Preface

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

This manual provides operating instructions and guidelines for the GlycoCheck Measurement System Software Version 5.2.

Assumptions
The instructions in this manual assume that the user has been trained in the proper use of 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 GlycoCheck XL lens cover for each measurement.

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. Permanently install the GlycoCheck monitor and computer on a permanent table or desk. 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. Plug digital microscope camera (KK Technologies) into available USB 2.0 or 3.0 port on the computer.

3. Turn computer power on (right top corner button). Select the GlycoAdmin user profile, and type password: *GlycoAdminPW*

4. Double-click on the GlycoCheck application icon on the computer desktop or single-click on the GlycoCheck icon in the taskbar.

5. Type username: **Recorder** and password: **RecorderPW** (case sensitive).

6. Click on OK. The software is now ready to begin a glycocalyx measurement.
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 glycocalyx 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.*

**Camera**
Note that the KK Technology camera is selected automatically with the default calibration values.

**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. New studies can be either of the ‘Standard’ type (only one single timeperiod), or of the ‘Dynamic’ type (24 consecutive timeperiods to obtain information on flow-dependency of microcirculation parameters).
2. Patient Setup

- **Select an active patient** from the patients list in AUTO SEARCH. **If the patient is not on the list, register a new patient with these steps:**

- **To register a new patient:**
  A. Select *Add New Patient* in the Auto Search Modus dropdown menu.
  B. In the Patient ID box, type the patient ID (name) of the patient. Type *Last Name* followed by *First Name* (Smith John).
  C. 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.
  D. In [Last Name] box, enter patient’s last name. (not case sensitive)
  E. In [First Name] box, enter patient’s first name. (not case sensitive)
  F. Select *Male* or *Female*.
  G. Enter *Location* where test is conducted (office, clinic, hospital, etc.).
  H. Click on *Add Patient* to add the patient to the database. A message “Please wait until patient data is ready” appears when the software is uploading the patient data to the database.

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**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.

B. Explain to the patient the steps in the glycocalyx measurement process to help them relax.

C. Place a new GlycoCheck XL lens cover on the camera tip, pushing it gently into place. 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. The camera handle has a screw on the bottom of the lens shaft. Do not tighten the screw. It is meant to be loose.

E. Do not point the lighted camera tip at the patient’s eyes.

F. Click on PERFORM NEW VISIT highlighted in blue, and circled in the image shown.

continued...
G. Place camera tip under patient’s tongue as you would a thermometer. Observe the MOTION, INTENSITY and FOCUS readouts on the VIDEO QUALITY screen. Have patient gently bite down on the lens cover to keep the camera steady. This will be seen in the MOTION readout—the results should remain within the green bar. Ask patient to tilt the chin slightly down and to breathe through the nose so that the tongue remains still. In the INTENSITY readout, the results should remain within the green bar. Move the camera tip slowly around until you find an area with a high capillary density.

H. Adjust with the focus wheel on the camera, watching the readout on the left panel. When properly focused, the results will be within the green bar. If you have trouble achieving proper focus, gently move the camera tip to a different area under the tongue. (Light intensity is adjusted automatically when using the KK Technology camera).

I. When the focus is set, the video camera will start recording. You will notice the bar filling upwards in green on the right panel. When the progress bar is fully blue, the measurement is complete.

J. If the AIR BUBBLE DETECTED red warning flashes, reposition the camera tip. You may also remove the tip from the patient’s mouth, ask the patient to swallow, or have them drink a little water, then continue the measurement.

K. If you must abort the measurement, press PAUSE, select the ABORT button, type the reason or any notes in the dialogue box that appears, and save.

continued...
L. When the progress bar is completely blue, the recording of the current time period is done and recording of the next time period will start automatically (in case of a dynamic measurement) and after completing the last time period, a new window opens with the ADD YOUR COMMENTS box. Enter useful information regarding the, i.e. fasting, last time the patient ate, if the patient is a woman—what day is she in her menstrual cycle, doctor name, supplements, last intake of caffeine, medications, hours of sleep the prior night, etc. These comments will appear on patient’s measurement report.

M. Click on HOME. The software returns to the Home screen. Remove patient’s GlycoCheck XL lens cover and dispose of it. Cover the camera tip with the protective cover. If patient times out before the PROGRESS bar is complete, a CONTINUE box will appear on the screen. Click on this box to restart the calibration measurement.
4. Patient Measurement Results

A. To retrieve results, click on PATIENT SCREEN. If a patient has been measured more than once, all Perfused Boundary Region (PBR) values will be plotted on the Patient Screen with date and time along the X axis (horizontal axis).

B. When all available “Completed” measurements are updated, press the button “Generate MVHS report” to generate a PDF report that shows the available MicroVascular Health Scores and gives background information about the importance of the microvascular system. See page 11 for an example. Press the “Generate extended MVHS report” button for a PDF report with more detailed information. See page 12 for an example. A SAVE AS dialogue box appears. Click SAVE AS button. Print if desired.

C. To see an in-depth overview of the Measurements Results, click on MEASUREMENT SCREEN.

D. Click HOME to prepare the GlycoCheck Measurement System for the next patient.

E. Remove the lens cover from the camera and discard.
What is your MicroVascular Health Score™ and why do you need to know it?

A healthy microvascular system is important to provide nutrients and oxygen to all the cells in our body and remove waste products away from our organs.

Nutrients and oxygen enter the blood via the intestinal system and lungs respectively and are distributed to our organs via the large arterial blood vessels. Inside our organs, delivery of nutrients and oxygen from blood to tissue cells occurs in the smallest blood vessels that are very close to individual tissue cells. These microvessels are imaged by the GlycoCheck® system and several important parameters are measured to be able to determine the health of the microvascular system.

Researchers and physicians can now quantify capillary density, capillary blood volume, blood flow and red cell velocity, and endothelial glycocalyx function with non-invasive technology. A healthy microvascular system should have a sufficient number of microvessels that facilitate nutrient exchange to the tissue cells.

To maintain a healthy microvascular system and to prevent loss of microvessels, the microvascular system is coated on the inside of each individual microvessel with a protective gel-lining, called the GLYCOCALYX. This protective coating prevents blood cells from sticking to the wall and fluid from leaking through the walls of microvessels. The GlycoCheck® system measures how deep red blood cells can penetrate into the protective glycocalyx coating, which is reflected in the PBR value. A high value means deeper penetration and more damage of the glycocalyx lining.

Research confirms that under-the-tongue measurements are indicative of the health of the entire vascular system which supplies nutrients and oxygen to organs such as the brain, eyes, heart, kidneys, and all others.

Overall health of the microvascular system is represented by the MVHS Score (MicroVascular Health Score™) that is calculated from capillary blood volume, recruitment capacity, and PBR.

GlycoCheck® is the only automated imaging device that measures the health of microcirculation and produces a MicroVascular Health Score™. The small vessels of microcirculation make up 99% of the contact surface area of the vascular system. This is where the exchange of nutrients, oxygen, hormones, and waste and carbon dioxide takes place.

Until now, current medical technology is only able to measure the macrocirculation—arteries and veins—representing only 1% of all circulation.

What is the GlycoCheck® test?

GlycoCheck® is a non-invasive test, using a video microscope camera placed under the tongue. It evaluates your microvascular system down to the smallest capillaries and reflects your entire body’s health. The video microscope shows live movement of your red blood cells as they travel through your microvessels.

Research links poor microcirculation to these silent killers:
- High Blood Pressure
- Diabetes
- Skin Problems
- Slow Wound Healing
- Hair Thinning
- Fatigue
- Memory Loss
- Lack of Focus
- Certain Eye Problems
- Erectile Dysfunction
- Severe PMS
- Cold Hands and Feet
- Leg Cramps
- Hearing Loss
- High Blood Pressure
- Hypertension
- Heart Disease
- Stroke
- Kidney Disease
- Dementia
- Septic Shock
- Inflammatory Disorders
- Compromised Immunity
- Cancer Metastasis
- COVID-19

It’s important to maintain or adopt a healthy lifestyle that includes a balanced diet and exercise. Talk to your doctor about your MicroVascular Health Score™ (MVHS) and discuss how this correlates with other tests that are being tracked for your health. Your doctor can provide options that can improve your MVHS.

MicroVascular Health Score™

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;10.0</td>
<td>Very High</td>
</tr>
<tr>
<td>7.0-9.9</td>
<td>High</td>
</tr>
<tr>
<td>5.0-6.9</td>
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<tr>
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<tr>
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<td>Low Average</td>
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<tr>
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<td>Low</td>
</tr>
<tr>
<td>&lt;=0.9</td>
<td>Very Low</td>
</tr>
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</table>

Early warning signs of poor microcirculation include:
- High Blood Pressure
- Diabetes
- Skin Problems
- Slow Wound Healing
- Hair Thinning
- Fatigue
- Memory Loss
- Lack of Focus
- Certain Eye Problems
- Erectile Dysfunction
- Severe PMS
- Cold Hands and Feet
- Leg Cramps
- Hearing Loss

Your organs could be slowly starving, and you don’t even know it. It’s estimated that over 80% of people of all ages are exposed to risks associated with breakdown of the microvascular system. Risk factors include aging, genetics, obesity, stress, pollution, smoking, vaping, and many additional risk factors.

It’s important to maintain or adopt a healthy lifestyle that includes a balanced diet and exercise. Talk to your doctor about your MicroVascular Health Score™ (MVHS) and discuss how this correlates with other tests that are being tracked for your health. Your doctor can provide options that can improve your MVHS.
Flow = microvascular blood flow (10^3 microns^3/sec/ mm^2) in vessels with diameters of 8–11 microns
Recruitment Capacity = percentage increase in blood perfused capillary vessels in proportion to an increase in blood flow
PBR (dyn) = perfused boundary region (microns) as a measure for glycocalyx damage (corrected for blood flow level)
Dx = number of 10 micron long vessel segments with diameter of x microns per tissue surface area (#/mm^2)
Capillary Blood Volume in (x) microns = blood volume in capillary vessels with diameter of x microns (10^3 microns^3 / mm^2)
MicroVascular Health Score = overall microvascular health score based on Capillary Blood Volume (x) and PBR (dyn)

Further reading: Identification of novel sublingual parameters to analyze and diagnose microvascular dysfunction in sepsis

### MVHS Extended Report

**for patient ‘HV_20201222d’**

<table>
<thead>
<tr>
<th>First name</th>
<th>Last name</th>
<th>Visit</th>
<th>Measurement</th>
</tr>
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<tbody>
<tr>
<td>Hans</td>
<td>Vin</td>
<td>#02</td>
<td>#02</td>
</tr>
</tbody>
</table>

**General Information**

- **Date of birth**: 1/31/1967
- **Gender**: Male
- **Study**: Dynamic study
- **Visit**: #02
- **Location**: 12/23/2020
- **Date of test**: 1/31/1967

**Measurement Results**

<table>
<thead>
<tr>
<th>Density Dx</th>
<th>Capillary Blood Volume</th>
<th>PBR</th>
<th>MicroVascular Health Score</th>
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<tbody>
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<td>2.0</td>
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<td>26.0</td>
<td>13.0</td>
<td>2.3</td>
<td>4.3</td>
</tr>
</tbody>
</table>

Further details on the report include graphical representations of capillary density and blood volume distribution.
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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 PO Box 332 American Fork, Utah 84003, 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 Glyocalyx 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 glyocalyx 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 glyocalyx.

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 glyocalyx.

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.