nova Vet

Blood Ketone and Glucose Monitoring System Owner's Guide

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For Veterinary Animal Use Only
Not For Human Use

Nova Vet Blood Ketone and Glucose Monitoring System Owner's Guide

Nova Biomedical Taiwan Corporation
New Taipei City
Taiwan 235 (R.O.C.)
Customer Service: visit our Web site at www.novabiomedical.com.

CE

Made in Taiwan

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THANK YOU

Nova thanks you for choosing the Nova VET Blood Ketone and Glucose Monitoring System. This Owner's Guide contains important information on the monitor and how it works. Please read it carefully before using your new Nova VET Blood Ketone and Glucose Monitoring System.

The Nova VET Blood Ketone and Glucose Monitoring System is designed to be convenient and easy to use. It gives accurate results in just 4 seconds (for glucose) or 10 seconds (for Ketone) using a very small blood sample. The monitor also has memory that stores the Ketone or Glucose test results.

If you need to contact us, visit our website at www.novabiomedical.com.

or

In the USA and Canada, call 1-800-545-6682.

Outside the USA and Canada, contact your Nova Vet supplier.

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Important Information about Nova Vet Blood Ketone and Glucose Monitoring System

Use this veterinary medical device under the direction of a licensed veterinary professional. Federal law (USA) restricts this device for use by or on the order of a licensed veterinarian.

The Nova Vet Blood Ketone and Glucose Monitoring System is intended for veterinary animal use only and is not intended for human use. The System can be used in a variety of species of animals for the testing of blood ketones and glucose.

The Performance characteristics of the Nova Vet Blood Ketone and Glucose Monitoring System has not been established for specific animal species with exception of bovine cattle whole blood ketone testing as the following described.

Bovine Cattle Ketone Testing

For Users that want to use the Nova Vet Blood Ketone and

Important Information

Glucose Monitoring System for testing blood ketone levels in bovine cattle, Nova Biomedical recommends the use of a 1.25 calibration slope factor for ketone when the device is utilized to test cattle. Refer to the section entitled "setting the Ketone Slope" to input the 1.25 calibration slope factor.

Users should establish normal blood ketone and glucose reference ranges for specific animal species. Consult a veterinarian for target normal ketone or glucose reference ranges.

Use of other brands of ketone or glucose test strips or control solutions with the Nova Vet Blood Ketone and Glucose Monitoring System may produce inaccurate results. The Nova Vet Blood Ketone and Glucose Monitoring System contains small parts that may be dangerous if swallowed.

The Nova Vet Blood Ketone and Glucose Monitoring System should not be used to diagnose diabetes.

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Units Measure Disclaimer

The Nova Vet Blood Ketone and Glucose Monitoring System is factory set to report **ketone results in mmol/L and glucose results in mmol/L or mg/dL**.

Important Safety Instructions!

- Before you begin using your new Nova Vet Blood Ketone and Glucose Monitoring System, please read all of the instructions provided in this Owner's Guide.
- Your monitor uses a CR2450 3-volt coin cell battery. To begin using your monitor, you need to install the enclosed battery. See Battery Replacement to install a new battery.
- Perform all quality control checks recommended in your Owner's Guide.

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Important Safety Instructions!

Notes, Cautions, and Warnings:

NOTES *provide helpful operating information.*

CAUTIONS *provide information that is important for instrument protection.*

WARNINGS *provide information that is important for user protection or about risk for inaccurate results.*

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Table of Contents

Intended Use

The Nova Vet Blood Ketone and Glucose Monitoring System is intended to be used for the quantitative measurement of ß-hydroxybutyrate (Ketone) or glucose in fresh animal whole blood. It is intended for use by veterinary professionals as an aid to monitor ketone and glucose levels in animals. The Nova Vet Monitoring System is specifically indicated for the quantitative measurement of ketone and glucose in fresh whole blood animal samples.

- It should only be used with Nova Vet Ketone and Glucose Test Strips and Nova Max Plus Control Solutions.
- It should NOT be stored in the refrigerator or in the car.
- It is NOT for use on humans.

Symbols

WARNING: *Blood samples and blood products are potential sources of hepatitis and other infectious agents. Handle all blood products with care. Wear gloves when performing measurements. Items that are used to measure glucose or Ketone, i.e., test strips and alcohol swabs, must be disposed of in accordance to local regulations to avoid risk to anyone.*

Symbols

The following are symbols that are used in this manual, on insert sheets, and on the Nova Vet Monitoring System.

Caution, consult accompanying documents

Consult instructions for use

Biological risk

Catalog number

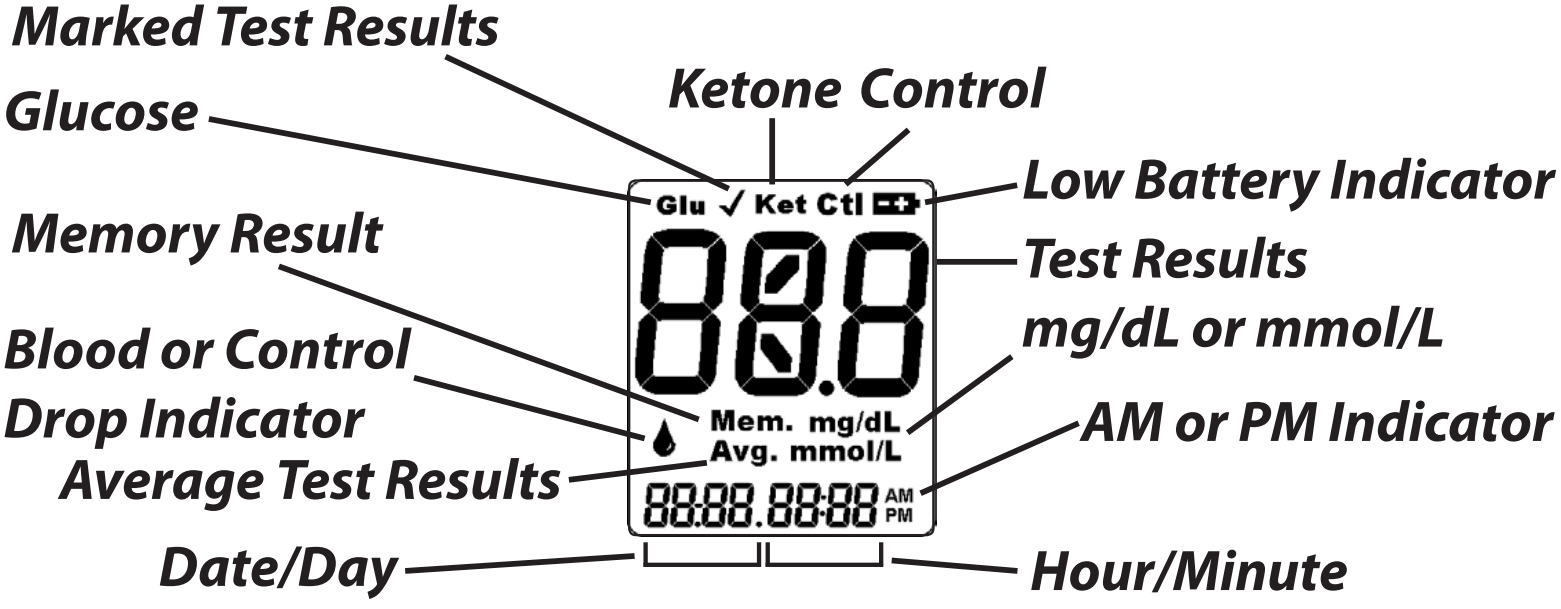
Temperature limitation

Monitor Components

Nova Vet Ketone and Glucose Monitoring System

Monitor Display

When you turn the Nova Vet Monitoring System on, the all segments display appears briefly. This tells you that all the display segments are working properly.



Nova Vet Ketone and Glucose Monitoring System Screen

Introduction

The Nova Vet Ketone and Glucose Monitoring System

The Monitoring System is a hand-held testing device that measures ketone and glucose in whole blood. The test strip is touched to a drop of blood to initiate the test process. The monitor activates after a Nova Vet test strip is inserted. The screen displays "Glu" or "Ket," depending on which test strip is inserted. The blue strip measures blood glucose levels, and the green strip measures Ketone levels.

- A simple one-step process provides a result.
- Test results are available in 4 (Glu) or 10 (Ket) seconds.
- The monitor is powered by a battery that can perform approximately 1000 tests.

Introduction

CAUTION: *The Monitoring System should be handled with care. Dropping, rough handling, etc. may damage the monitor. If the monitor is not to be used for an extended period of time, remove the battery to eliminate the risk of battery leakage. Also, protect the monitor from moisture, prolonged direct sunlight, and extreme temperatures.*

Overview

To perform a test, the operator simply inserts a test strip; waits for the blood drop symbol to appear on the screen ("Glu" or "Ket" also appears - the monitor is ready); brings the test strip to the drop of blood; and obtains a test result in 4 (Glu) or 10 (Ket) seconds. The test result is automatically stored into the monitor's memory. The operator can recall and review test data stored in the monitor.

Environmental

- The storage temperature range for the monitor: -13 - 115°F (-25 - 45°C)
- The storage temperature range for the Test Strips: 59-86°F (15-30°C)
- The monitor operational temperature range: 23-113°F (-5-45°C)
- The relative humidity range: 10% to 90% non-condensing

Ketone Test Strips

The Nova Vet Ketone Strips are designed for use with your Nova Vet Monitoring System only. Use each test strip only once, then discard. **DO NOT** reapply blood to the test strip.

- Requires a very small blood volume: 0.8 µL (ketone)
- Automatically draws blood into the test area of the strip

Introduction

- Can be handled with clean, dry hands without affecting readings

Insert This End Into Monitor

Apply Blood Drop to Front Edge

Important Nova Vet Ketone Test Strip Information

- Use only Nova Vet Ketone Test Strips when testing for ketone.
- Remove a test strip from the vial only when ready to test.
- Store the test strip package in a cool, dry place between 59-86°F (15-30°C). Do not refrigerate or freeze.
- Do not store near heat or moisture.
- Store the test strips in their original vial only.

- After removing a test strip from the vial, immediately replace the vial cap and close tightly.
- Do not use test strips beyond the expiration date printed on the package as this may cause inaccurate results.
- Test strips should only be stored for 3 months after opening the vial. When first opening a new vial of test strips, count forward 3 months and write that date on the vial. Discard any remaining test strips after the date you have written on the vial.
- Do not tamper with the test strip.

Glucose Test Strips

The Nova Vet Glucose Test Strips are designed for use with your Nova Vet Blood Ketone and Glucose Monitoring System. Use each test strip only once, then discard. **DO NOT** reapply blood to the test strip.

Introduction

- Requires a very small blood volume: 0.4 µL (glucose)
- Automatically draws blood into the test area of the strip
- Can be handled with clean, dry hands without affecting readings

Insert This End Into Monitor

Apply Blood Drop to Front Edge

Important Nova Vet Glucose Test Strip Information

- Use only Nova Vet Glucose Test Strips when testing for glucose.
- Remove the test strip from the vial only when ready to test.
- Store the test strip package in a cool, dry place below 30°C. Do not refrigerate or freeze.

- Do not store near heat or moisture.
- Store the test strips in their original vial only.
- After removing a test strip from the vial, immediately replace the vial cap and close tightly.
- Do not use test strips beyond the expiration date printed on the package as this may cause inaccurate results.
- Test strips should only be stored for 3 months after opening the vial. When first opening a new vial of test strips, count forward 3 months and write that date on the vial. Discard any remaining test strips after the date you have written on the vial.
- Do not tamper with the test strip.

Setting the Time, Date, and Beeper

It is important to set the correct time and date so you have records of when you tested.

Your Nova Vet Monitoring System offers a beeper function that is preset "On." This tells you when enough blood is applied to the test strip, when test is completed, and prompts you through other steps in using your monitor

NOTE: *Remember to adjust time and date settings as needed to match the local time or daylight savings time and after you replace the battery. Once you have completed a test, the last result will appear the next time your Monitoring System is turned on. The date and time displayed is the date and time of your previous test result, not the current date and time.*

Setting the Time, Date and Beeper

1. Press the MODE 

button for longer than 3 seconds. The monitor, if in Sleep Mode, wakes up, displays all segments for 3 seconds, and enters the SETUP Mode.

This brings the monitor display to the first setup screen: Time.

2. Repeatedly press the MODE 

button to find the MODE you want to change.

Setting the Time, Date and Beeper

3. Press the left/right arrow  buttons to choose a new setting for that MODE.

4. Press the MODE  button to select the new settings or to skip to the next MODE.

MODES	SCREEN DISPLAY
Hour (Flashing)	"10":00"AM"
Minutes (Flashing)	10:"55"AM
Year (Flashing)	12-28 "2013"
Month (Flashing)	"12"-28 2013
Day (Flashing)	12-"28" 2013
Beep (ON or OFF)	"ON"
Sample Marking (ON or OFF)	"ON"

Setting the Ketone Slope

Set the Slope for Ketone:

Press the Left/Right keys to decrease/increase the Slope value in increments of 0.01. The default value is 1.00 and the range is 0.50 to 1.50.

Lowest Slope

Default Slope

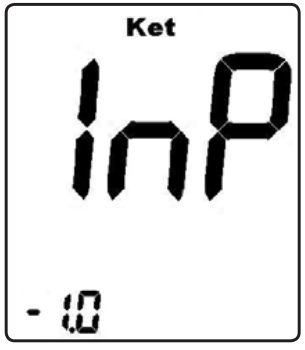
Highest Slope

IMPORTANT: *If necessary, contact Technical Support for guidance on changing the ketone slope value from the 1.00 default setting. This change will modify the reported ketone result for whole blood specimens only. Quality Control specimens, designated as a control, are not affected by this change.*

Setting the Ketone Intercept

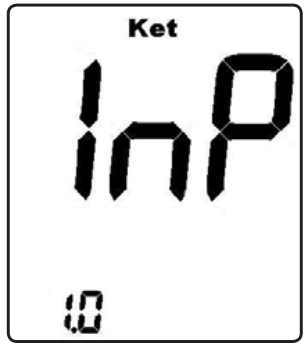
Set the Intercept for Ketone:

Press the Left/Right keys to decrease/increase the Intercept value in increments of 0.1. The default value is 0.0 and the range is -1.0 to 1.0.



Lowest Intercept

Default Intercept



Highest Intercept

IMPORTANT: *If necessary, contact Technical Support for guidance on changing the ketone intercept value from the 0.0 default setting. This change will modify the reported ketone result for whole blood specimens only. Quality Control specimens, designated as a control, are not affected by this change.*

END (End of Setup Mode) "END"

Running Control Solution

Control Solution

Nova Max Plus Glucose and Ketone Control Solution is a liquid that contains a fixed amount of Glucose and Ketone.

- Use these solutions to verify that your Monitoring System and test strips are working properly.
- Use this solution to practice or to check that you are following the correct testing procedure without using blood.

If the Monitoring System reading is within the control solution's acceptable range, the monitor is working properly.

Perform a Control Solution Test

The control solution test confirms that your monitor and test strips are working correctly. A control solution test is similar to a blood test, except you use Nova Max Plus Control Solution and not a blood sample.

You should run a control solution test:

- When you first get your Monitoring System
- Each time you open and begin using a new vial of test strips
- If you leave the glucose test strip vial cap open for any length of time
- If the Monitoring System is dropped, damaged, or exposed to liquids
- To check the performance of the Monitoring System and test strips

Running Ketone Control Solution

Important Information for Ketone Control Solution

- Use only Nova Max Plus Control Solutions for the test.
- Check the expiration date on the control solution vial. Do not use control solution past the expiration date or you may get inaccurate results.
- Store only for 3 months after first opening. When you open a new vial of control solution, count forward 3 months and write that date on the label of the control solution vial. Discard any remaining solution after the date you have written on the vial.
- Store the control solution tightly closed at room temperature below 86°F (30°C). Do not refrigerate or freeze.
- Shake the control solution well before using.

Running Ketone Control Solution

Caution: *The Control Solution range printed on the test strip vial label is for control solution only. It is used to test the performance of the Monitoring System and test strip.*

If your control solution test results fall outside the range printed on the test strip vial label:

- The Ketone test strip vial may not be working properly.
- Contact Nova Technical Support or your local supplier.

Testing a Ketone Quality Control Solution

1. Insert a test strip into the Monitoring System. If Monitoring System was off, the screen displays all segments for 2 seconds then the blinking blood drop symbol and "Ket" appear.

NOTE: *If the strip is removed before you start the test, the screen goes blank.*

Running Ketone Control Solution

2. Press the left/right  buttons to indicate this sample is a control. (CTL is shown on the display.)

NOTE: *It is important to select control solution test so the test result does not appear to be one of the blood test results.*

NOTE: *If a test is not performed within 2 minutes from the insertion of the test strip, the screen goes blank. To perform a test, take out then replace the test strip starting from Step 1.*

3. Shake the control solution vial. Discard a drop before use. Squeeze a drop of control solution onto a clean, hard, dry surface, i.e., control cap.

4. Pick up the Monitoring System with test strip inserted and touch the test strip to the control solution drop.

Running Ketone Control Solution

NOTE: *The on-screen Control Symbol flashes on and off repeatedly until sufficient control solution has been added to the test strip. (Beeper sounds if enabled.)*

5. A Ketone quality control test result is available on-screen in 10 seconds. The display does a countdown from 10 to 1.
6. Compare the result on the display with the range printed on the test strip vial label. If the result falls within the range, your Monitoring System and test strips are working correctly.
7. The result is automatically stored into memory.
8. If the ketone test result is above 8 mmol/L for ketone, the screen displays HI with Ket displayed.

Running Ketone Control Solution

Out-of-range results may be caused by the following:

- An error in performing the control test, retest and follow the instructions carefully.
- The control solution may have expired or have been contaminated. Check the expiration date on the control solution vial. Control solution is good for only 3 months after opening. Make sure the control solution vial is closed when not in use.
- Expired test strip - Check the expiration date on the test strip pouch.
- The test strip may have been damaged. This can be caused by extreme temperature or by leaving the test strip vial cap open. Retest using a new test strip.
- Monitoring System malfunction - the Monitoring System may not be working properly.

Running a Ketone Blood Test

NOTE: *If the control solution test result is outside the range (is either higher or lower), your Monitoring System and test strip may not be working as a system. Repeat the process using a new test strip. Do not use the monitor until test results fall within the appropriate range. If the problem continues, contact your Nova supplier.*

Running a Ketone Blood Test

1. Obtain an appropriate blood specimen from an animal in a syringe.
2. Insert a Ketone test strip into the Monitoring System. Ketone is a green strip. If Monitoring System was off, the screen displays all segments for 2 seconds.

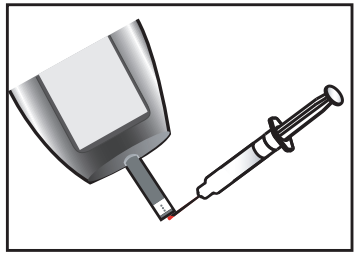
NOTE: *If the strip is removed before you start the test, the screen goes blank.*

Running a Ketone Blood Test

3. After 3 seconds, the blinking blood drop symbol appears with "Ket" displaying.

NOTE: *If a test is not performed within 2 minutes from the insertion of the test strip, the screen goes blank. To perform a test, take out then replace the test strip starting from Step 1.*

4. Touch the end of the test strip to a blood sample (collected in a syringe) until the test strip is full and the on-screen countdown timer begins. (Beeper sounds if enabled.)



Running a Ketone Blood Test

NOTE: *The Blood Drop symbol flashes on and off repeatedly until sufficient blood has been added to the test strip.*

5. A countdown on screen appears while test is in progress. A result is available on-screen in 10 seconds.
6. The result is automatically stored into memory.
7. If test result is above 8.0 mmol/L for Ketone, the screen displays HI with Ket displaying.

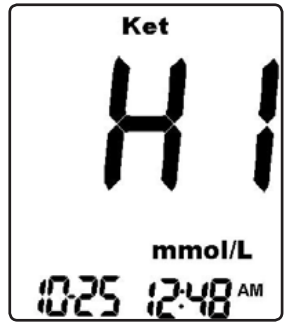
   If test result is below 0.1 mmol/L for Ketone, the screen displays LO with Ket displaying.

NOTE: *The Monitoring System will time out after 2 minutes of non-use or if the strip is removed. The keys are disabled until a strip is inserted. Results and marking status are saved if the monitor times out, the strip is removed, or the monitor is turned off.*

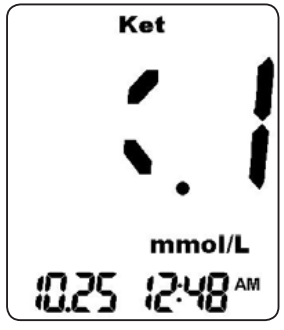
Ketone Test Results

The blood Ketone test result is displayed on the monitor.

If test result is higher than 8.0 mmol/L (Ket), the monitor displays "HI."



If test result is lower than 0.1 mmol/L (Ket), the monitor displays "LO." No action is required.



Running Glucose Control Solution

Important Information for Glucose Control Solution

- Use only Nova Max Plus Glucose Control Solutions for the test.
- Check the expiration date on the control solution vial. Do not use control solution past the expiration date or you may get inaccurate results.
- Store only for 3 months after first opening. When you open a new vial of control solution, count forward 3 months and write that date on the label of the control solution vial. Discard any remaining solution after the date you have written on the vial.
- Store the control solution tightly closed at room temperature below 86°F (30°C). Do not refrigerate or freeze.
- Shake the control solution well before using.

Running Glucose Control Solution

Caution: *The Control Solution range printed on the glucose test strip vial is for control solution only. It is used to test the performance of the monitor and test strip.*

If your control solution test results fall outside the range printed on the test strip vial:

- The glucose test strip vial may not be working properly.
- Contact Nova Technical Support or your local supplier.

Testing a Glucose Quality Control Solution

1. Insert a glucose test strip into the Monitoring System. If Monitor was off, the screen displays all segments for 2 seconds then the blinking blood drop symbol and "Glu" appear.

NOTE: *If the strip is removed before you start the test, the screen goes blank.*

Running Glucose Control Solution

2. Press the left/right  buttons to indicate this sample is a control. (CTL is shown on the display.)

NOTE: *It is important to select control solution test so the test result does not appear to be one of your blood test results.*

NOTE: *If a test is not performed within 2 minutes from the insertion of the test strip, the screen goes blank. To perform a test, take out then replace the test strip starting from Step 1.*

3. Shake the control solution vial. Discard a drop before use. Squeeze a drop of control solution onto a clean, hard, dry surface, i.e., control cap.

Running Glucose Control Solution

4. Pick up the Monitoring System with test strip inserted and touch the test strip to the control solution drop.

NOTE: *The on-screen Control Symbol flashes on and off repeatedly until sufficient control solution has been added to the test strip. (Beeper sounds if enabled.)*

5. A glucose quality control test result is available on-screen in 4 seconds. The display does a countdown from 4 to 1.
6. Compare the result on the display with the range printed on the test strip vial. If the result falls within the range, your monitor and test strips are working correctly.
7. The result is automatically stored into memory.

Running Glucose Control Solution

8. If test result is above 600 mg/dL or 33.3 mmol/L for glucose, the screen displays HI with Glu displayed.

   If test result is below 20 mg/dL or 1.1 mmol/L for glucose, the screen displays LO.

Out-of-range results may be caused by the following:

- An error in performing the control test, retest and follow the instructions carefully.
- The control solution may have expired or have been contaminated. Check the expiration date on the control solution vial. Control solution is good for only 3 months after opening. Make sure the control solution vial is closed when not in use.
- Expired test strip - Check the expiration date on the test strip vial.

Running Glucose Control Solution

- The test strip may have been damaged. This can be caused by extreme temperature or by leaving the test strip vial cap open. Retest using a new test strip.
- Monitor malfunction - the Monitoring System may not be working properly.

NOTE: *If the control solution test result is outside the range (is either higher or lower), your Monitoring System and test strip may not be working as a system. Repeat the process using a new test strip.*
Do not use the Monitoring System until test results fall within the appropriate range. If the problem continues, contact Nova Technical Support or your local supplier.

Running Glucose Blood Test

1. Obtain an appropriate blood specimen from an animal in a syringe.

NOTE: *Cleaning of the puncture site is important.*

2. Insert a Glucose Test Strip into the Monitoring System. Glucose is a blue strip. If monitor was off, the screen displays all segments for 2 seconds.

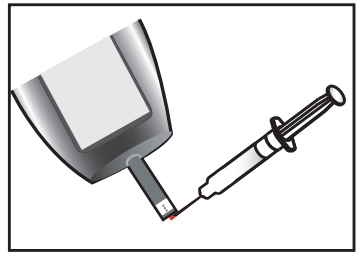
NOTE: *If the strip is removed before you start the test, the screen goes blank.*

3. After 3 seconds, the blinking blood drop symbol appears with "Glu" displaying.

Running a Glucose Blood Test

NOTE: *If a test is not performed within 2 minutes from the insertion of the test strip, the screen goes blank. To perform a test, take out then replace the test strip starting from Step 2.*

4. Touch the end of the test strip to a blood sample (collected in a syringe) until the test strip is full and the on-screen countdown timer begins. (Beeper sounds if enabled.)



NOTE: *The Blood Drop symbol flashes on and off repeatedly until sufficient blood has been added to the test strip.*

5. A countdown on screen appears while test is in progress. A result is available on-screen in 4 seconds.
6. The result is automatically stored into memory.

Running a Glucose Blood Test

7. If test result is above 600 mg/dL or 33.3 mmol/L for Glucose, the screen displays HI.

   If test result is below 20 mg/dL or 1.1 mmol/L for Glucose, the screen displays LO.

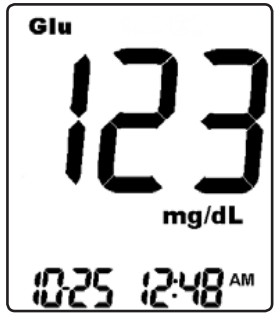
NOTE: *The Monitoring System will time out after 2 minutes of non-use or if the strip is removed. The keys are disabled until a strip is inserted. Results and marking status are saved if the monitor times out, the strip is removed, or the Monitoring System is turned off.*

NOTE: *Do not press the test strip directly against the blood collection site. Touch the test strip gently to the blood sample using a syringe.*

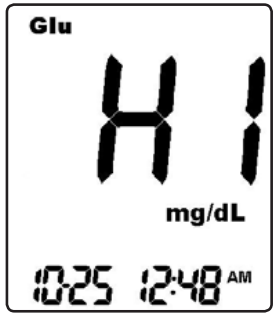
Running a Glucose Blood Test

The blood Glucose test result is displayed on the Monitoring System.

Example screens are in mg/dL.

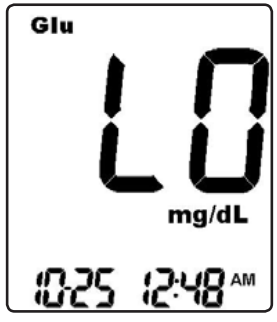


If test result is higher than 600 mg/dL or 33.3 mmol/L, the monitor displays "HI."



If test result is lower than 20 mg/dL or 1.1 mmol/L, the monitor displays "LO."

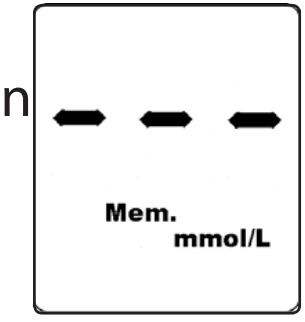
If you receive an Error Message, see Displays, Meanings, Actions of this Owner's Guide.



Review Test Results in Memory

NOTE: *If a test strip is inserted while in the Data Review mode, the Monitoring System immediately switches to test mode.*

To review test results that are stored in memory, start with the monitor in the off position. The monitor is in the off position when the screen is completely blank. To turn off the monitor, hold the Mode M button down until the screen goes blank then release the button.



1. With the monitor off, press the Mode M button. The most recent test result should display. If there are NO results in memory, the screen displays 3 dashes.
2. Press the Left/Right button to view all the data in memory. The Left arrow goes back in time and the

Review Test Results in Memory

Right arrow goes forward in time. All results including control results, marked results, and unmarked results can be viewed.

3. At the end of reviewing individual test results, the screen displays "End Mem."

NOTE: *When the monitor memory is full (400 test results), each new test result stored in memory will remove the oldest test result stored in memory.*

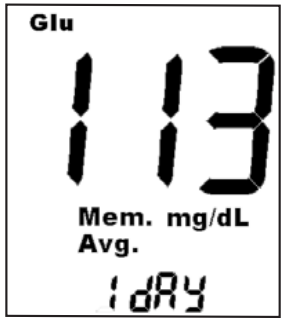
NOTE: *For data averaging,* ***only glucose results are averaged****. HI glucose results equal 600 mg/dL or 33.3* mmol/L *and LO results equal 20 mg/dL or 1.1* mmol/L.

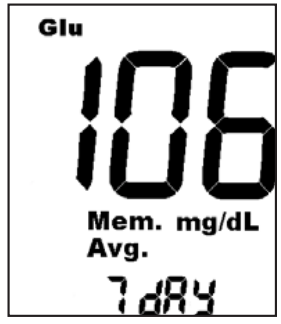
4. To review 1 day, 7 day, 14 day, and 30 day average results, press the Mode  button.

Review Test Results in Memory

5. If there are less than 2 test results in memory, the screen displays 000. If no results, the screen displays 3 dashes.

Example screens are in mg/dL.





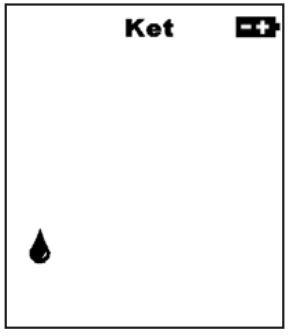
6. After reviewing the 30 day average, press the Mode 

button to shut off the monitor, or press no buttons and the monitor will turn off automatically after 30 seconds.

Basic Upkeep

Battery Check

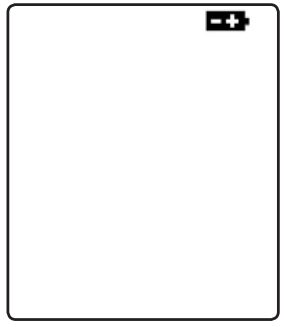
The monitor is powered by a single coin cell battery, CR2450 (3V). At the first displaying of the battery icon in the upper right corner of the screen and the blood drop at the lower left corner of the screen, the monitor has sufficient charge for 20 more tests. Continue with testing as usual; the battery indicator will remain on-screen.



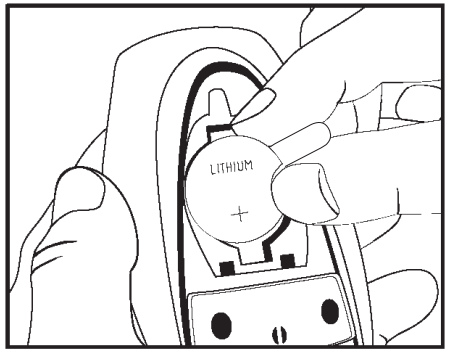
Basic Upkeep

After 20 tests have been performed, there will be insufficient battery charge to continue testing, and the monitor will no longer operate until the battery is replaced. The battery icon will only appear when a strip is inserted and the icon will disappear when the strip is removed.

Battery low



Battery Replacement



Replace the battery as follows:

1. Remove the back battery cover on the monitor.
2. Remove the battery and replace with a new one with the **+** side facing up.
3. Replace the cover.

NOTE: *After the battery is replaced, the monitor displays the all segments screen. Then, the monitor displays the time set up. Reset to the current time and date. If needed, go to the "Setting the Time, Date, and Beeper" section in this guide. Discard batteries according to your local environmental regulations.*

Cleaning and Care

The exterior of the Nova Vet Monitoring System should only be cleaned with alcohol wipes/swabs. Keep liquids from entering the test strip port or the Left, Right, and Mode buttons.

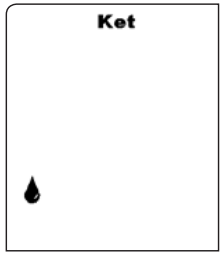
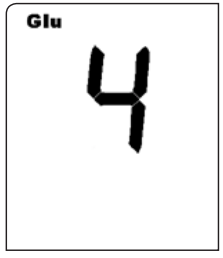
CAUTION: DO NOT *attempt to open the monitor to make any repairs. Your warranty and all claims will be void! Only an authorized service personnel can repair the monitor. If the monitor needs to be repaired or replaced, contact Nova Technical Support or your local supplier.*

Displays, Meanings, Actions

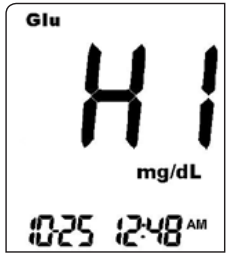
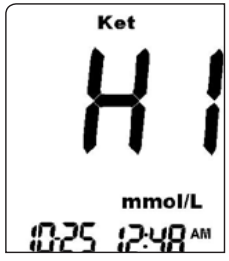
This section addresses the messages that appear on your displays, what they mean, and what action you need to take. **Glucose screens are shown in mg/dL, but may display in mmol/L depending on which monitor you purchased.**

Display	What it Means	What to Do
	System Check. Verifies that all segments are working. Appears when: • Monitor is turned on for Setup and Memory Review. • Test strip is inserted into the monitor.	No action required. If all segments are not displayed on monitor, contact Nova Technical Support or your local supplier.

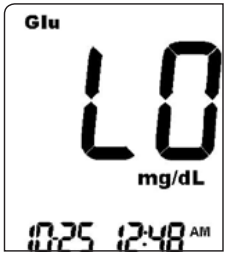
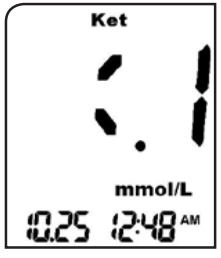
Displays, Meanings, Actions

Display	What it Means	What to Do
	Blood Drop Symbol: Monitor is ready to accept blood.	Apply a blood sample to the test strip. Refer to page 18 or page 28.
	Countdown screen: 4 seconds for glucose and 10 seconds for Ketone to calculate the test result.	No action required.
	A blood glucose test result is in mg/dL or mmol/L.	No action required. Result is automatically stored into memory.

Displays, Meanings, Actions

Display	What it Means	What to Do
	A blood Ketone test result in mmol/L.	No action required. Result is automatically stored into memory.
	The blood glucose reading is higher than 600 mg/dL or 33.3 mmol/L.	Follow standard veterinary protocols.
	The blood Ketone reading is higher than 8 mmol/L.	

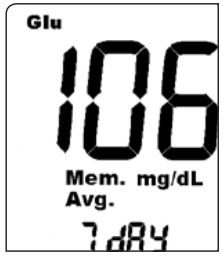
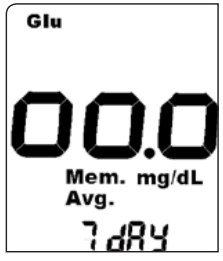
Displays, Meanings, Actions

Display	What it Means	What to Do
	The blood glucose reading is lower than 20 mg/dL or 1.1 mmol/L.	Follow standard veterinary protocols.
	The blood ketone reading is lower than 0.1 mmol/L.	No action required.
	A blood glucose test result in mg/dL or mmol/L stored in the monitor's memory with date/time.	No action required.

Displays, Meanings, Actions

Display	What it Means	What to Do
	A blood Ketone test result in mmol/L stored in the monitor's memory with date/time.	No action required.
	End of Setup or Memory Review.	No action required.
	The average of all blood glucose test results taken in the last 24 hours.	No action required. **Glucose only**

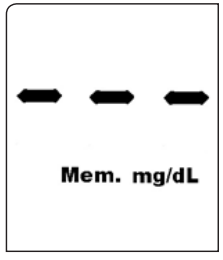
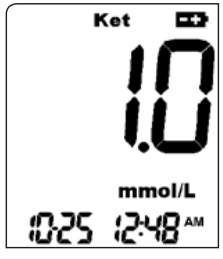
Displays, Meanings, Actions

Display	What it Means	What to Do
	No test results in the last 24 hours.	No action required. **Glucose only**
	The average of all blood glucose test results taken in the last 7 days.	No action required. **Glucose only**
	No test results in the last 7 days.	No action required. **Glucose only**

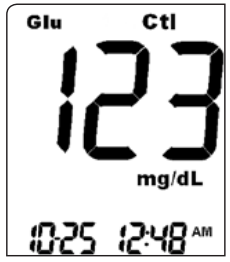
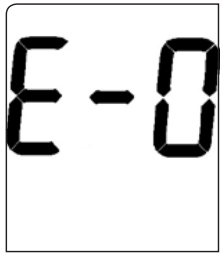
Displays, Meanings, Actions

Display	What it Means	What to Do
	The average of all blood glucose test results taken in the last 14 days.	No action required. **Glucose only**
	No test results in the last 14 days.	No action required. **Glucose only**
	The average of all blood glucose test results taken in the last 30 days.	No action required. **Glucose only**

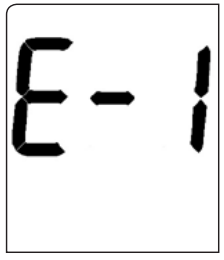
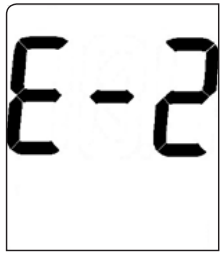
Displays, Meanings, Actions

Display	What it Means	What to Do
	No test results in the last 30 days.	No action required. **Glucose only**
	There are NO results in memory.	No action required.
	Battery is getting low, but you can still perform a test. Battery will appear on all screens.	We suggest that you replace the battery immediately. There is only enough power to perform 20 tests.

Displays, Meanings, Actions

Display	What it Means	What to Do
	A Glucose control solution test result.	No action required.
	A marked Ketone sample test result.	No action required.
	Software Error	Contact Nova Technical Support or your local supplier.

Displays, Meanings, Actions

Display	What it Means	What to Do
	System Hardware Error	Contact Nova Technical Support or your local supplier.
	Operating Temperature Error	Monitor is outside the required testing temperature range of 23 to 113°F (-5 to 45°C). Move the monitor to a warmer or cooler area and wait a few minutes.

Displays, Meanings, Actions

Display	What it Means	What to Do
	Used Strip Error: Used or damaged strip.	Retest with a new strip.
	Blood Sample Error	Incorrect application of blood sample or control solution onto the test strip, or the test strip may be damaged. Review your sampling technique.

Displays, Meanings, Actions

Display	What it Means	What to Do
Monitor does not turn on after inserting a test strip.	• Test strip is inserted upside down or not completely in.	Insert the test strip correctly with the Nova name and white tip facing up and out.
	• Battery is dead.	Replace the battery.
	• Battery is installed incorrectly or there is no battery in the monitor.	Check that the battery is correctly installed with the "+" sign facing you.
		Contact Nova Technical Support or your local supplier.

Displays, Meanings, Actions

Display	What it Means	What to Do
Monitor does not begin test count-down after applying a blood sample.	• Not enough blood sample.	Repeat the test with a new test strip.
	• Sample applied after monitor automatically turned off.	Repeat the test with a new test strip.
	• Test strip may be damaged.	Repeat the test with a new test strip.
	• Monitor may not be working properly.	After 3 attempts, contact Nova Technical Support or your local supplier.

Appendix

Specifications

Test Measured	Blood Glucose & Ketone
Glucose Methodology	Glucose dehydrogenase (GHD-FAD) biosensor
Ketone Methodology	ß-hydroxybutyrate dehydrogenase biosensor
Glucose Test Results	mg/dL or mmol/L (Plasma values)
Ketone Test Results	mmol/L (Plasma values)
Sample type	Whole blood
Glucose Test range	20 to 600 mg/dL 1.1 to 33.3 mmol/L
Ketone Test range	0.1 to 8.0 mmol/L
Acceptable Hematocrit range	25% to 60%
Length of Test	4 seconds (Glu), 10 seconds (Ket)

Appendix

Test Strip Volumes	0.4 µL (Glu), 0.8 µL (Ket)
Battery Life (nominal)	1000 Tests
Low Battery Life	About 20 Tests
Operating Ranges	
Temperature	23 to 113°F (-5 to 45°C)
Humidity	10% to 90% relative humidity
Altitude	Up to 3000 m
Weight	2.65 lb (75 g)
Size	3.6 x 2.3 x 0.9 in (91.4 x 58.4 x 22.9 mm)
Monitor data storage	400 Results

Appendix

Chemistry Measurement

Glucose test imprecision

6% or 5.4 mg/dL or 0.3 mmol/L
(whichever is greater)

Ketone test imprecision

6% or 0.15 mmol/L (whichever is greater)

Limitations

The Nova Vet Test Strips give accurate results when the following limitations are observed:

- Each test strip is for single use only.
- Your test strips are for veterinary use only. DO NOT USE ON HUMANS.
- Use only fresh whole blood. **Do not use serum or plasma.**

- There is no effect on blood glucose or Ketone values for altitudes up to 3000 meters above sea level.
- Extremes in humidity (higher than 90% and lower than 10%) may affect results.
- The anticoagulant sodium and lithium heparin may be used. EDTA is not recommended for use.

Instructional Notes

1. If in setup mode when the test strip is inserted, the monitor saves all values entered up to that point and immediately switches to test mode. Upon exiting test mode the monitor screen goes blank and does not return to setup mode.
2. If in Data Review mode when the test strip is inserted, the monitor immediately switches to test mode. Upon exiting test mode the monitor screen goes blank and does not

return to Data review mode.

3. Battery low icon is displayed in every mode except setup.
4. Once battery level goes below the threshold that triggers the "low battery" warning, it continues to give the warning until the monitor becomes unusable due to low battery.
5. The monitor responds to the pressing and the holding of keys:

Left/Right  **buttons**

- The Left/Right button moves forward/backward through a series of stored test result screens or increments of value.
- Hold down the Left/Right button to speed up screen change process.

MODE  **button**

- When the MODE button is pressed less than 1.5 seconds

to advance to the next function, the monitor advances to next screen immediately when button is pressed.

- While monitor is in sleep mode (OFF), pressing the MODE button less than 1.5 seconds wakes up the monitor and enters data review mode.
- While monitor is in sleep mode (OFF), pressing the MODE button greater than 3.0 seconds wakes up the monitor and enters setup mode.
- While monitor is awake (ON), pressing the MODE button greater than 1.5 seconds manually turns off the monitor (sleep mode).

6. With no activity, time-out occurs after the following times:
   - 1 minute for all screens
   - 2 minutes during test mode

Appendix

Warranty

Your Nova Vet Blood Ketone and Glucose Monitoring System is warranted to be free of material and workmanship defects for 2 years from the date of purchase (except as noted below). If at any time during the first 2 years after purchase, your Nova Vet Blood Ketone and Glucose Monitoring System does not work for any reason (other than as described below), it will be replaced with a new monitor, or a substantial equivalent, free of charge.

Limitations on Warranty: This warranty is subject to the following exceptions and limitations:

1. This warranty is applicable only to the original purchaser.
2. This warranty does not apply to units which malfunction or are damaged due to obvious abuse, misuse, alteration, neglect, unauthorized maintenance or failure to operate in accordance with instructions.

3. We have no knowledge of the performance of the Nova Vet Blood Ketone and Glucose Monitoring System when used with test strips other than Nova Vet Test Strips. Therefore, we make no warranty as to the performance of the Nova Vet Blood Ketone and Glucose Monitoring System when used with any test strips other than Nova Vet Test Strips.
4. There is no other express warranty for this product. The option of replacement, described above, is the warrantor's only obligation under this warranty.

For warranty service:

In the USA or Canada, dial 1-800-545-6682.

Outside the USA and Canada, contact your local Nova Vet Supplier.

Appendix

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