



# **WoundManager**

**Basic Edition**

**v. 2.0**

**QUICK START GUIDE**

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# 1.INSTALLATION

## 1.1. Prerequisites

Although best executed on Windows 7, WoundManager™ could be installed and used on any Windows version from Windows XP with service pack 3 ahead. Since it is built to utilize all available system resources to speed up wound image analysis it is necessary to keep Windows updated with Automatic Update tool.

WoundManager™ requires following Microsoft components™ to be installed:

- Microsoft .NET Framework 4 Client Profile
- Microsoft SQL Server Compact 3.5 SP2 ENU

If missing, these components will be automatically installed by the WoundManager™ installer, but computer should be connected to the Internet for the installer to download required components.

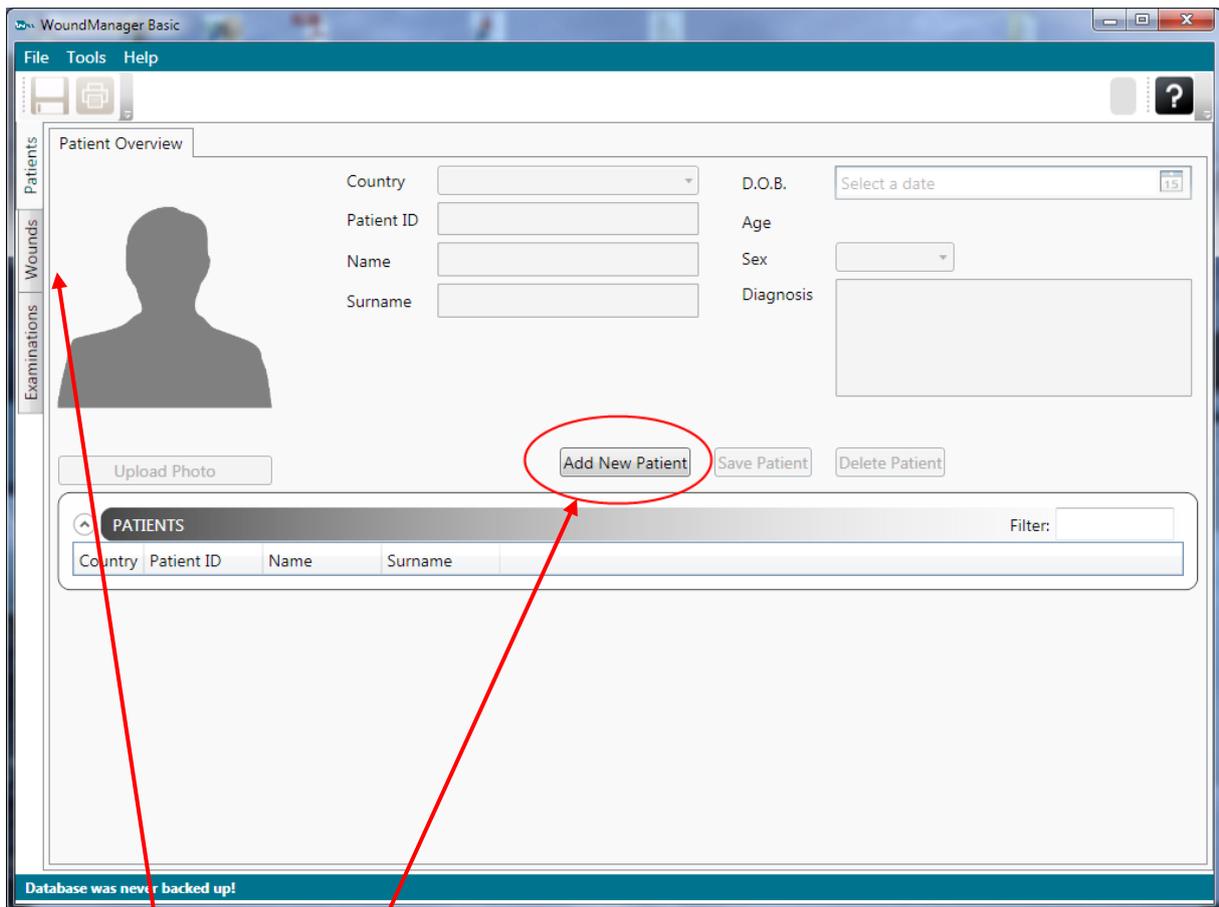
## 1.2. Installing the product

Installation is contained within `WMBasicxxx.exe` self extracting archive, where “xxx” corresponds to the application version. It is necessary to download that file to local folder and double click it.

After completion, WoundManager™ icon  will be at the desktop and in Windows Start menu. Double click the icon to start the application.

## 2. QUICK START

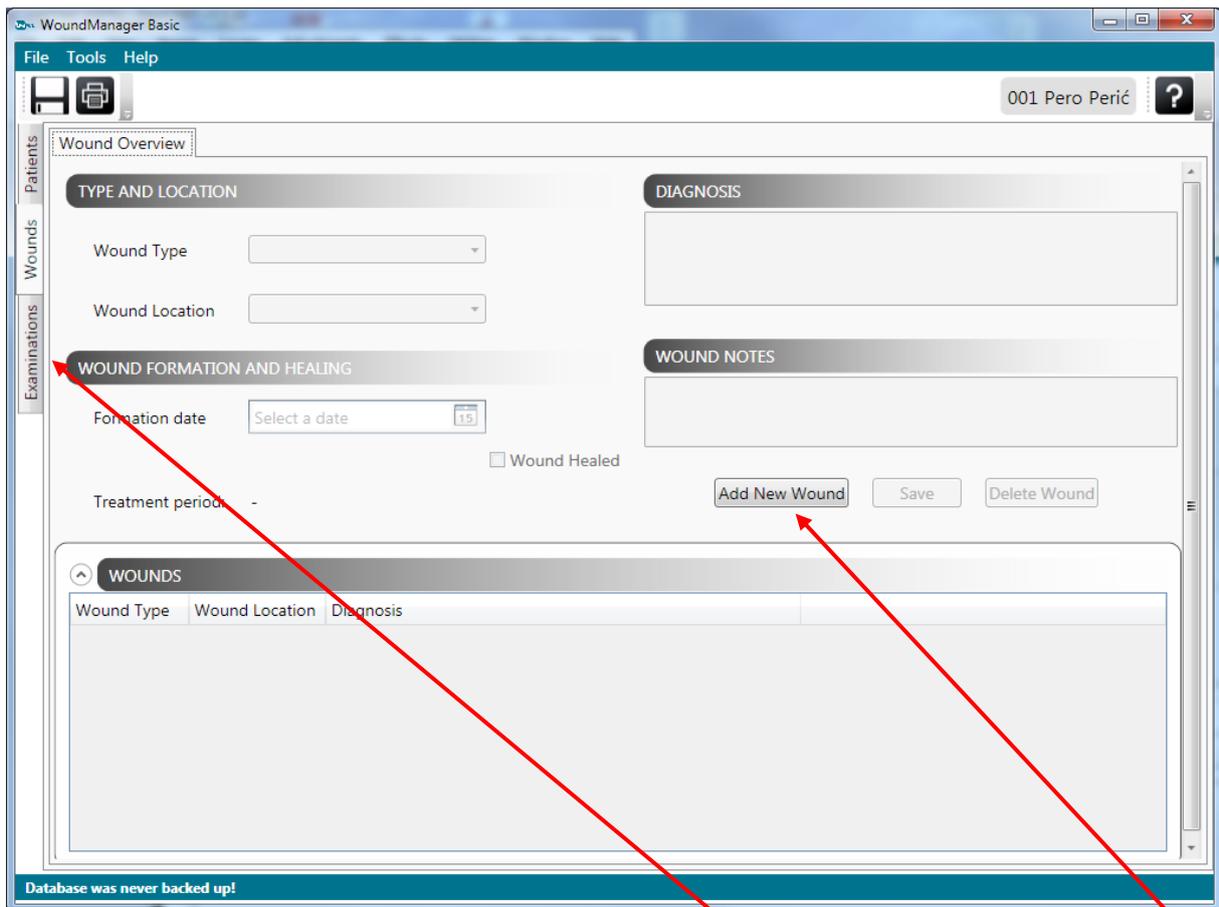
After successful installation you may start the application by clicking  shortcut icon at the desktop, or from WM Basic group in Windows Start menu. Main window will open:



Database is initially empty, so only possible action is to add the new patient by clicking corresponding **Add New Patient** button. User interface will change, automatically selecting Country field and set keyboard focus to the Patient ID field. Enter ID (e.g. "001"), name and surname.

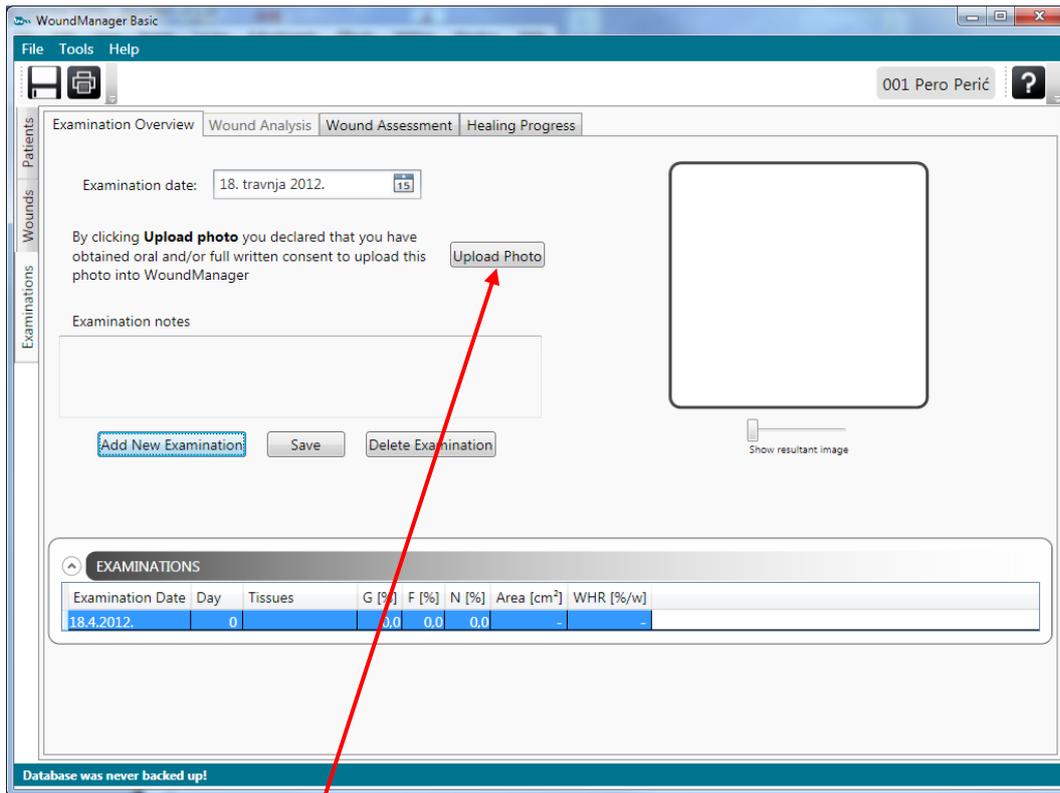
Patients table at the bottom part of the screen will be updated only after saving data, i.e. writing data to the database.

Click at the **Wounds** button at the left side of the window to open the Wounds tab:

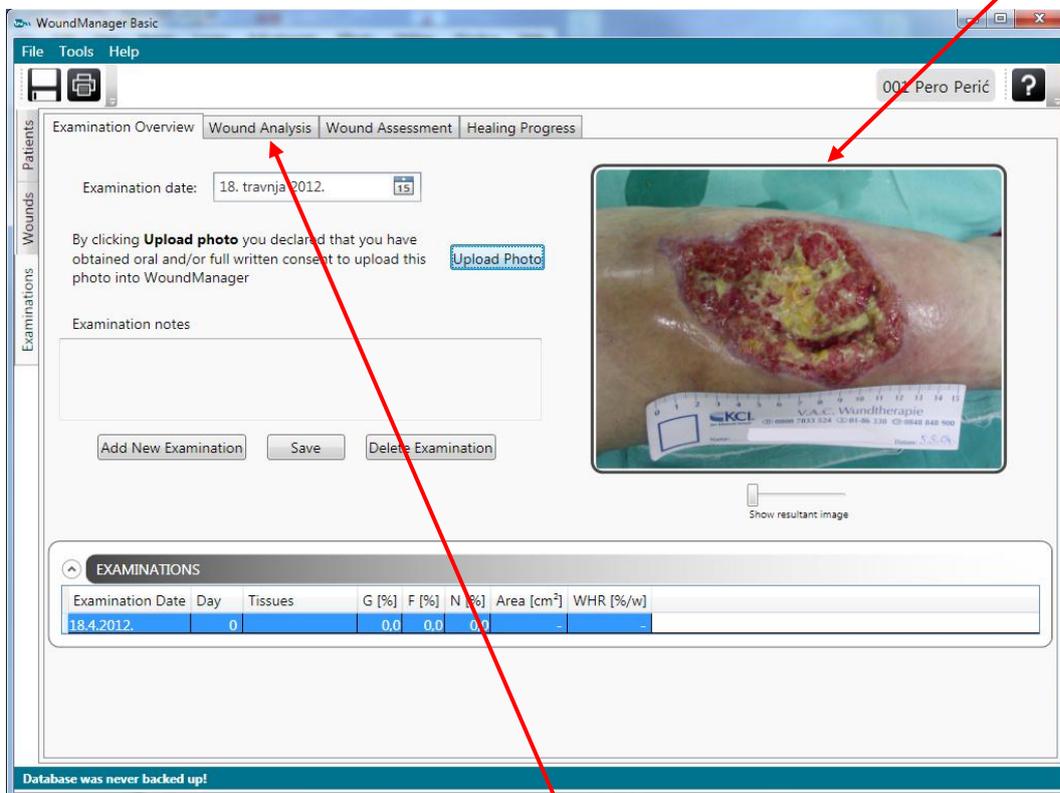


Initially no wounds are associated to given patient, so you need to create one. Click on **Add New Wound** button, then select wound type and wound location.

To associate examinations to newly define wound click at the **Examinations** button at the left side of the window and click **Add New Examination** button at the Examinations tab.



You may alter the examination date and associate wound photo to that examination by clicking the **Upload Photo** button. Choose location with saved wound photographs, select one and click **Open**. Selected photo will be displayed into the **wound photo frame**:



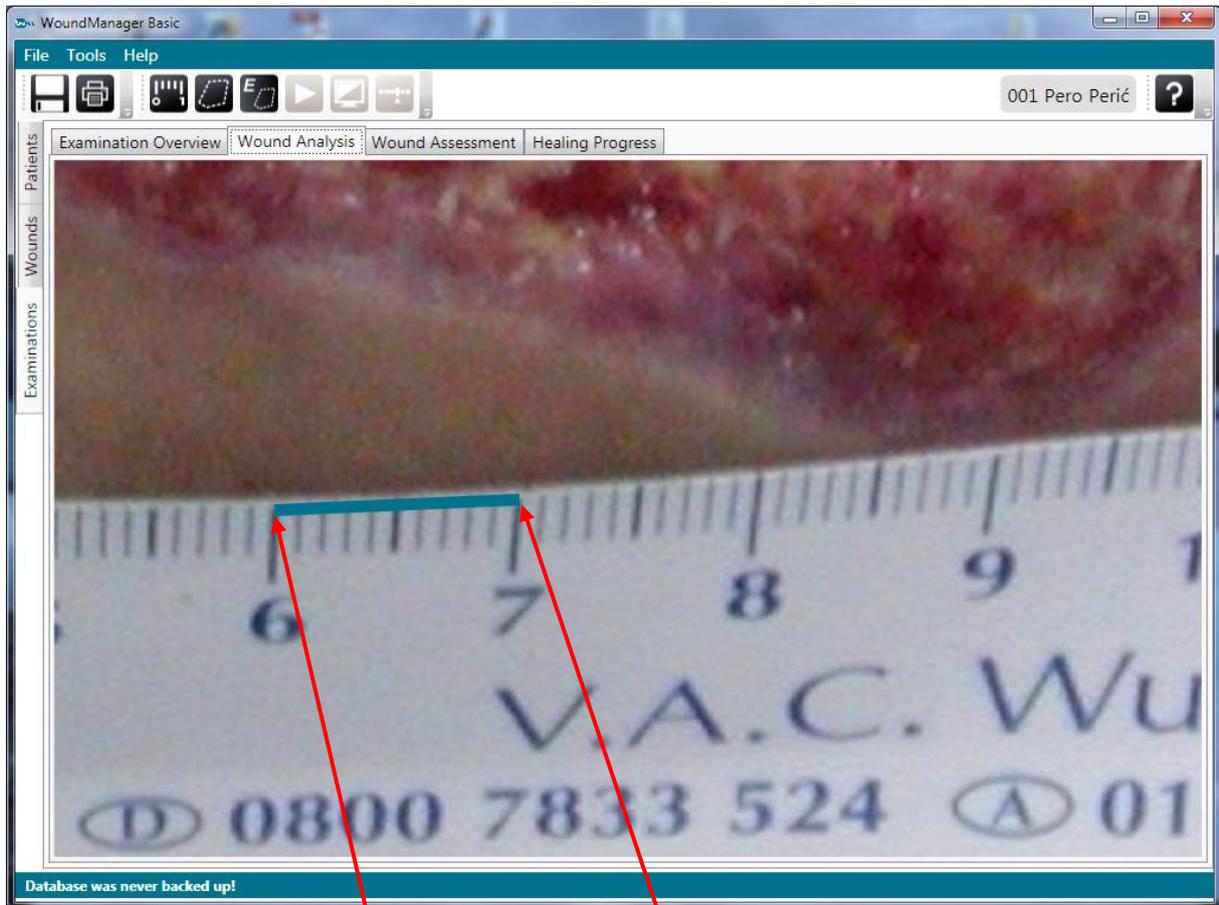
To perform wound analysis click at **Wound Analysis** button at the top of the window.

Wound Analysis tab will open:



First step is to calibrate the image, by selecting 1 cm at the ruler photographed close to the wound. If ruler is missing this step could be skipped, but in that case it will not be possible to calculate wound area and circumference. To calibrate the image first zoom part of the ruler. Click at the **first point**, keep left button pressed and drag the mouse cursor to the **second point** and release the button.

Image will be enlarged as follows:



To calibrate the image click at the `Calibrate` button (  ), then mark 1 cm distance at the image by clicking the **first point**, then the **second point**.

To display full image scaled to the window click right mouse button anywhere over the image.

Next step is to define wound region. Currently it is not possible to automatically determine wound border, which means it should be defined manually. Click `Create mask` button



. Button remains pressed and mouse cursor changes to the pencil. Start drawing the mask by left clicking at the starting point anywhere at the wound border. There is couple of options how to draw the mask:

- To draw straight line segment, release the left button, move the mouse pointer to the next point and left click to mark that point.
- To draw curved segment, keep left button pressed while moving the mouse pointer. Release the left button to finish the curved segment.
- To delete last segment, press the right mouse button (you could repeat that action).
- To finish drawing the mask, double click at the last point, which should be near the beginning point.

To analyze the wound click the **Analyze** button . After few seconds, depending on image size and computer speed, analysis will finish and resulting image will be displayed over the wound image. Granulation tissue is displayed red, fibrin tissue yellow, necrotic tissue gray and unknown tissue blue.

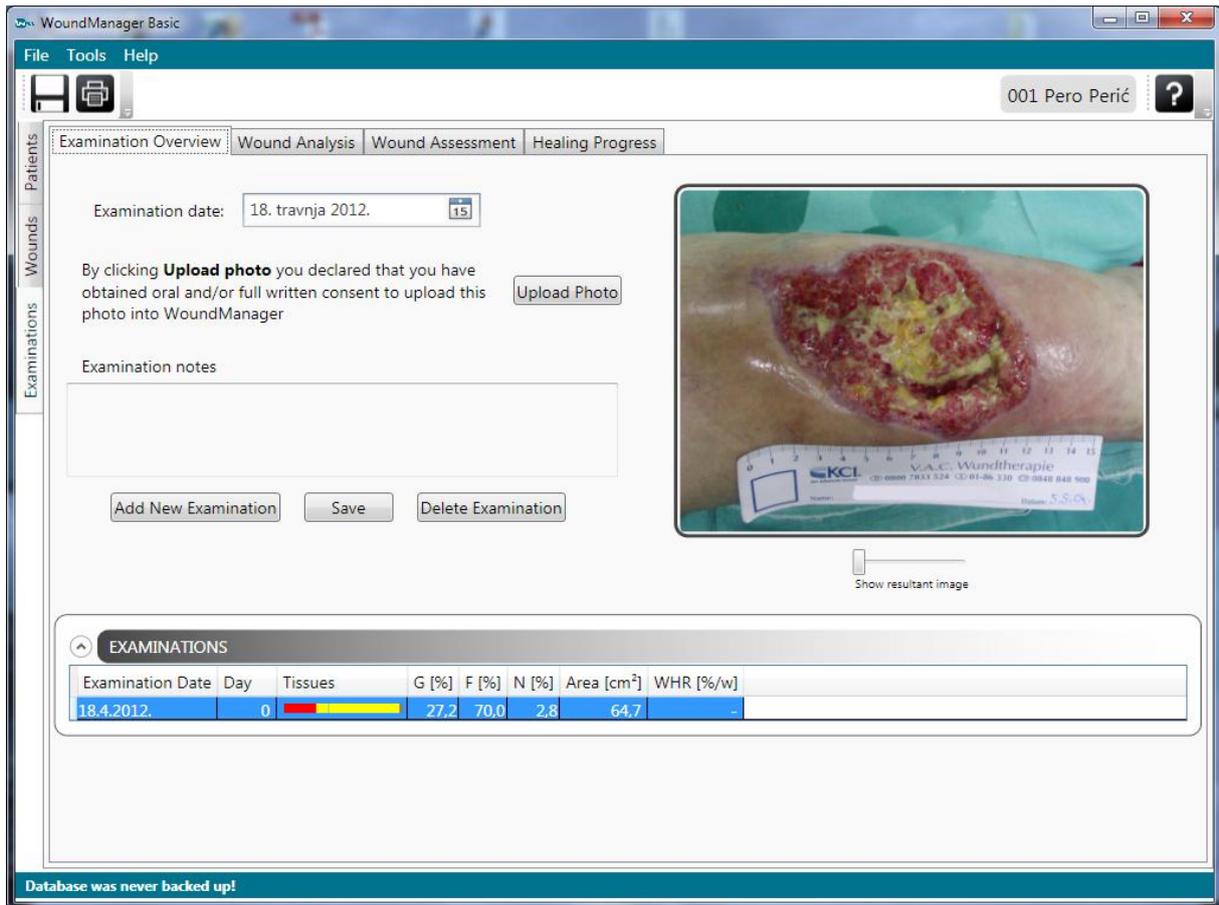


Resultant image could be displayed over original wound image or hidden by pressing the **Show/hide** button ()

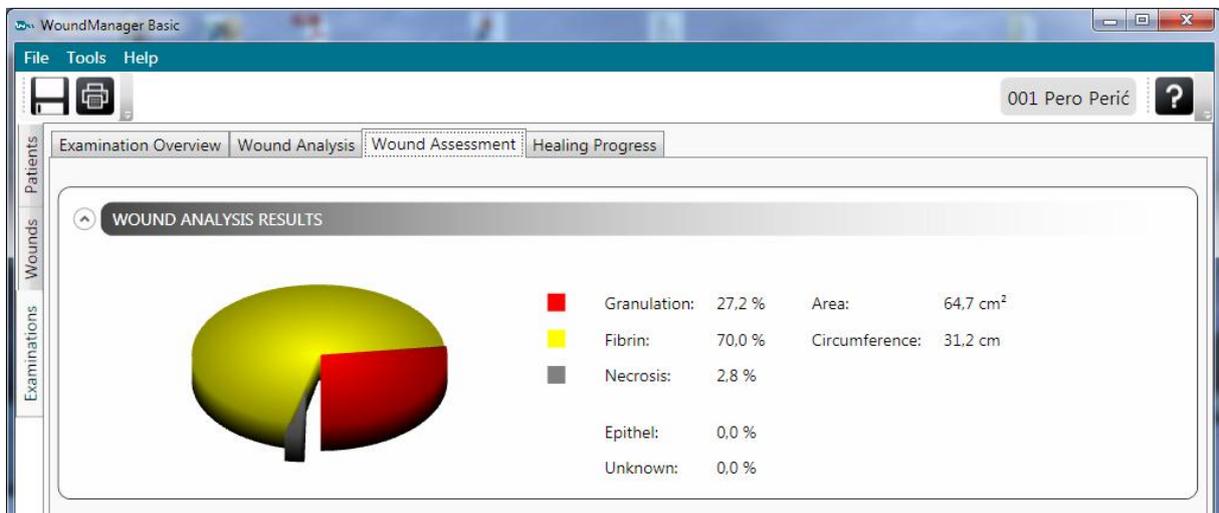
Tissue classification is not perfect. It is influenced by photographing conditions, especially by illumination. At the above example some dark spots are misclassified as necrotic tissue, which is not present in the particular wound. To correct such issues it is possible to manually

adjust classification parameters using **Adjust** command . Play with slider to see how the adjustment works.

Results of analysis are presented in the table at Examination Overview tab (table is updated on save) ...



... and at Wound Assessment tab:



Healing progress will be displayed on corresponding tab, but for that it is necessary to process at least two examinations.

### 3.CONTACT

You are encouraged to provide feedback about usability of the product, features you wish to see implemented into the next version, bugs (log file `WMBasicLog.txt` will be created at the user desktop if application crashed, please send it to us), and any other inquiry.

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