
			Required	Yes
			Visible	Yes
	• Male • Female			

Address

Item	Variable	Data Type	Visibility	
Street	address_street	Text • Max Length: 255 • Multi-Line: No	Active Required Visible	Yes No Yes
Suburb	address_suburb	Text • Max Length: 255 • Multi-Line: No	Active Required Visible	Yes No Yes
City	address_city	Text • Max Length: 255 • Multi-Line: No	Active Required Visible	Yes No Yes
State	address_state	Text • Max Length: 255 • Multi-Line: No	Active Required Visible	Yes No Yes
Postcode	address_postcode	Text • Max Length: 50 • Multi-Line: No	Active Required Visible	Yes No Yes
Country	address_country	Text • Max Length: 255 • Multi-Line: No	Active Required Visible	Yes No Yes

Contact

Item	Variable	Data Type	Visibility	
Home Phone	contact_home_phone	Text • Max Length: 50 • Multi-Line: No	Active Required Visible	Yes No Yes
Mobile Phone	contact_mobile_phone	Text • Max Length: 50 • Multi-Line: No	Active Required Visible	Yes No Yes
Work Phone	contact_work_phone	Text • Max Length: 50 • Multi-Line: No	Active Required Visible	Yes No Yes

Patient discharge

Details

Item	Variable	Data Type	Visibility	
Reason	admission_status	List (single selection)	Active	Yes
			Required	No
			Visible	Yes
	• Discharged • Lost to follow-up • Deceased			
Comments	discharge_comments	Text • Max Length: 255 • Multi-Line: Yes	Active	Yes
			Required	No
			Visible	Yes

Assessment of lower limb function

Right

Item	Variable	Data Type	Visibility	
Warmth	lower_limb_assessment_warmth_right_leg	List (single selection)	Active	Yes
			Required	No
			Visible	Yes
	• Cold • Cool • Warm • Hot			

Item	Variable	Data Type	Visibility	
Venous signs	lower_limb_assessment_venous_signs_right_leg	List (multiple selection)	Active	Yes
			Required	No
			Visible	Yes
	• Varicose veins • Atrophie blanche • Eczema • Lipodermatosclerosis • Hemosiderin staining			
Calf muscle effectiveness	lower_limb_assessment_calf_muscle_effectiveness_right	Boolean	Active	Yes
			Required	No
			Visible	Yes
Arterial signs	lower_limb_assessment_arterial_signs_right_leg	List (multiple selection)	Active	Yes
			Required	No
			Visible	Yes
	• Hairless • Shiny • Capillary refill > 3 seconds • Dependent rubor • Atrophic nails • Cyanosis			
Pulses palpable	lower_limb_assessment_pulses_palpable_right	List (multiple selection)	Active	Yes
			Required	No
			Visible	Yes
	• Dorsalis pedis • Posterior tibial			
Dorsalis pedis pressure	lower_limb_assessment_dorsalis_pedis_pressure_right	Decimal	Active	Yes
			Required	No
			Visible	Yes

Item	Variable	Data Type	Visibility	
Posterior tibial pressure	lower_limb_assessment_ posterior_tibial_pressure_right	Decimal	Active	Yes
			Required	No
			Visible	Yes
Brachial pressure	lower_limb_assessment_ brachial_pressure_right	Decimal	Active	Yes
			Required	No
			Visible	Yes
Pulse signal	lower_limb_assessment_ pulse_signal_right	List (multiple selection)	Active	Yes
			Required	No
			Visible	Yes
	• Monophasic			
	• Biphasic			
	• Triphasic			
ABPI result	lower_limb_assessment_abpi_ result_right	Decimal	Active	Yes
			Required	No
			Visible	Yes
Toe pressure	lower_limb_assessment_toe_ pressure_right	Decimal	Active	Yes
			Required	No
			Visible	Yes
TBPI	lower_limb_assessment_tbpi_ right	Decimal	Active	Yes
			Required	No
			Visible	Yes
Thinnest ankle	lower_limb_assessment_ thinnest_ankle_right	Decimal (cm)	Active	Yes
			Required	No
			Visible	Yes
Widest calf	lower_limb_assessment_ widest_calf_right	Decimal (cm)	Active	Yes
			Required	No
			Visible	Yes

Ambulation

Item	Variable	Data Type	Visibility	
Ambulation	lower_limb_assessment_ ambulation	List (single selection)	Active	Yes
			Required	No
			Visible	Yes
	• Independent - no aid or assistance • Independent with mobility aid or assistance • Chair bound • Bed bound			
Client report of walking duration (minutes)	lower_limb_assessment_ client_report_of_walking_ duration_minutes	Decimal	Active	Yes
			Required	No
			Visible	Yes

Left

Item	Variable	Data Type	Visibility	
Warmth	lower_limb_assessment_ warmth_left_leg	List (single selection)	Active	Yes
			Required	No
			Visible	Yes
	• Cold • Cool • Warm • Hot			
Venous signs	lower_limb_assessment_ venous_signs_left_leg	List (multiple selection)	Active	Yes
			Required	No
			Visible	Yes
	• Varicose veins • Atrophie blanche • Eczema • Lipodermatosclerosis • Hemosiderin staining			

Item	Variable	Data Type	Visibility	
Calf muscle effectiveness	lower_limb_assessment_calf_ muscle_effectiveness_left	Boolean	Active	Yes
			Required	No
			Visible	Yes
Arterial signs	lower_limb_assessment_ arterial_signs_left_leg	List (multiple selection)	Active	Yes
			Required	No
			Visible	Yes
	• Hairless • Shiny • Capillary refill > 3 seconds • Dependent rubor • Atrophic nails • Cyanosis			
Pulses palpable	lower_limb_assessment_ pulses_palpable_left	List (multiple selection)	Active	Yes
			Required	No
			Visible	Yes
	• Dorsalis pedis • Posterior tibial			
Dorsalis pedis pressure	lower_limb_assessment_ dorsalis_pedis_pressure_left	Decimal	Active	Yes
			Required	No
			Visible	Yes
Posterior tibial pressure	lower_limb_assessment_ posterior_tibial_pressure_left	Decimal	Active	Yes
			Required	No
			Visible	Yes
Brachial pressure	lower_limb_assessment_ brachial_pressure_left	Decimal	Active	Yes
			Required	No
			Visible	Yes

Item	Variable	Data Type	Visibility	
Pulse signal	lower_limb_assessment_pulse_signal_left	List (multiple selection)	Active	Yes
			Required	No
			Visible	Yes
	• Monophasic • Biphasic • Triphasic			
ABPI result	lower_limb_assessment_abpi_result_left	Decimal	Active	Yes
			Required	No
			Visible	Yes
Toe pressure	lower_limb_assessment_toe_pressure_left	Decimal	Active	Yes
			Required	No
			Visible	Yes
TBPI	lower_limb_assessment_tbpi_left	Decimal	Active	Yes
			Required	No
			Visible	Yes
Thinnest ankle	lower_limb_assessment_thinnest_ankle_left	Decimal (cm)	Active	Yes
			Required	No
			Visible	Yes
Widest calf	lower_limb_assessment_widest_calf_left	Decimal (cm)	Active	Yes
			Required	No
			Visible	Yes

Comments

Item	Variable	Data Type	Visibility	
Comments	lower_limb_assessment_comments	Text • Max Length: 255 • Multi-Line: Yes	Active	Yes
			Required	No
			Visible	Yes

Visit Assessment

Vital signs

Item	Variable	Data Type	Visibility	
Weight	vital_signs_weight	Decimal (kg)	Active	Yes
			Required	No
			Visible	Yes
Height	vital_signs_height	Decimal (cm)	Active	Yes
			Required	No
			Visible	Yes
Pulse rate	vital_signs_pulse_rate	Decimal (/min)	Active	Yes
			Required	No
			Visible	Yes
Respiration rate	vital_signs_respiration_rate	Decimal (/min)	Active	Yes
			Required	No
			Visible	Yes
Blood pressure, systolic	vital_signs_blood_pressure_systolic	Decimal (mmHg)	Active	Yes
			Required	No
			Visible	Yes
Blood pressure, diastolic	vital_signs_blood_pressure_diastolic	Decimal (mmHg)	Active	Yes
			Required	No
			Visible	Yes
Temperature	vital_signs_temperature	Decimal (C)	Active	Yes
			Required	No
			Visible	Yes
Blood glucose level	vital_signs_blood_glucose_level	Decimal (mmol/L)	Active	Yes
			Required	No
			Visible	Yes

Related Pain (Non-Wound)

Item	Variable	Data Type	Visibility	
Location	related_pain_nonwound_ location	Text • Max Length: 255 • Multi-Line: No	Active	Yes
			Required	No
			Visible	Yes
Scale (0-10)	related_pain_nonwound_ scale_010	Integer • Interval: 1 • Range: 0 to 10	Active	Yes
			Required	No
			Visible	Yes
Occurrence	related_pain_nonwound_ occurrence	List (multiple selection)	Active	Yes
			Required	No
			Visible	Yes
	• At dressing change • Night pain • On walking • On elevation • Dependent • Other			
Comments	related_pain_nonwound_ comments	Text • Max Length: 255 • Multi-Line: Yes	Active	Yes
			Required	No
			Visible	Yes

Edema

Item	Variable	Data Type	Visibility	
Pitting	edema_pitting	Boolean	Active	Yes
			Required	No
			Visible	Yes

Item	Variable	Data Type	Visibility	
Location (right)	edema_location_right	List (multiple selection)	Active	Yes
			Required	No
			Visible	Yes
	• Toes • Foot • Gaiter • Above gaiter • Knee • Thigh			
Location (left)	edema_location_left	List (multiple selection)	Active	Yes
			Required	No
			Visible	Yes
	• Toes • Foot • Gaiter • Above gaiter • Knee • Thigh			
Location: Other	edema_location_other	Text • Max Length: 255 • Multi-Line: No	Active	Yes
			Required	No
			Visible	Yes
Comments	edema_comments	Text • Max Length: 255 • Multi-Line: Yes	Active	Yes
			Required	No
			Visible	Yes

Factors Affecting Healing

Item	Variable	Data Type	Visibility	
Impaired sensation (left)	factors_affecting_healing_impaired_sensation_left	Boolean	Active	Yes
			Required	No
			Visible	Yes

Item	Variable	Data Type	Visibility	
Impaired sensation (right)	factors_affecting_healing_ impaired_sensation_right	Boolean	Active Required Visible	Yes No Yes
Braden outcome	factors_affecting_healing_ braden_outcome	List (single selection)	Active Required Visible	Yes No Yes
	• Low risk • Mod risk • High risk • Very high risk			
PURA outcome	factors_affecting_healing_ pura_outcome	List (single selection)	Active Required Visible	Yes No Yes
	• Low risk • Mod risk • High risk • Very high risk			

Item	Variable	Data Type	Visibility	
Nutritional Risk screen	factors_affecting_healing_ nutritional_risk_screen	List (multiple selection)	Active	Yes
			Required	No
			Visible	Yes
	• Obvious underweight-frailty • Unintentional weight loss • Reduced appetite or food and fluid intake • Mouth teeth problems • Swallowing problems • Follows a special diet • Needs assistance to shop for food • Needs assistance to prepare food • Needs assistance to feed self • Obvious overweight affecting life quality • Unintentional weight gain			
BMI outcome	factors_affecting_healing_ bmi_outcome	List (single selection)	Active	Yes
			Required	No
			Visible	Yes
	• Underweight (<18.5) • Normal (18.5 - 24.9) • Overweight (25 - 29.9) • Obese (>30)			

Wound Assessment

Images

Item	Variable	Data Type	Visibility	
Wound Images	images_wound_images	Image Capture	Active	Yes
			Required	No
			Visible	Yes
	Trace images screen is enabled.			

Details

Item	Variable	Data Type	Visibility	
Etiology	wound_history_etiology	List (single selection)	Active	Yes
			Required	No
			Visible	Yes

Item	Variable	Data Type	Visibility
	• Pressure Ulcer: Stage 1		
	• Pressure Ulcer: Stage 2		
	• Pressure Ulcer: Stage 3		
	• Pressure Ulcer: Stage 4		
	• Pressure Ulcer: Unstageable (dressing/device)		
	• Pressure Ulcer: Unstageable (eschar/slough)		
	• Deep Tissue Injury		
	• Venous Ulcer		
	• Arterial insufficiency		
	• Mixed Venous/Arterial		
	• Diabetic		
	• Neuropathic: Non-diabetic		
	• Surgical: Closed		
	• Surgical: Full thickness		
	• Surgical: Partial thickness		
	• Surgical: Dehiscence		
	• Drainage Device		
	• Trauma: Full thickness		
	• Trauma: Partial thickness		
	• Trauma: Superficial		
	• Skin tear: Category 1		
	• Skin tear: Category 2a		
	• Skin tear: Category 2b		
	• Skin tear: Category 3		
	• Burn: Superficial thickness		
	• Burn: Partial thickness		
	• Burn: Full thickness		
	• Cancerous: Fungating lesion		
	• Cancerous: Ulcerating lesion		
	• Cancerous: Other		
	• Skin graft		
	• Donor site		
	• Pilonidal wound		

Item	Variable	Data Type	Visibility	
Wound Margins	wound_margins_sloping	List (multiple selection)	Active	Yes
			Required	No
			Visible	Yes
	- Sloping - Punched out - Rolled - Everted - Undermining - Sinus - Inflamed			
Surrounding Skin	surrounding_skin_tissue_paper_skin	List (multiple selection)	Active	Yes
			Required	No
			Visible	Yes
	'Tissue paper' skin - Peri-wound edema - Macerated - Erythema - Inflammation - Pustules - Eczema - Dry/scaly - Healthy			

Item	Variable	Data Type	Visibility	
Signs of Critical Colonization or Infection	signs_of_critical_colonization_or_infection_cellulitis	List (multiple selection)	Active	Yes
			Required	No
			Visible	Yes
	- Cellulitis - Suppuration - Lymphangitis - Sepsis - Bacteremia - Granulation changes - Exudate increase - Increase/new pain - Impaired/delayed healing - Wound breakdown/new slough			
Exudate Volume	exudate_volume	List (single selection)	Active	Yes
			Required	No
			Visible	Yes
	- None - Low - Moderate - High			
Exudate Type	exudate_type	List (single selection)	Active	Yes
			Required	No
			Visible	Yes
	- Serous - Serosanguineous - Sanguineous - Purulent			

Wound Pain

Item	Variable	Data Type	Visibility	
Frequency	wound_pain_frequency	List (single selection)	Active	Yes
			Required	No
			Visible	Yes
	- Absent - Intermittent - Continuous			
Nature of pain	wound_pain_nature_of_pain	List (multiple selection)	Active	Yes
			Required	No
			Visible	Yes
	- Throbbing - Shooting - Stabbing - Sharp - Cramping - Gnawing - Hot/burning - Aching - Heavy - Tender - Splitting - Tiring/exhausting - Sickening - Fearful - Cruel/punishing - Other			

Wound Pain

Item	Variable	Data Type	Visibility	
Current interventions	wound_pain_current_ interventions	List (multiple selection)	Active	Yes
			Required	No
			Visible	Yes
	• Pharmacological • Non-pharmacological • Dressing/removal technique • Other			
At dressing change (0-10)	wound_pain_at_dressing_ change_010	Integer • Interval: 1 • Range: 0 to 10	Active Required Visible	Yes No Yes
Night pain (0-10)	wound_pain_night_pain_010	Integer • Interval: 1 • Range: 0 to 10	Active Required Visible	Yes No Yes
On walking (0-10)	wound_pain_on_walking_010	Integer • Interval: 1 • Range: 0 to 10	Active Required Visible	Yes No Yes
On elevation (0-10)	wound_pain_on_elevation_ 010	Integer • Interval: 1 • Range: 0 to 10	Active Required Visible	Yes No Yes
Dependent (0-10)	wound_pain_dependent_010	Integer • Interval: 1 • Range: 0 to 10	Active Required Visible	Yes No Yes
Other (0-10)	wound_pain_other_010	Integer • Interval: 1 • Range: 0 to 10	Active Required Visible	Yes No Yes
Comments	wound_pain_other_ description	Text • Max Length: 255 • Multi-Line: Yes	Active Required Visible	Yes No Yes

Comments

Item	Variable	Data Type	Visibility	
Comments	assessment_comments	Text • Max Length: 255 • Multi-Line: Yes	Active Required Visible	Yes No Yes

Investigation History

Investigation History

Item	Variable	Data Type	Visibility	
Diagnostic	investigation_history_diagnostic	List (multiple selection)	Active Required Visible	Yes No Yes
	• Venous duplex • Arterial duplex • Angiogram • X-ray			
Pathology	investigation_history_pathology	List (multiple selection)	Active Required Visible	Yes No Yes
	• Wound biopsy • Hb • Thyroid function • Albumin • Creatinine • HbA1c • FBC			
Comments	investigation_history_comments	Text • Max Length: 255 • Multi-Line: Yes	Active Required Visible	Yes No Yes

Medical History

Medical History

Item	Variable	Data Type	Visibility	
Current conditions	medical_history_current_conditions	List (multiple selection)	Active	Yes
			Required	No
			Visible	Yes

- Diabetes
- Cardiac condition
- Anemia
- COAD
- Rheumatoid arthritis
- Autoimmune disorder
- Hepatic failure
- Malignancy
- Peripheral vascular disease
- Neurological disorder
- Inflammatory bowel disease
- Renal disease
- Other

Item	Variable	Data Type	Visibility	
Contributing factors	medical_history_contributing_factors	List (multiple selection)	Active	Yes
			Required	No
			Visible	Yes
	• Reduced mobility			
	• Pressure			
	• Shearing			
	• Friction			
	• Impaired sensation			
	• Edema			
	• Nutritional factors			
	• Obesity			
	• Radiotherapy			
	• Smoking			
	• Venous hypertension			
	• Ischemia			
	• Other			
Smoking History	smoking_history	List (single selection)	Active	Yes
			Required	No
			Visible	Yes
	• Smoker			
	• Past smoker			
	• Never smoked			
Current cigarette consumption	current_cigarette_consumption	List (single selection)	Active	Yes
			Required	No
			Visible	Yes
	• 1-10 per day			
	• 11-20 per day			
	• 21 or more per day			

Item	Variable	Data Type	Visibility	
Past medical history	medical_history_past_medical_history	Text • Max Length: 255 • Multi-Line: Yes	Active Required Visible	Yes No Yes
Comments	medical_history_comments	Text • Max Length: 255 • Multi-Line: Yes	Active Required Visible	Yes No Yes

Medication

Medication

Item	Variable	Data Type	Visibility	
Medicines	medication_medicines	List (multiple selection)	Active Required Visible	Yes No Yes
		• NSAIDS • Cytotoxics • Anti-coagulants • Beta blockers • Immune suppressants • Steroids • Antibiotics • Other		
Comments	medication_comments	Text • Max Length: 255 • Multi-Line: Yes	Active Required Visible	Yes No Yes

Sensitivities

Item	Variable	Data Type	Visibility	
Medicines	medication_sensitivities_medicines	Text • Max Length: 255 • Multi-Line: No	Active Required Visible	Yes No Yes

Item	Variable	Data Type	Visibility	
Dressings and adhesives	medication_sensitivities_ dressings_and_adhesives	Text • Max Length: 255 • Multi-Line: No	Active Required Visible	Yes No Yes
Other	medication_sensitivities_other	Text • Max Length: 255 • Multi-Line: No	Active Required Visible	Yes No Yes

Appendix D: Regular Expressions

Regular Expressions are a tool which allow a description of how a piece of information should be structured, for example a phone number or email address. This allows computer software to process the information reliably as it conforms to a pre-defined pattern.

Note: For the examples that follow, square brackets [] are used to specify the range of characters required to be used in that group and curly brackets {} to specify the quantity of characters that are required.

Patient Identifier Examples for Silhouette

Example A

A 5 digit patient number would be written as:

- [0-9]{5}
- Values satisfying this regular expression include 12345 and 75319

Example B

A 3 digit unit ID, a dash, then a 3 digit patient number would be written as:

- [0-9]{3}-[0-9]{3}
- Values satisfying this regular expression include 147-963 and 456-321

Example C

Two upper-case alphabetic character unit ID, then 4 digit patient number would be written as:

- [A-Z]{2}[0-9]{4}
- Values satisfying this regular expression include ZK1648 and VT7642

Example D

 A three-digit unit ID, a dash, a patient number comprising 4, 5 or 6 numeric digits, and the last character being an upper-case A, B, or C to indicate three different study groups would be written as:

- [0-9]{3}-[0-9]{4, 6}[ABC]{1}
- Values satisfying this regular expression include 010-01934A and 110-50012C

Through the simple use of regular expressions you can control the accuracy of information entered into a system and hence improve reliability and reduce errors.

Further reading and an interactive tutorial can be found here: http://regexone.com/

Other examples

- International phone numbers should begin with a plus "+" character – e.g. +64 for New Zealand.

- An email address should contain only one "@" character

- A bank account number should begin with a two-digit bank identification number

- A credit card number comprises four groups of four digits

- A financial amount can comprise numeric digits, decimal point, commas, and the dollar sign e.g. $41,031.64

- A patient name comprising first name, optional middle name, and surname.

Using Regular Expressions the following types of structures can be specified:

- A character from a group of characters, e.g.:
  - A lower-case alphabetic character [a-z]
  - An upper-or-lower case alphabetic character [a-zA-Z]
  - A numeric digit [0-9]
  - Alphanumeric characters comprising lower-case alphabetic or numeric digits [0-9a-z]
  - Commonly occurring punctuation characters such as dash "-", comma ",", period ".", brackets "[", and braces "(", etc.

- A character can occur a fixed number of times, e.g.:
  Three characters which can be either a, b or c would be written as: [abc]{3}

- A single optional character is indicated by the question mark "?", e.g.:
  An optional uppercase alphabetic character would be written as: [A-Z]?

- 1 upper-case alphabetic or 2 numeric digits could be required using the special or operator "|":
  such as: [A-Z]|[0-9]{2}

Some real-world examples include:

- A credit card number - four groups of four digits separated by a dash:
  [0-9]{4}-[0-9]{4}-[0-9]{4}-[0-9]{4}

- A New Zealand national phone number - a two digit area code in brackets, followed by three digits, then a dash, then four digits:
  \(0[1-9]\)[0-9]{3}-[0-9]{4}

Things to Note

- The special treatment of the "(" and ")" characters –these have special meaning within Regular Expression language so when they need to be used as normal characters this needs to be indicated. Preceding special characters with the "\" ("slash") character tells the computer to treat the character as regular text - this is referred to as "escaping" a character. Other characters that may need escaping include "[", "]", even the slash

itself requires escaping using a slash. "\\".

- The dash "-" character generally doesn't require escaping, although it does have special meaning when used to designate a character range within the square brackets. If a dash is used outside a character range statement then it will be interpreted as a normal character.