

**GlycoCheck®**  
**Measurement System**

# User Guide

Operating instructions and  
guidelines for GlycoCheck  
Measurement System  
Software Version 5.3

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## Preface

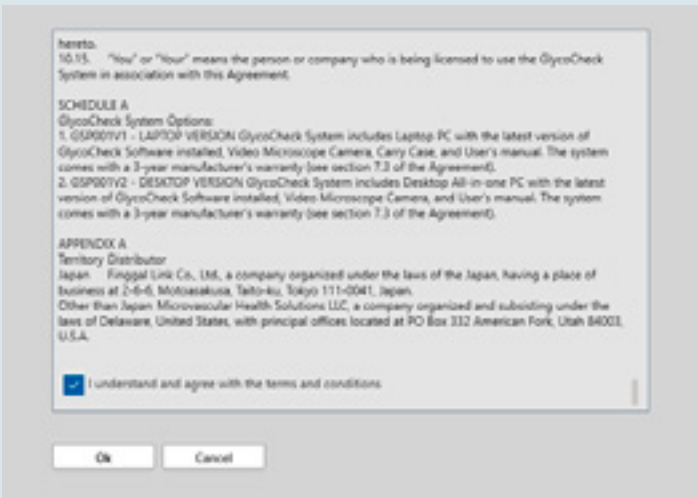
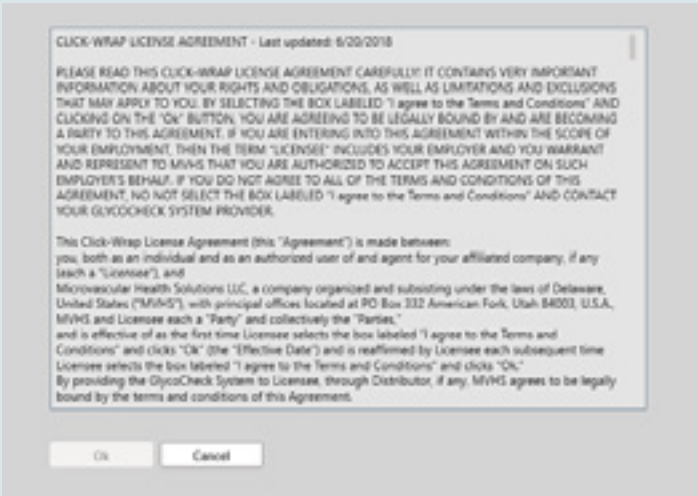
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GlycoCheck assumes no responsibility for any injury, or for any illegal or improper use of the software, that may result from failure to use this product in accordance with the instructions, cautions, warnings, or indications for installation and configuration published in this manual.

The GlycoCheck software is protected by international patents\* and copyright laws. The licensee is entitled to use the copy of this software supplied with this product as intended in the operation of the software. The software may not be copied, decompiled, reverse-engineered, disassembled, or otherwise reduced to human perceivable form. This is not a sale of the software or any copy of the software; all right, title, and ownership of the software remain with GlycoCheck and MVHS. The Click-Wrap Software license is at the end of this guide and what you signed prior to the purchase of your system.

**Caution:** changes or modifications not expressly approved by GlycoCheck could void the purchaser’s authority to operate the equipment.

GlycoCheck is patented in the United States, Canada, Europe (Belgium, Czech Republic, Denmark, France, Germany, Hungary, Ireland, Italy, Norway, Poland, Portugal, Romania, Spain, Sweden, Switzerland, The Netherlands, and United Kingdom), China, and Japan.



*This manual provides operating instructions and guidelines for the GlycoCheck Measurement System Software Version 5.3.3 and GlycoCloud client.*

### GlycoCheck 5.3 / GlycoCloud Client Software Overview

The GlycoCheck 5.3 software is where the patient database is located and all of the calculations of the videos that are acquired and processed through the algorithms to generate the MicroVascular Health Score.™ The GlycoCloud client is the camera acquisition application.

### Assumptions

The instructions in this guide assume that the user has completed the online training course at the Boston BioLife Academy (<https://www.bostonbiolifeacademy.com/courses/glycocheck-training-p1>). A Certificate of Completion of the test confirms that the user understands the proper use of the GlycoCheck® Measurement System and that he or she has the required medical education and/or experience to operate this equipment safely and effectively.

### Intended Use

GlycoCheck Measurement System is intended solely for the visualization and characterization of the Perfused Boundary Region™ (PBR), microvascular density, and MicroVascular Health Score.™ No diagnostic or therapeutic claims are made for the software.

### Warnings

- To safely use the GlycoCheck Measurement System software, always connect the laptop computer to a wall outlet with a medical grade adapter.
- For safety, hygiene and camera lens protection purposes, **always use a new sterile single-use GlycoCheck lens cover for each measurement.**
- When not in use, store the camera with the protective lens cover with the red tape.



## Patient Testing Instructions

Inform patients to follow these instructions before testing:

- Do not eat or drink anything other than water for 6 hours before your test.
- Do not exercise for 12 hours before your test.
- Do not consume alcohol for 24 hours before your test.
- Drink at least 1 quart of water 1 hour before your test.
- Do not drink caffeine the day of your test.
- 15–20 minutes of rest (to reduce the level of stress) before your test.

1. Connect the laptop computer to a wall outlet with the power supply. **THIS IS ESSENTIAL—Working on battery power only, without connecting the power supply to a wall outlet, will not supply sufficient power to both the computer and the digital microscope camera, and may lead to software problems and permanent database errors.** Power cord must be connected to a surge protector.

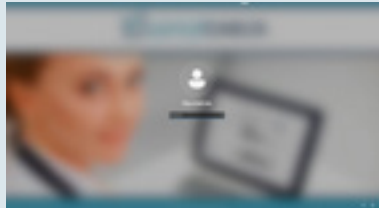
2. **Healthcare Practitioner System:** plug the CapiVision camera into available USB-C port. May be used with USB-C to a USB 3.0 adaptor and plugged into blue USB port.

**Academic Research System:** plug the KK Model HVCS Camera into available USB-C port. May be used with USB-C to a USB 3.0 adaptor and plugged into blue USB port.

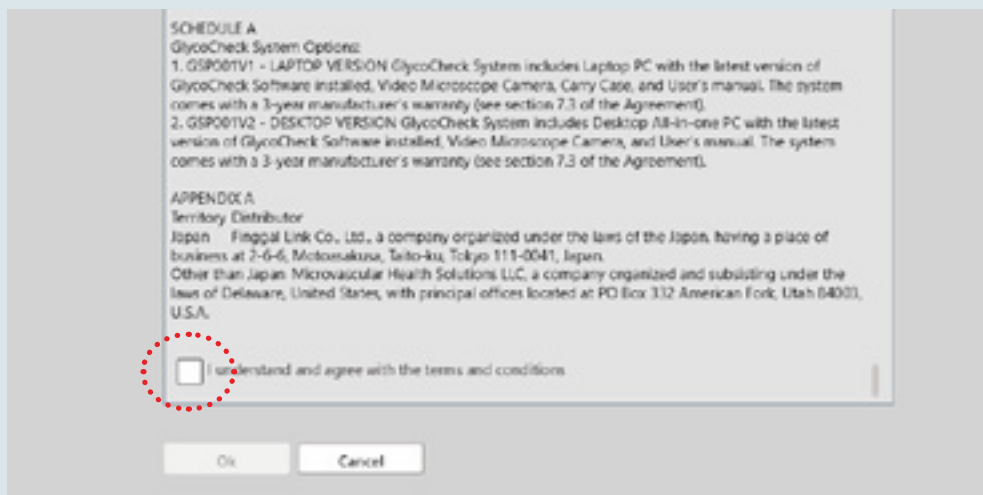
3. Turn computer power on (right top corner button). Click **Enter** on keyboard.



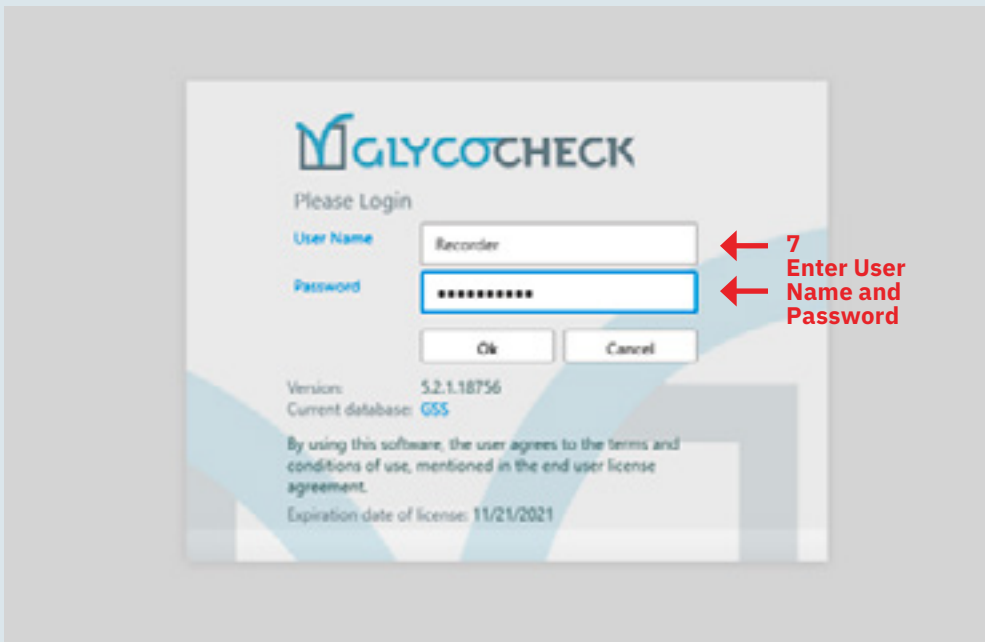
4. Log in using password: **GlycoAdminPW**



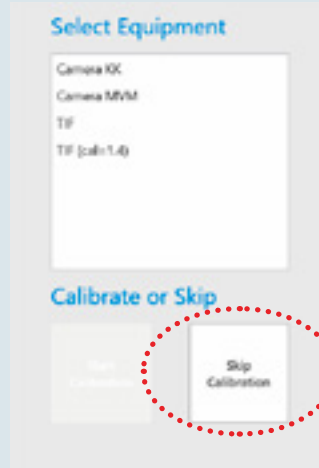
5. Double-click on the GlycoCheck application icon on the computer desktop or single-click on the GlycoCheck icon in the taskbar.
6. Scroll through the Click-Wrap License and click **I understand and agree with terms and conditions.**



7. Type username: **Recorder** and password: **RecorderPW** (case sensitive).
8. Click on **OK**. The software is now ready to begin a glycoalyx measurement.



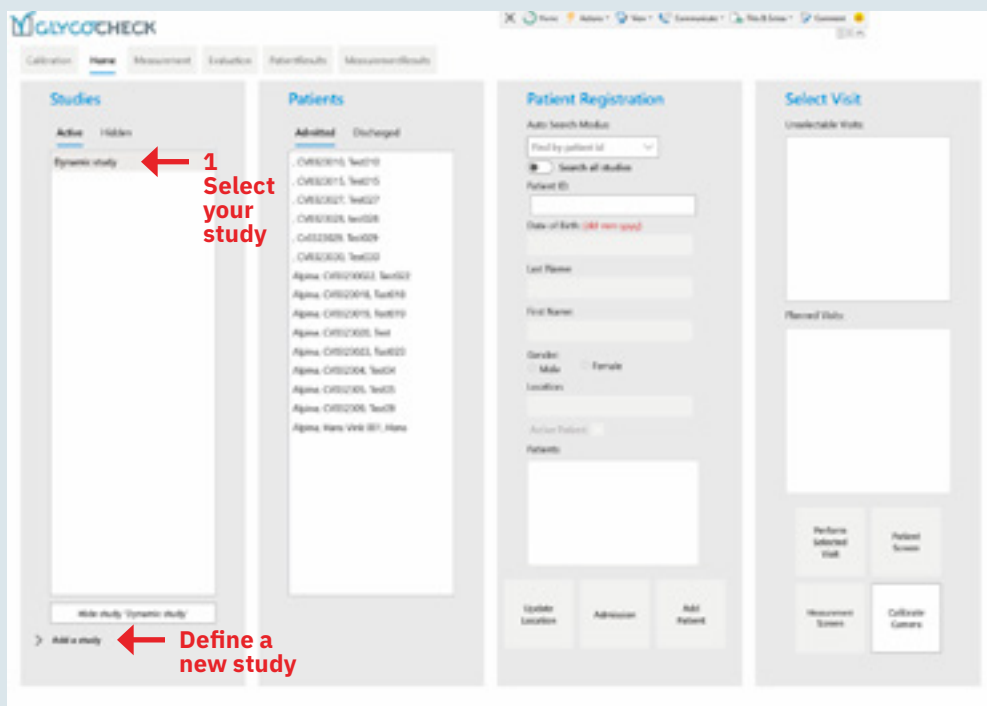
9. Your camera is pre-calibrated so you may click **Skip Calibration**.



The GlycoCheck software is designed to follow a specific workflow, making relevant features available on the screen as needed. You will find appropriate buttons for these features. **In order to perform a successful glyocalyx measurement, follow these workflow steps.** You can see the current step in the workflow bar at the top of the screen. *Note: this is not a menu bar.*

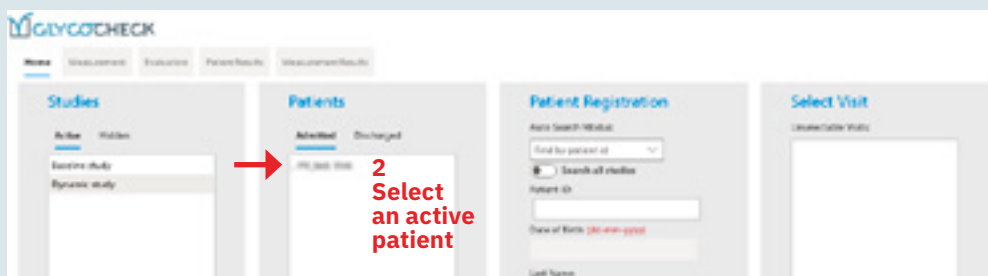
## 1. Select a Study

Select your study in the left column. If there is only one study defined it will be selected by default. New studies can be defined by clicking on **Add a study** on the lower left of the screen. Click on **Dynamic Study**.

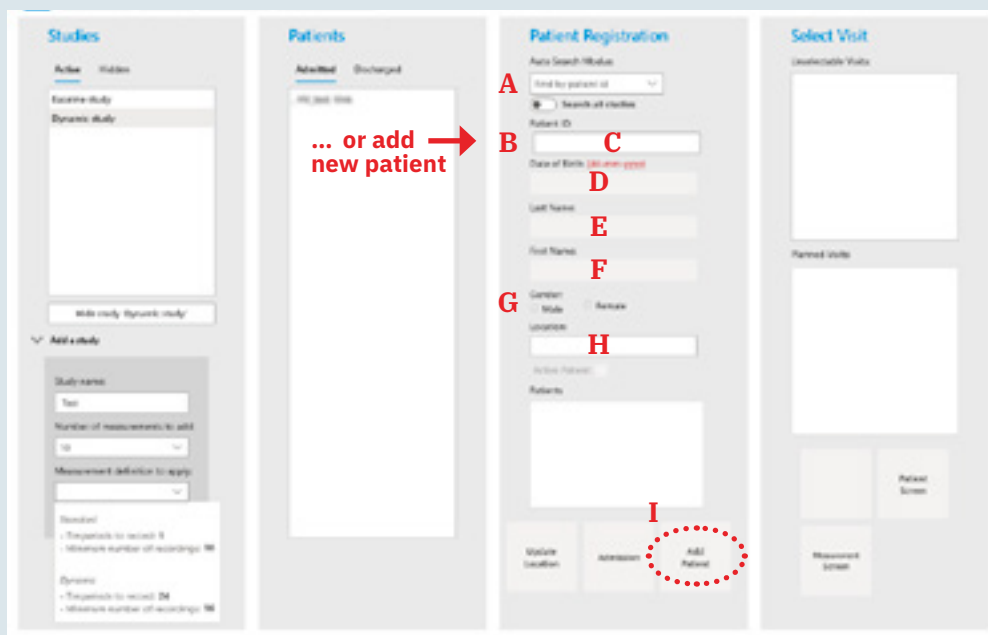


## 2. Patient Setup

- **Select an active patient** from the patient list in the Patients list section in the second column. To run a repeat test on an existing patient, scroll down the list and click on patient name or ID. *If the patient is not on the list, register a new patient with these steps:*
- **To register a new patient:**
  - A.** In the Auto Search Modus, use the dropdown arrow, click on **Find by Name**. That will reset the patient registration section.
  - B.** Select **Add New Patient** in the Auto Search Modus dropdown menu.
  - C.** In the Patient ID box, type the patient ID (name) of the patient. Type *Last Name* followed by *First Name* (Smith John).
  - D.** Enter *Date of Birth* starting with 2-digit day, 2-digit month and 4-digit year separated by hyphens (00-00-0000). If the birth date is entered incorrectly, the box will be lined in red.
  - E.** In [Last Name] box, enter *Patient's Last Name* (not case sensitive).
  - F.** In [First Name] box, enter *Patient's First Name* (not case sensitive).
  - G.** Select **Male** or **Female**.
  - H.** Enter *Location* where test is conducted (office, clinic, hospital, etc.) If you need to change the patient location, click on **Update Location** at the bottom of the Patient Registration section and make the change.
  - I.** Click **Add Patient** to add the patient to the database. The message “Please wait until patient data is ready” appears when the software is uploading the patient data to the database.



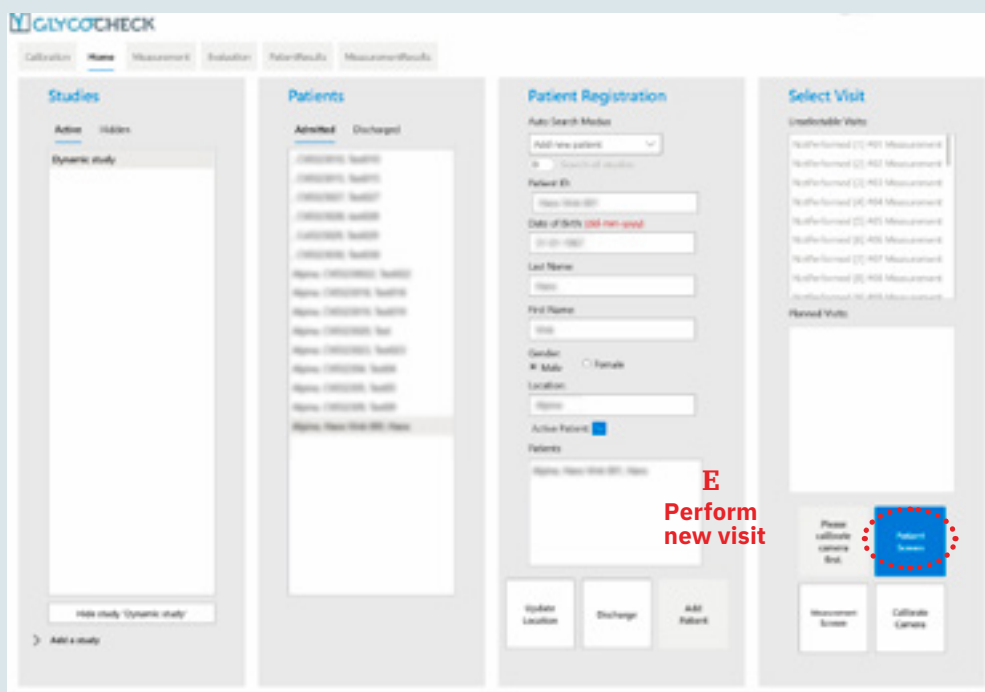
**Do not discharge the patient.**  
If you do, they are removed from the patient list and no longer visible.



*Note: If the name of the patient is not in the ACTIVE PATIENT LIST, click on the tab 'Discharged' above the Patients list, to see if the patient was discharged. If so, the patient can be admitted again by pressing the 'Admission' button. Click the ADMISSION button to save the patient to the PATIENTS list under the 'Admitted' tab.*

### 3. Perform the Measurement

- A. Sanitize your hands. It is preferred that you use single-use sterile procedure gloves.
- B. Explain to the patient the steps in the glycoalyx measurement process to help them relax.
- C. Place a new GlycoCheck lens cover on the camera tip, pushing it gently into place, making sure that the lens cover end is securely against the end of the lens tube. Do not touch lens with ungloved hands. If you do not glove your hands, handle lens by carefully opening the plastic lens packaging and use the packaging to avoid touching the lens.
- D. Do not point the lighted camera tip at the patient's eyes.
- E. Click the **Patient Screen button** highlighted in blue.



See videos at [microvascular.com/glycocheck-videos](http://microvascular.com/glycocheck-videos) for additional explanations.

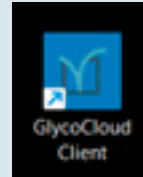
- F. Minimize your screen by clicking on the single line on the left. The program will remain open in the task manager bar found at the bottom of the screen.





The GlycoCheck 5.3 software is where patient database is located and all of the calculations of the videos that are acquired and processed through the algorithms to generate the MicroVascular Health Score.™ The GlycoCloud client is the camera acquisition application.

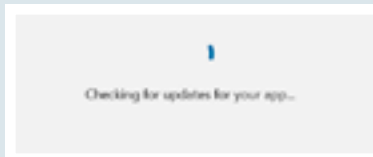
1. Open the GlycoCloud client by double clicking the icon on your desktop as shown to the right.



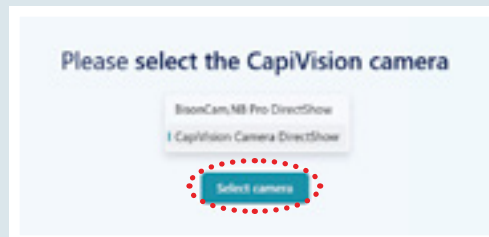
... Or you can access the GlycoCloud client on your taskbar by double-clicking the icon shown at left.

## YOUR GLYCOCHECK SYSTEM MUST BE ONLINE WITH A STABLE INTERNET CONNECTION IN ORDER FOR THE GLYCOCLOUD CLIENT SOFTWARE TO FUNCTION.

2. When you double-click on the GlycoCloud client icon, the program automatically checks for software updates. Updates are pushed regularly. If no update is present, you will go immediately to the GlycoCheck license screen. If an update is required, you will be asked if you want to do the update. Click **Yes** and the software will be updated to the latest version. When complete, the GlycoCheck license agreement will be shown.
3. Scroll to the bottom of the license agreement and click **I Agree**.



4. On the dropdown menu, select **CapiVision Camera DirectShow**.



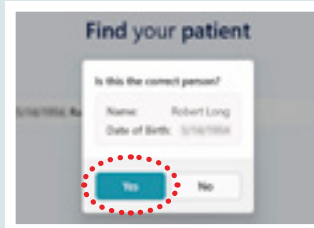
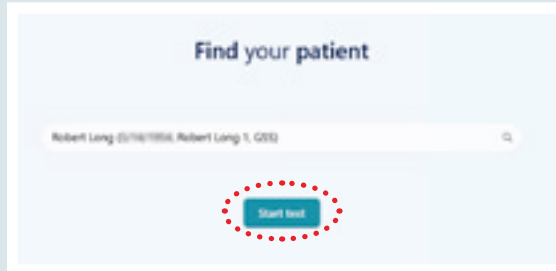
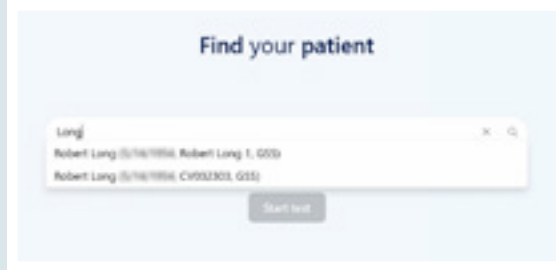
*continued...*

5. The next screen is **Find your patient**. Type the patient's name or patient ID, last name first.

Once you type in the name, a list of patients with that name will appear. Scroll through the list and identify the correct patient (in this example, it is *Robert Long 1*). It will appear in gray when you hover over it. Click on the name and select that person.

You will be asked to verify that this is the correct patient. Confirm, then click **Start Test**.

Once you've clicked **Start Test**, you will be asked again to verify that this is the correct patient. Once you've selected **Yes**, you will be presented with the test screen as shown below. The camera will turn on and the green LED lights will begin to flash.



Here is an explanation of each of the items you see on your screen as you perform a measurement:

**A Collection Progress:** The green bar shows visually how far the collection of videos has progressed.

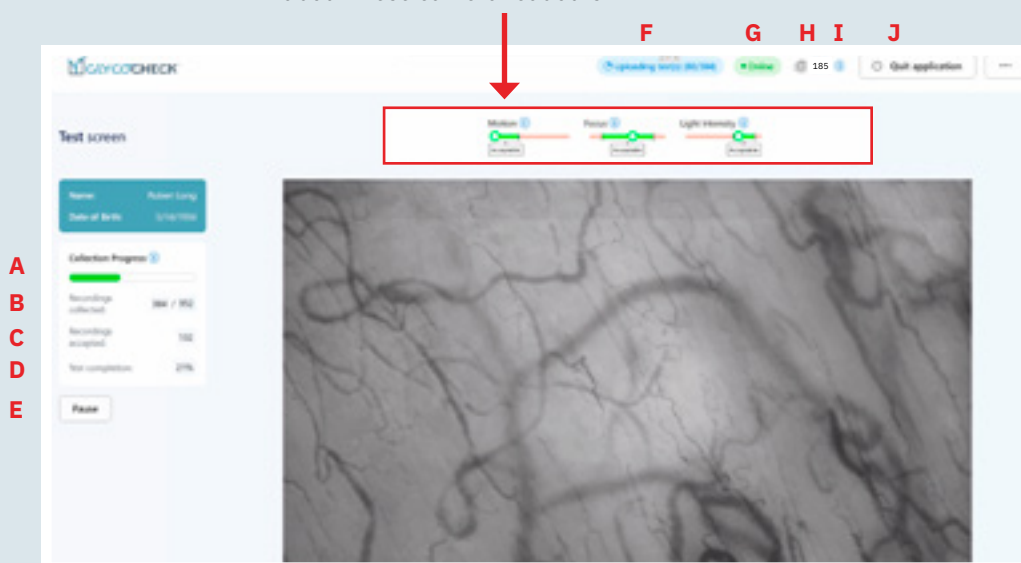
**B Recordings collected:** The number on the right is the estimated number of recordings that need to be collected based on what has been collected. It starts at 2,000 and as you progress the estimated number drops based on the quality of the videos you are collecting. In this example, an estimated 952 more video images need to be collected. The number on the left is the progress based on the actual number of recordings collected. In this example, 384 recordings have been collected.

**C Recordings accepted:** The number of recordings the software has accepted for analysis. The software analyzes and conducts quality assurance checks on each video as it is received. In this example, 132 recordings have been accepted. This number must reach 384 to complete the measurement.

**D Test completion:** The percentage of recordings collected. In this example, it's 21%.

**E Pause:** Use this button only if you need to pause the measurement. If you click it, you will see a pop-up that says "Paused. Please click on resume to continue or abort to stop the test." When you're ready to resume, click **Resume**. If it's your intent to abort the test, click **Abort**.

See next page for information about these camera readouts



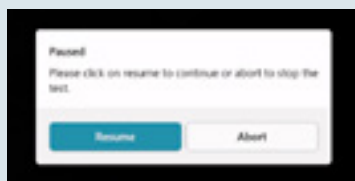
**F Uploading Test:** Once tests begin to be accepted, the blue bar will appear at the top of the screen showing the number of tests uploaded for analysis. In this example, 80 out of the 384 required for an accurate test have been uploaded.

**G Online:** Green indicates your system is "online." If it's red, it will say "offline." This rarely happens but you must correct it to continue the measurement: Click on the three dots to the far right. A "Settings" dropdown will appear with three options: a) Restart Image Analysis, b) Add Credits, or c) Check for Update (to manually update the system). If you need to Restart Image Analysis, click that button. Once it restarts, a message will appear that it has been reset and your measurement will resume. Click **X** to close the window and complete your measurement.

**H Credits:** This is the number of credits remaining on tests you can perform.

**I Information:** When this button is clicked you will see a "Credits" pop-up screen telling you how to purchase additional test credits.

**J Quit Application:** *Click this ONLY if you need to quit the measurement.*



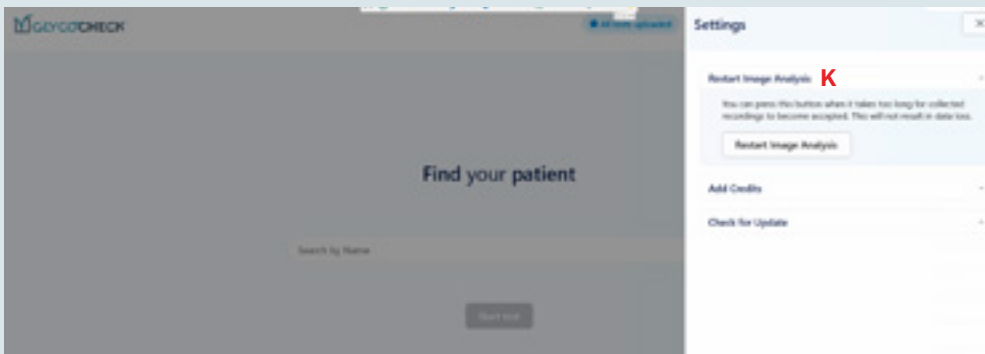


**Motion:** The white dot must be within the green bar. The program will not accept the videos if they are in the red bar. Farther left within the green bar is better.

**Focus:** The white dot must be within the green bar. The program will not accept the videos if they are in the red bar. If possible, keep the white dot centered within the green bar.

**Light Intensity:** The white dot must be within the green bar. The program will not accept the videos if they are in the red bar. It is best to keep the white dot centered within the green bar. Occasionally, if the camera isn't positioned correctly, the indicator may "ping pong" out of range. Adjust the camera so it's in focus again and the software will automatically compensate and the indicator will return to the green range.

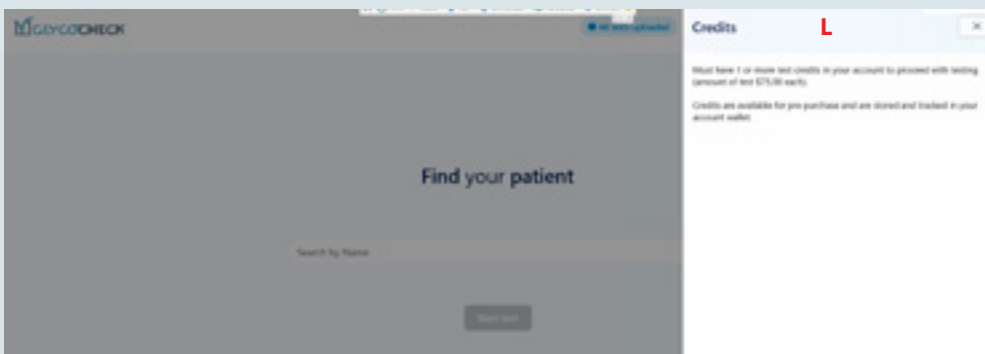
### Three dots in upper right: settings options



**When you click the three dots in the upper right, you will see three options:**

**K Restart Image Analysis**

If you need to Restart Image Analysis, click the button. Once it restarts, a message will appear that it has been reset and your measurement will resume. Click **X** to close the window and complete your measurement.

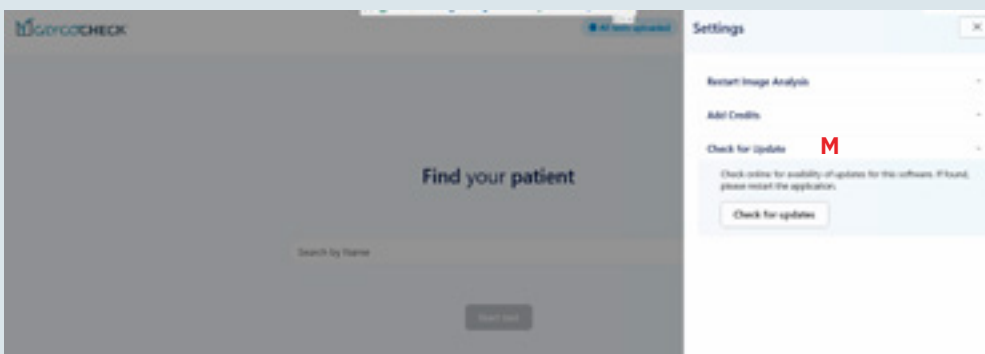


**L Add Credits**

The Add Credits screen is for the GlycoCheck administrator to add test report credits.

Credits: This is the number of credits remaining on tests you can perform.

Information: When this button is clicked you will see a "Credits" pop-up screen telling you how to purchase additional test credits.



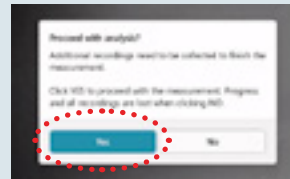
**M Check for Update**

Click Check for Update at any time to do a manual update. The software is updated automatically when you login. This is another way to check for updates that will be rarely used.

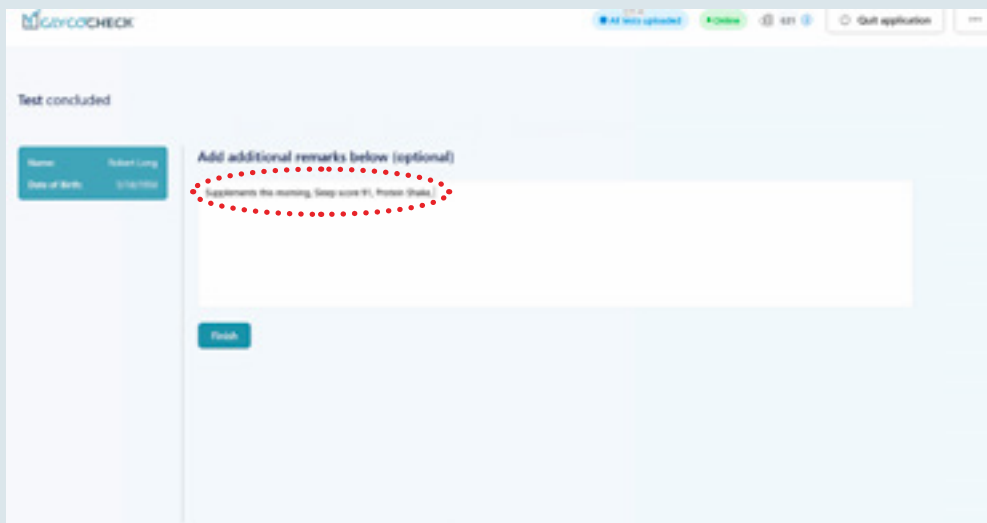
- Once enough measurements have been collected, you will see the screen below telling you it's okay to remove the camera from the patient's mouth. As stated on the screen, it is recommended that you have your patient standby while the system checks to see if sufficient recordings have been accepted to complete the measurement. It's possible a few more recordings will be needed. If that happens, a screen will appear as shown below.



- If you need to take more recordings, a popup screen will appear. Click **Yes** to proceed. It usually takes another minute or so to gather more recordings. Once those are quality checked, you will be finished with taking measurements.



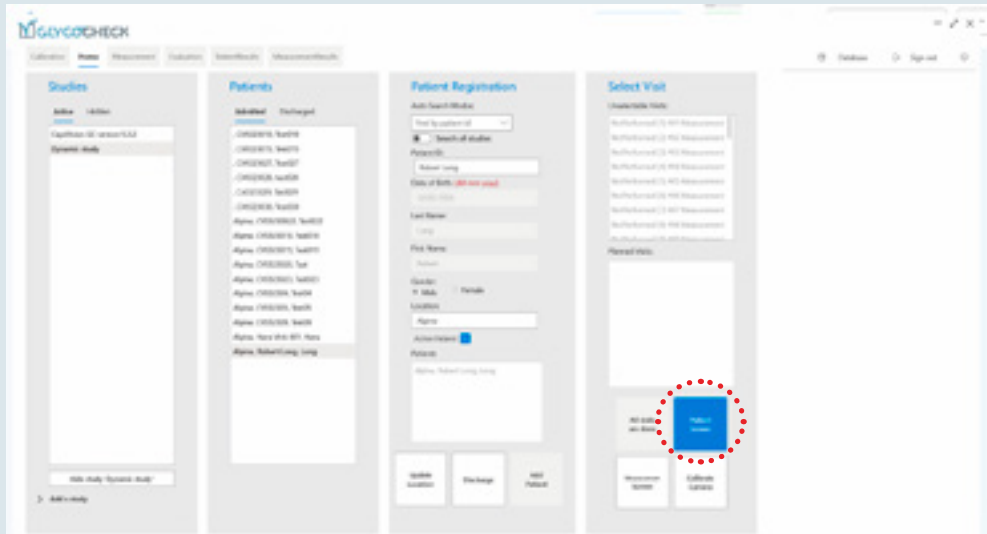
- Once enough recordings have been accepted, you will see a "Test concluded" screen where you can add additional remarks about the test. In the following example, it has been noted that the person tested took supplements this morning and that the patient tracks a sleep score. Also noted was that a protein shake was consumed prior to the test. These remarks can be helpful information when comparing future measurement scores. Click **Finish**.



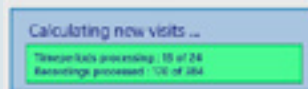
It is recommended that you make notations that include feedback from your patient. **This gives you a reference point of the patient's information at the time of the test to compare against future tests.** If the patient has different timing in supplementation, hydration, sleep quality, or sick, this information provides a reference point.

It's particularly important to ask patients if they have had COVID-19, and if so, how long ago and how sick they were of if they are experiencing long-haul COVID-19.

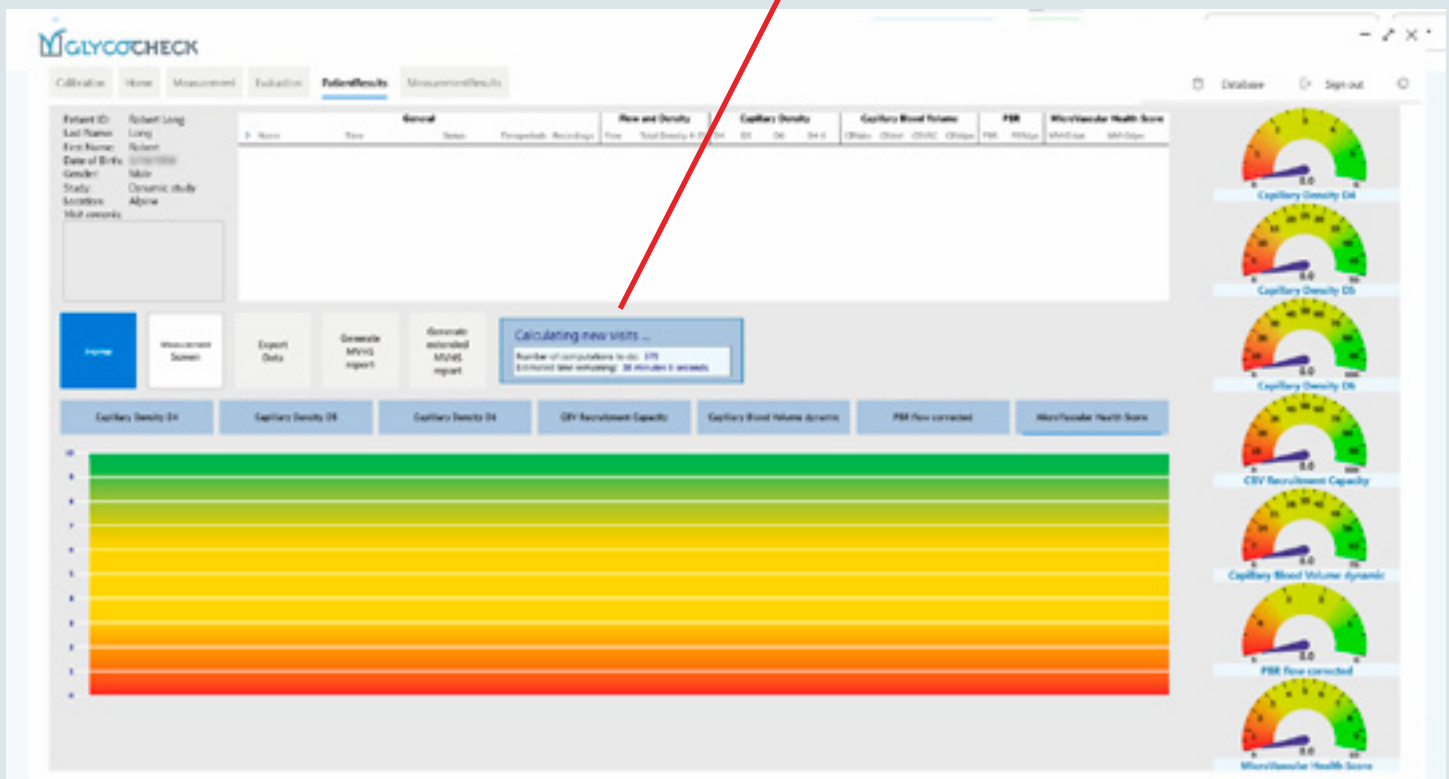
- Upon completion of the remarks, you must reopen the GlycoCheck program by double-clicking on the GlycoCheck icon in the taskbar and the following screen will appear. Click on the **Patient Screen** button and it will take you back to the patient input screen.



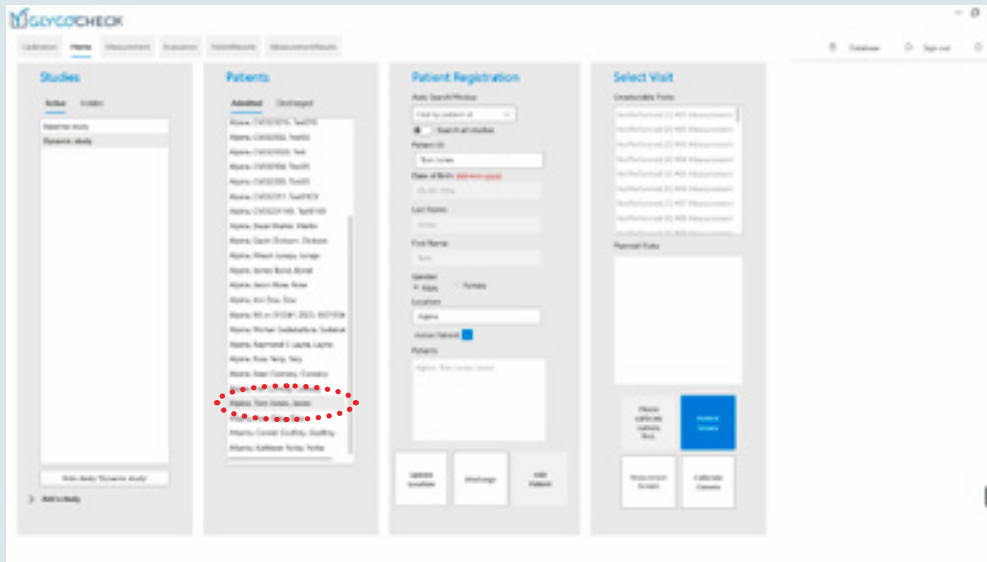
- When the blue box in the middle of the screen first appears, the number of computations to do will be 384. The computer will make an estimate of the time remaining to complete the test. When this phase is completed, the next box, "Calculating new visits..." will appear. While the program is processing the videos through the algorithms, it is completing 100 million calculations.



At this stage, the program is processing the 24 complete video segments, doing final calculations and preparing the report.



11. Click on the patient you want to finish the report. In this example, it's **Alpine, Tom Jones**.
12. Click on the blue box named **Patient Screen**. The next screen will be the **Results Screen**.



13. Below is the **Results Screen**. The most recent test is highlighted in blue and labeled **A**. This patient had prior tests taken weeks earlier with considerably higher scores. As you can see in the **Visit Remarks** box labeled **B**, the patient drank a sugary Coke, and ate a quarter-pound cheeseburger and fries. While he took Endocalyx earlier in the day, and used a PEMF mat, his score dropped from 7.92 and 7.74 to 3.29.

See videos at [microvascular.com/glycocheck-videos](http://microvascular.com/glycocheck-videos) for additional explanations.



# Click-Wrap License Agreement

Last updated: 3/12/2024



## Viewable online at

<https://glycocheck.com/medical-office-click-wrap-license/>

PLEASE READ THIS CLICK-WRAP LICENSE AGREEMENT CAREFULLY! IT CONTAINS VERY IMPORTANT INFORMATION ABOUT YOUR RIGHTS AND OBLIGATIONS, AS WELL AS LIMITATIONS AND EXCLUSIONS THAT MAY APPLY TO YOU. BY SELECTING THE BOX LABELED “I agree to the Terms and Conditions” AND CLICKING ON THE “Ok” BUTTON, YOU ARE AGREEING TO BE LEGALLY BOUND BY AND ARE BECOMING A PARTY TO THIS AGREEMENT. IF YOU ARE ENTERING INTO THIS AGREEMENT WITHIN THE SCOPE OF YOUR EMPLOYMENT, THEN THE TERM “LICENSEE” INCLUDES YOUR EMPLOYER AND YOU WARRANT AND REPRESENT TO MVHS THAT YOU ARE AUTHORIZED TO ACCEPT THIS AGREEMENT ON SUCH EMPLOYER’S BEHALF. IF YOU DO NOT AGREE TO ALL OF THE TERMS AND CONDITIONS OF THIS AGREEMENT, NO NOT SELECT THE BOX LABELED “I agree to the Terms and Conditions” AND CONTACT YOUR GLYCOCHECK SYSTEM PROVIDER.

This Click-Wrap License Agreement (this “Agreement”) is made between:

you, both as an individual and as an authorized user of and agent for your affiliated company, if any (each a “Licensee”), and

Microvascular Health Solutions LLC, a company organized and subsisting under the laws of Delaware, United States (“MVHS”), with principal offices located at 7407 Ziegler Road, Chattanooga, TN 37421, U.S.A.,

MVHS and Licensee each a “Party” and collectively the “Parties,”

and is effective of as the first time Licensee selects the box labeled “I agree to the Terms and Conditions” and clicks “Ok” (the “Effective Date”) and is reaffirmed by Licensee each subsequent time Licensee selects the box labeled “I agree to the Terms and Conditions” and clicks “Ok.”

By providing the GlycoCheck System to Licensee, through Distributor, if any, MVHS agrees to be legally bound by the terms and conditions of this Agreement.

## RECITALS

WHEREAS, MVHS is the developer and/or distributor of a proprietary hardware and software system used to measure the Glycocalyx layer and microvascular function (the “GlycoCheck System”);

WHEREAS, Licensee wishes to obtain from MVHS, through Distributor, if any, and MVHS wishes to grant and provide to Licensee, through Distributor, if any, a license to use the GlycoCheck System;

NOW, THEREFORE, in consideration of these promises and of the mutual covenants and conditions in this Agreement and other valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

### 1. LICENSE TO GLYCOCHECK SYSTEM

1.1. Subject to the terms and conditions of this Agreement, including the restrictions and license exclusions set forth elsewhere in this Agreement, MVHS hereby grants to Licensee, and Licensee hereby accepts a non-exclusive,

non-transferable, limited license (without the right to grant sub-licenses) to use the GlycoCheck System for the purpose of conducting research relating to the vascular and microvascular endothelial glycocalyx of human and non-human animals, subject to the restrictions set forth herein Section 2.

1.2. Licensee shall have no right to sublicense, loan, sell, or otherwise transfer the GlycoCheck System, or any part or component thereof, to any third party without the prior written approval of MVHS.

1.3. MVHS retains all rights not expressly granted to Licensee hereunder. No right or license to Licensee shall be implied by or inferred from this Agreement except as expressly provided herein.

### 2. LICENSEE’S GENERAL COVENANTS

2.1. Subject to the terms and conditions of this Agreement, Licensee agrees that it will use the Software Product and GlycoCheck System only for the purpose for which it was designed and installed by MVHS.

2.2. Licensee shall not copy, reverse engineer, decompile, recompile, disassemble, or otherwise derive the underlying structure, information or ideas embodied in the Software Product. Licensee agrees such activities constitute a material breach of this Agreement, and are violations of MVHS’s Intellectual Property Rights, causing irreparable injury to MVHS which cannot be remedied by monetary damages alone, and which therefore entitle MVHS to injunctive relief.

2.3. Licensee shall not modify or remove any components of the System Hardware in any manner. Licensee shall not install, attempt to install, nor cause to be installed, any software product on the System Hardware without prior written authorization from MVHS, through Distributor, if any. Licensee agrees such activities constitute a material breach of this Agreement. Any violations of this Section 2.3 shall void any express warranty set forth herein, as well as any warranty implied under the law.

2.4. Licensee shall not use the System Hardware, Software Product, or GlycoCheck System to develop, substantiate the performance of, market, or sell, or assist others to develop, substantiate the performance of, market, or sell any dietary supplement or medical food that is intended to support, maintain, repair or treat the endothelial glycocalyx.

2.5. Licensee agrees that for the term of this Agreement, including the Initial Term and any subsequent Renewal Term, and for a period of one (1) year thereafter, Licensee shall not develop, manufacture, or sell, or assist others in the development, manufacture, or sale, of any dietary supplement or medical food that is intended to support, maintain, repair or treat the endothelial glycocalyx.

2.6. Licensee shall be solely responsible for its and its Authorized Users’ use of the GlycoCheck System and shall ensure that Licensee and all Authorized Users abide by and comply with this Agreement in connection with their use of the GlycoCheck System. Licensee shall be responsible to MVHS and any third party for any acts or omissions of Authorized Users, including, without limitation, failure of any Authorized User to comply with the terms of this Agreement. MVHS shall have the right to require Licensee to restrict or deny access to the GlycoCheck System by any Authorized User who is not in compliance with this Agreement.

2.7. Licensee acknowledges that the GlycoCheck System contains a backup utility that is capable of creating copies



of the analyses performed by the GlycoCheck System, and capable of securely storing such copies in storage either on the System Hardware or in a cloud-based environment.

### 3. CONSIDERATION

3.1. In consideration of the license granted herein, Licensee shall pay, or shall have previously paid, to MVHS, through Distributor, if any, a one-time license fee (the “License Fee”) as agreed upon in writing between Licensee and MVHS or Distributor, if any.

### 4. TERM AND TERMINATION

4.1. This Agreement shall come into effect on the Effective Date and remain in effect for one (1) year, unless otherwise terminated pursuant to this Agreement (the “Initial Term”).

4.2. At the end of the Initial Term, or any Renewal Term subsequent to the Initial Term, this Agreement may be renewed without additional fee for one (1) year (a “Renewal Term”) by the Parties in writing. The renewal of this Agreement shall be effectuated by: (i) Licensee requesting, in writing, a new Software Key from MVHS, through Distributor, if any; and (ii) MVHS providing, in writing, a new Software Key to Licensee, through Distributor, if any. Each Renewal Term shall be subject to the terms and conditions of this Agreement.

4.3. This Agreement can be terminated at any time with the mutual written consent of both Parties.

4.4. MVHS may terminate this Agreement at any time without prior notice and without any liability of MVHS to any party as a consequence thereof, upon the occurrence of any of the following: (i) Licensee has breached any material obligation which must be performed pursuant to this Agreement and such breach has not been cured within 30 days after notice from MVHS of the same, including, without limitation, failure to make any payment when due; (ii) Licensee has violated any applicable law or regulation in connection with its use of the GlycoCheck System, or (iii) Licensee becomes bankrupt or insolvent.

4.5. Licensee may terminate this Agreement at any time, without any liability of Licensee to MVHS as a consequence thereof (other than charges accrued prior to termination), where MVHS has breached any material obligation which must be performed pursuant to this Agreement and such breach has not been cured within 30 days after written notice from Licensee of the same.

4.6. Upon termination of this Agreement by Licensee or MVHS, all license(s) granted hereunder shall cease and terminate. There shall be no refund to Licensee of any Fees paid to MVHS prior to the effective date of the termination, including the License Fee, except as specifically provided herein. Licensee agrees to cease all use of the GlycoCheck System and promptly return the GlycoCheck System and all components thereof to MVHS at Licensee’s expense.

4.7. Except as otherwise specifically provided herein, the termination of this Agreement shall not affect the rights, obligations or remedies of either Party which accrued prior to the termination of this Agreement and all such remedies shall survive the termination of this Agreement

### 5. OWNERSHIP

5.1. All rights, title and interest in the GlycoCheck System, and each and every component thereof, and the Intellectual Property Rights embodied therein shall at all times reside in MVHS. MVHS retains all rights not expressly granted herein

5.2. Licensee agrees and acknowledges that MVHS shall be the sole and exclusive owner of any and all right, title and interest in and to Improvements to the GlycoCheck System, whether made or developed by MVHS or by any other entity.

### 6. MAINTENANCE AND SUPPORT

6.1. MVHS agrees to provide the GlycoCheck System, with Software Product and System Hardware installed, to Licensee, through Distributor, if any.

6.2. For the term of the warranty identified in Schedule A hereto, MVHS shall provide to Licensee and/or through Distributor, if any, periodic Updates to the Software Product and System Hardware, if and to the extent that said Updates become available. MVHS shall, upon discovery of any known problems with the GlycoCheck System, notify Licensee, through Distributor, if any, of said problems and will provide to Licensee, through Distributor, if any, any discrepancy reports or technical newsletters when such problems are identified and listing all known “bugs” and their status and, to the extent possible, providing “fixes” and/or work-around procedures for such problems.

6.3. From time to time, MVHS may release Upgrades to the GlycoCheck System that provide new functionality to the software. Nothing herein shall entitle Licensee to any Upgrade to the GlycoCheck System. Such Upgrades will be provided to Licensee only upon payment of an additional license fee to be determined by MVHS upon release of any such Upgrade. Software bug fixes and minor improvements in the software will be provided to Licensee and/or through Distributor, if any, at no cost, and are not considered to be an Upgrade for purposes of this Section.

### 7. REPRESENTATIONS, WARRANTIES, AND DISCLAIMER OF LIABILITY

7.1. Each Party represents and warrants that it has full power and authority to enter into this Agreement and that performance of its obligation hereunder does not conflict with or breach the terms and conditions of any agreement with any third party.

7.2. MVHS warrants that it is the developer and/or licensee of the GlycoCheck System, that it has the right to convey the license set forth in Section 1 hereof, and that to the best of MVHS’s knowledge, Licensee’s use of the GlycoCheck System in accordance with the terms of this Agreement shall not infringe any third-party rights in copyright, patent, or trade secret.

7.3. MVHS warrants (the “Product Warranty”) that the GlycoCheck System (as set forth in Schedule A hereto) sold by MVHS to Licensee, through Distributor, if any, and pursuant to this Agreement shall, subject to the other provisions of this Section 7, from the Effective Date and for three (3) years thereafter:

- (a) be of satisfactory quality; and
- (b) be reasonably fit for its intended purpose.

MVHS does not warrant against normal and/or reasonable wear and tear, normal and/or reasonable corrosion, use of Unauthorized Products, catastrophe, accident, fault or negligence of Licensee, Distributor, or any third party, improper use, alteration or modification, unusual stress, installation, service or repair performed other than pursuant to this Agreement (other than installation, service or repair performed by MVHS and/or its appointees pursuant to this Agreement), defects caused by persons other than MVHS and/or its manufactures, or any other cause other than ordinary use. Accordingly, the Product Warranty does not extend to any GlycoCheck System (as set forth in Schedule A hereto): (a) that have been subject to misuse, neglect, abuse, improper storage, accident, or that have not been properly maintained; (b) that have been modified by Licensee, Distributor, or any third party; or (c) that have been disassembled, serviced, or reassembled by Licensee, Distributor, or any third party. Subject to the foregoing exclusions, if the GlycoCheck System contains a defect in design, materials or workmanship and such GlycoCheck System is returned to MVHS within three (3) years of the Effective Date of this Agreement, MVHS will repair or replace the GlycoCheck System, or issue a credit for the purchase price of the GlycoCheck System, with the choice to repair, replace or credit being within the sole discretion of MVHS. The foregoing repair, replacement or credit remedy will be Licensee's sole remedy for breach of the warranty set forth in this Section 7.3. THE FOREGOING LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES AND EXCEPT FOR ANY EXPRESS WARRANTIES STATED HEREIN, MVHS EXPRESSLY DISCLAIM ALL WARRANTIES, EITHER EXPRESS OR IMPLIED.

7.4. Written pre-authorization from MVHS, through Distributor, if any, is required for any warranty claim under the Product Warranty set forth in section 7.3. To obtain written pre-authorization from MVHS, Licensee shall request written pre-authorization from MVHS, through Distributor, if any, to return the GlycoCheck System or System Hardware thereof for repair or replacement under a valid warranty claim. Upon approval, Licensee shall receive from MVHS, through Distributor, if any, (i) written pre-authorization to return the GlycoCheck System or System Hardware thereof for repair or replacement, (ii) a pre-paid shipping label, and (iii) packaging and shipping procedures for returning the GlycoCheck System or System Hardware thereof for repair or replacement. Licensee shall then package and ship the GlycoCheck System or System Hardware thereof in accordance with the received packaging and shipping procedures.

7.5. The warranty set forth in Section 7.3 shall become null and void upon Licensee's breach of this Agreement, alteration or modification of the GlycoCheck System or component thereof in any way or use of any Unauthorized Product in connection with the GlycoCheck System or component thereof.

7.6. Licensee acknowledges that the GlycoCheck System is provided to Licensee on an AS IS basis. EXCEPT AS OTHERWISE PROVIDED HEREIN, MVHS DISCLAIMS ANY AND ALL WARRANTIES, EXPRESS, STATUTORY OR IMPLIED, WITH RESPECT TO THE GLYCOCHECK SYSTEM, DERIVATIVE WORKS, AND DOCUMENTATION, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. MVHS MAKES NO WARRANTY THAT THE GLYCOCHECK SYSTEM WILL MEET LICENSEE'S REQUIREMENTS, BE ERROR FREE, OR OPERATE WITHOUT INTERRUPTION.

7.7. THE PARTIES AGREE THAT MVHS, ANY OF ITS AFFILIATED PERSON/ENTITY OR THIRD PARTY VENDORS SHALL NOT BE LIABLE TO LICENSEE (OR ANY PERSON CLAIMING RIGHTS DERIVED FROM THE LICENSEE'S RIGHTS), EXCEPT AS OTHERWISE PROVIDE HEREIN, FOR ANY DIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES OF ANY NATURE OR KIND WHATSOEVER, INCLUDING, BUT NOT LIMITED TO, LOST REVENUES OR PROFITS, LOSS OF BUSINESS OR OTHER ECONOMIC LOSS, LOSS OF DATA, PERSONAL INJURY, OR PROPERTY DAMAGE IN CONNECTION WITH OR ARISING OUT OF THE USE OF THE GLYCOCHECK SYSTEM AND DERIVATIVE WORKS, IRRESPECTIVE OF WHETHER MVHS HAS ADVANCE NOTICE OF THE POSSIBILITY OF SUCH DAMAGES.

7.8. If the foregoing disclaimers and waivers of liability shall be deemed invalid or ineffective, MVHS, its subsidiaries and affiliates, and any related persons or entities shall not be liable in any and all events beyond the amount of one thousand dollars (\$1,000). If the foregoing limitation is held unenforceable, then the Parties agree that MVHS, its subsidiaries, affiliates and any related persons or entities, shall not be liable in any and all events beyond the cumulative total of all fees and compensation paid by Licensee to MVHS under this Agreement (including all the License Fee referenced in Section 3.1). Both Parties agree and understand that the pricing for the GlycoCheck System reasonably reflects the allocation of risk and the limitations of the liability set forth in this section.

## 8. TRANSFER/ASSIGNABILITY

8.1. This Agreement may not be assigned or transferred by Licensee to any other entity or person. Any attempted assignment in violation hereof shall be void.

8.2. MVHS may freely assign this Agreement at any time to any subsidiary, parent or other affiliate or to any other party in connection with the sale, merger or other business combination involving all or substantially of that party's assets of the line of business to which this Agreement pertains.

## 9. GENERAL PROVISIONS

9.1. Relationship of the Parties. This Agreement shall not constitute the designation of either Party as the representative or agent of the other, nor shall either Party by this Agreement have the right or authority to make any promise, guarantee, warranty, or representation, or to assume, create, or incur liability or other obligation of any kind, express or implied, against, or in the name of, or on the behalf of, the other Party.

9.2. No Waiver. The failure of any Party to enforce any of its rights hereunder, or at law, shall not be deemed a waiver or a continuing waiver of any of its rights or remedies against the other Party, unless such waiver is in writing and signed by the aggrieved Party.

9.3. Notice. Any official notice to MVHS, as required by this Agreement, shall be addressed to Distributor, if any, as set forth in Appendix A hereto. Any official notice to Licensee, as required by this Agreement, shall be addressed to the contact person and address information reflected on the invoice or purchase order for the GlycoCheck System. Each of the Parties shall be responsible for notifying the other, through distributor, if any, of any changes to the respective Party's contact information. All notices and other communications hereunder shall be given in writing and delivered: (a) by personal delivery,

or by prepaid overnight or international courier service to the contact addresses as set forth in this Section 9.3, as modified from time to time; or (b) by facsimile to such facsimile number as maybe provided in writing by a Party. Notices are deemed given on receipt or attempted delivery, if receipt is refused.

9.4. **Attorney Fees.** In any suit, proceeding or action to enforce any term, condition or covenant of this Agreement or to procure an adjudication or determination of the rights of the Parties, the prevailing Party shall be entitled to recover from the other Party, in addition to any award of costs or disbursements provided by statute, reasonable sums as attorney fees and costs and expenses in connection with such suit, proceeding or action, including appeal, which sums shall be included in any judgment or decree entered therein.

9.5. **Injunctive Relief.** Notwithstanding the foregoing, it is agreed that any breach of this Agreement by Licensee making any unauthorized use of the GlycoCheck System or engaging in any other conduct which could impair MVHS's Intellectual Property Rights in the GlycoCheck System will cause immediate and irreparable harm to MVHS. In the event of any such breach by licensee, MVHS shall be entitled to immediate and interim injunctive relief from any court of competent jurisdiction to restrain such unauthorized use or conduct, and to other injunctive relief as may be necessary to protect MVHS's Intellectual Property Rights.

9.6. **Severability.** If any one or more provisions of this Agreement shall be found to be illegal, invalid or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby and in lieu of such illegal, invalid or unenforceable provision, there shall be added automatically as a part of this Agreement a legal, valid and enforceable provision of similar terms to the extent legally possible.

9.7. **Headings.** The paragraph headings used herein are for convenience and shall not be deemed to modify or construe the provisions hereof.

9.8. **Counterparts.** This Agreement may be executed in one or more counterpart copies, each of which shall be deemed to be an original, but all of which together shall constitute one and the same instrument.

9.9. **Force Majeure.** Neither Party shall be liable to the other Party for any delay or failure to perform any other services nor did obligations set forth in this Agreement due to cause beyond its reasonable control. Performance times shall be considered extended for a period of time equivalent to the time lost because of such delays.

## 10. DEFINITIONS

10.1. **"Authorized Users"** means those persons who are employed by or affiliated with Licensee who have access to use the GlycoCheck System.

10.2. **"System Hardware"** means the (1) personal computer on which is loaded the Software Product, and (2) the Video Microscope Camera, which are provided to Licensee as part of the GlycoCheck System pursuant to the terms and conditions of this Agreement.

10.3. **"Documentation"** means all user manuals, reference guides, brochures, installation manuals, specifications, release notes, error message manuals or other written documentation provided by MVHS pertaining to the installation, use, data flows, features or performance of the Software Product.

10.4. **"GlycoCheck System"** means the combination of the System Hardware and the Software Product, collectively.

10.5. **"Improvements"** means and includes any improvements, modifications, or amendments to the Software Product, whether made by MVHS or any other party, or their respective employees, agents, or other representatives.

10.6. **"Intellectual Property Rights"** means patent, application for patent and rights to patent (whether applied for or not), copyrights (whether registered or not), trademarks (whether registered or not), trade secrets, inventions, know-how, moral rights, ideas, processes, techniques, data, confidential information and all other proprietary rights that are embodied in any form of media.

10.7. **"Maintenance and Support"** shall mean ongoing maintenance and support as set forth in Section 6 hereof, and shall include all new versions, revisions, updates, temporary and permanent fixes or workarounds that may be necessary or appropriate to facilitate Licensee's use of the GlycoCheck System.

10.8. **"Software Key"** means the alphanumeric character string provided by MVHS to Licensee and used to enable use of the Software Product.

10.9. **"Software Product"** means the computer software program (in object code form and/or Source Code form), and forming part of the GlycoCheck System, and all associated procedural code, and all components thereof, including all Documentation, Updates, Upgrades, and all other software and documentation provided by MVHS to Licensee and/or through Distributor, if any, and all intellectual property rights therein.

10.10. **"Source Code"** means (i) the human-readable code making up the Software Product and all other software required for a reasonably skilled programmer to compile the machine-executable software code for such Software Product, including all required tools that are not commercially available on an off-the-shelf basis, and (ii) all related design charts, data flows and other documentation related to the Software Product needed to maintain and understand the code of the Software Product and all other similar documentation that would assist a programmer in the maintenance of the Software Product.

10.11. **"Updates"** means any and all fixes, patches, and corrections to, the Software Product or Documentation made independently by MVHS and made generally available by Licensor to Licensee.

10.12. **"Upgrades"** means any enhancements, improvements, new releases, new versions and any material changes to the Software Product or Documentation made independently by MVHS and generally offered by MVHS.

10.13. **"Unauthorized Product"** means any product used in connection with the GlycoCheck System or a component thereof that is not provided by MVHS and/or through Distributor, if any, to Licensee, including, but not limited to, (i) consumables, such as video microscope camera lens covers or tips, (ii) replacement laptop components, such as batteries, and (iii) software updates, fixes, or upgrades, but shall not include customary laptop accessories, such as a keyboard or mouse.

10.14. **"Distributor"** means, for each territory, the company or individual indicated in Appendix A hereto.

10.15. **"You" or "Your"** means the person or company who is being licensed to use the GlycoCheck System in association with this Agreement.

- A) Microvascular Health Solutions LLC (“MVHS”) offers to its customers an exclusive 3-Year Limited Warranty and Service Policy (the “Warranty and Service Policy”) on all NEW GlycoCheck™ Systems purchased from MVHS, whether purchased directly or through a distributor. Used or recertified equipment is sold as-is, without warranty, unless otherwise stated in writing on the original purchase invoice for such used or recertified equipment. This Warranty and Service Policy is a guaranty that a customer of MVHS who purchases a NEW GlycoCheck System (inclusive of a laptop and CapiVision™ camera) will not pay for labor or service charges related to any covered GlycoCheck System during the first three years of coverage so long as the customer complies with the terms of this Warranty and Service Policy. This Warranty and Service Policy extends only to original equipment, or subsequent upgrades purchased from and installed by MVHS.
- B) Under this Warranty and Service Policy, MVHS warrants its NEW GlycoCheck Systems for three years (the “Warranty Period”) as follows: (1) All NEW GlycoCheck Systems include a 3-Year Limited Hardware Warranty (the “3-Year Hardware Warranty”), covering the hardware inside the laptop computer case and the CapiVision camera. (The 3-Year Hardware Warranty excludes any desktop computer monitor, mice, keyboards, speakers or other peripherals purchased from MVHS, which are covered by MVHS for one year.) Because of rapidly and ever-changing computer technology and manufacturers, certain parts or components may become unavailable. During the 3-Year Hardware Warranty, MVHS will, at its sole option, repair or replace any defective laptop computer or CapiVision camera or defective part thereof, at its discretion, with new, used, refurbished, recertified, or comparable parts; and (2) All NEW GlycoCheck Systems include a 3-Year Limited Software Warranty (the “3-Year Software Warranty”). During the 3-Year Software Warranty, MVHS will provide software support to repair or replace any defective software.
- C) The 3-Year Hardware Warranty and 3-Year Software Warranty (collective the “Warranties”) are all limited as follows:
1. The Warranty Period begins on the date of purchase of the GlycoCheck System for GlycoCheck Systems purchased after April 1, 2022. The Warranties cover the original purchaser of the covered GlycoCheck System; the Warranties are not transferable.
  2. Repairs, upgrades or installations of any software by anyone other than an authorized MVHS representative on any covered GlycoCheck System are not covered by, and void the Warranties instantly on any system so modified. During the Warranty Period, Customer is allowed to ship the covered GlycoCheck System to MVHS’s authorized service or sales facility, located at 145 W 7200 S, Midvale, UT 84047 for a FREE computer cleaning and tune-up. Any individual parts sold or installed separately from a new computer system must be purchased and installed by the authorized MVHS service facility to be covered by the Warranties, and that separate hardware is only covered to the extent of the original manufacturer’s warranty on such separate parts. There are no warranties, express or implied, which are not written herein. Any missing order items must be reported within 48 hours of purchase. Customer gives MVHS’s authorized service facility, the owner’s right and permission to install and use diagnostic software during service.
3. Physical damage, abuse, or neglect, and damage caused by shipping, or misapplication of the product, repair modification, exposure to extremes of temperature or humidity, power fluctuations, lightning or connecting the GlycoCheck System to improper electrical power sources are not covered by the Warranties. System must be plugged into a power conditioner at all times the GlycoCheck System is connected to a power source.
  4. Warranty repairs or service do not extend the length of the Warranties and any GlycoCheck System or component thereof left unclaimed for 45 days after being notified that the service is complete becomes the property of MVHS.
  5. To obtain performance under the Warranties the customer must ship the computer to the MVHS Service Center located at 145 W 7200 S, Midvale, UT 84047. The Customer is responsible for shipping charges to and from to the MVHS Service Center. It is the customer’s responsibility to properly pack computer to courier regulations and insure the item for the purchase price of the computer.
- D) By providing a GlycoCheck System or component thereof for service under the Warranties the customer expressly agrees that the customer waives, in advance, any causes of action, rights or claims against MVHS related to the loss, disclosure or dissemination of any data, video images, files, or other information saved on the GlycoCheck System or component thereof, during or after the performance of repair or warranty service. The customer agrees that any other claim or cause of action whatsoever against MVHS, including but not limited to those in contract or tort, shall be limited to the amount customer actually paid for the GlycoCheck System or component thereof at issue.
- E) MVHS desires to maintain a positive relationship with its customers and without waiving any of the limitations in the preceding paragraphs, MVHS may at its sole and exclusive discretion elect to return actual funds paid by the customer for goods or services provided by MVHS. Any such refund is in no way an admission of any liability, wrong-doing or the basis for any cause of action against MVHS and is a simple expression of good will. In the event the customer is offered a refund of monies actually paid, each and every aspect of the waivers and limitations of liability set forth herein shall remain in full force and effect. The customer waives all rights, claims, causes of action and other damages in excess of actual funds paid and then returned by MVHS.
- F) By submitting any GlycoCheck System or component thereof for service under the Warranties the customer expressly agrees that disputes regarding this Warranty and Service Policy will be submitted only to binding arbitration with all proceedings in Utah County, Utah. The customer specifically waives all right to pursue any legal or equitable remedy in any court of law. In the event either party initiates an appropriate proceeding to enforce or seek any claims under this Warranty and Service Policy or service provided pursuant to this Warranty and Service

Policy, the prevailing party shall be entitled to an award of reasonable attorney's fees. The laws of the state of Utah shall govern the interpretation, validity, performance, and enforcement of this agreement. If any provision of this warranty shall be held to be invalid or unenforceable, the validity and enforceability of the remaining provisions of this warranty shall not be affected thereby.

G) Payment for service and repair not covered by the Warranties.

1. In the event that customer requests services or repairs that are not covered by the Warranties for any reason (collectively "Uncovered Services"), customer may request MVHS to provide service or repair under the same terms and conditions as though the service or repair were covered by the Warranties, with the exception that customer agrees to pay for such Uncovered Services as follows:

a. Customer shall pay MVHS for Uncovered Services performed at the rate of \$100.00 per hour plus the cost of parts.

b. If any invoice for Uncovered Services is not paid when due then interest will accrue and be payable on all overdue amounts at the rate of one percent (1%) per month, or the maximum percentage allowed under applicable laws, whichever is less.

c. Customer shall pay all costs of collection of any unpaid invoice for Uncovered Services, including without limitation, reasonable attorneys' fees.

**By signing below or submitting any GlycoCheck System or component thereof to redeem the Warranties provided herein the customer certified that s/he has read, understands and fully agrees to all of the above terms.**

Customer Name: \_\_\_\_\_

Practice Name: \_\_\_\_\_

MVHS Customer Signature: \_\_\_\_\_

Date:        /        / \_\_\_\_\_

