THE MICROSCOPIC MISSION™

PATIENT NAME: Bruce Wright   AGE: 49
HOME TOWN: New York, NY
OCCUPATION: Cashier
EMERGENCY CONDITION:
Cessation of blood circulation because
the heart stopped beating. Brain
death will occur if blood flow is not
restored quickly.

ACTIVISION.

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ACTIVISION.

Contents

A Matter of Life and Death

On the view screen in front of you, you see a dim purplish tunnel. As you edge your craft forward through the current, you see strange shapes slowly tumbling toward you. Your hand rests uneasily on the laser fire button—will they pass you by, or will they attack? You came to save a life, but something here thinks you're an invader. . .

Welcome to Laser Surgeon: The Microscopic Mission

You are a doctor, a skilled microsurgeon. Your craft is a microscopic medical probe that you pilot by remote control through your patient's body. The dim purplish tunnel you see is a vein in the patient's body, the currents swirling about you are those of the bloodstream, and the shapes tumbling toward you are blood cells and micro-organisms, some friendly, some not.

Somewhere in your patient's brain is a life-threatening injury. First and foremost, your goal is to find that injury and heal it. Along the way, you can increase your patient's health and chances of survival by treating medical emergencies and other medical problems you find. As you go, you'll learn the medical terminology to help you find your way around, and you'll learn to distinguish between a dangerous virus or bacterium and a friendly immune agent (or is it so friendly?). As you become more skilled, you can take on even tougher cases, the cases no one else can handle.

So forget that you're sitting in front of a computer—let the probe's instruments become your eyes and ears and hands. Find your way through the maze of veins and arteries, fighting against the currents and sliding carefully through narrow passages. Seek out the injuries and diseases that threaten your patient's life and cure them. And do it before your probe runs out of fuel and your patient runs out of time.

But don't forget: the body has defenses of its own . . . and it thinks you're an invader.

Getting Started

To play *Laser Surgeon: The Microscopic Mission*, you need a Color Computer 3 with an RGB color monitor, monochrome composite monitor, or color composite monitor (TV); or a Tandy 1000, Tandy 1000EX, Tandy 1000SX, or Tandy 3000 computer, and an RGB or composite monitor. On Tandy 1000 and 3000 computers, the first time you play the game you'll also need your Tandy DOS system disk.

If you have a joystick, plug it into the righthand joystick port (the lefthand port on Tandy 1000SX computers). If you don't have a joystick, you can also run *Laser Surgeon: The Microscopic Mission* entirely with keyboard controls.

Color Computer 3

If you don't have a Color Computer with Disk Extended Color BASIC, version 1.1 or later, or if you don't have the OS-9 System, see the Appendix on page 29.

1. Turn on your computer and monitor.

2. Insert the *Laser Surgeon: The Microscopic Mission* disk in the disk drive, label side up.

3. Type **DOS** and press **Enter.**

4. When **OS9:** appears—

   • *if you have a 128K computer*, type **EX MM -X** and press **Enter.**

   • *if you have a 512K computer*, type **MM** and press **Enter.**

If you don't have an RGB color monitor, hold down the **Alt** key and press **M** *once* if you have a monochrome composite monitor or *twice* if you have a color composite monitor (TV).

Tandy 1000 and 3000 computers

Before you play the game the first time, follow these steps to install DOS on your *Laser Surgeon: The Microscopic Mission* disk:

1. Insert your DOS disk in drive A and turn on your system.

2. When the **A>** prompt appears, remove your DOS disk from drive A and replace it with the *Laser Surgeon: The Microscopic Mission* disk.

3. Type **SETUP** and press **Enter.** *If you have two disk drives*, place your DOS disk in drive B.

4. Follow the instructions on the screen. When the message **Your disk is now ready to boot.** appears, remove your DOS disk from drive B if you have two drives.

To start *Laser Surgeon: The Microscopic Mission*, follow these steps:

1. Place the game disk in drive A and turn on (or restart) your computer system. *Laser Surgeon: The Microscopic Mission* will load automatically, and after a few moments you'll see the *Laser Surgeon: The Microscopic Mission* title screen.

2. Press **Enter**. The title screen will be replaced by the credits screen. Press **Enter** again; the credits screen will disappear, and this message will appear:

Do you have a joystick (Y/N)?

If you have a joystick attached, type **Y**. Tandy 1000 and 3000 computer owners will then see this message:

Center joystick and press a key

Make sure your joystick is in its center position, and then press **Enter**. The player selection screen will appear.

If you don't have a joystick attached, type **N**. (You will use the keyboard arrow keys in place of the joystick.) The player selection screen will appear.

To restart the game at any time or to begin a new game, make sure that the *Laser Surgeon: The Microscopic Mission* disk is in drive A and press **Ctrl**, **Alt**, and **Delete** at the same time.

Selecting a Player

The player selection screen shows three columns. The first column shows the list of current players (named **PLAYER1** through **PLAYER9** to start), and the third column shows the score accumulated by each player. The second column shows the skill level each player has reached: Trainee, Intern, Resident, Physician, Surgeon, or Micro-Surgery Specialist: Class 1 through Class 4.

At the left of the screen, next to **PLAYER1**, is a pointer. Select a player by using the **Up Arrow** and **Down Arrow** keys to move the pointer up or down the list. If you want to change a player's name (to insert your own name, for example), move the pointer to the name, press the **Right Arrow** key, type in the new name, and press **Enter**. The new name will appear on the screen in place of the old.

Getting a Case

When you're ready to start, move the pointer to your player's name, and press **Enter**. The player selection screen will disappear and be replaced by a doctor's clipboard. On the clipboard is the first page of your patient's medical history, including name, age, and a description of the accident.

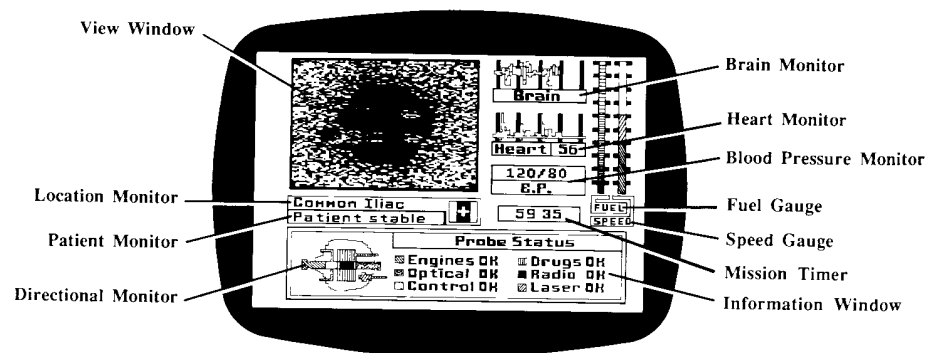When you've read the first page, press **P** to move on to the second page of the medical history. This page contains important information about your patient, including drug allergies, pre-existing diseases, tobacco and alcohol use, symptoms, and most important, the diagnosis of the patient's injury and the suggested treatment. Make careful notes on this information—you'll need it during the mission.

When you've finished making notes on the patient's medical history, press **S** to start your mission.

For help with unfamiliar medical terms that may not be defined on the screen as you encounter them, see the **Glossary of Selected Medical Terms** on page 27.

At the Controls

As soon as you start your mission, the probe's main control screen will appear. On this screen, you'll find all the monitors and controls you'll need to pilot your probe and treat your patient. At times, there will be a lot happening on this screen, so get to know it well:

View Window—shows you the view from your probe's camera inside your patient's veins and arteries. You'll use this window not only for maneuvering the probe but also for locating and identifying medical problems. In this window, you can also display a moving map of your patient's body that shows your location in the network of veins and arteries.

Brain, Heart, and Blood Pressure (B.P.) Monitors—keep track of your patient's vital signs. The brain monitor records brain activity, the heart monitor records heart rate and electro-cardiogram (EKG), and the blood pressure monitor records systolic and diastolic blood pressure. Watch these monitors carefully—any changes in these signs can be warnings of impending problems as well as general indicators of your patient's health.

Fuel and Speed Gauges—show your probe's fuel consumption and speed. Keep a close eye on your fuel—if you run out before reaching your objective, your mission is over.

Directional Monitor—shows a white arrow indicating the probe's current direction. This monitor always shows a simple outline of the immediate area of the vein or artery around the probe, which is helpful for spotting branching intersections and capillaries.

Location Monitor—always lists the name of the vein, artery, or organ the probe is in.

Patient Monitor—gives a general reading on the patient's condition and indicates emergency medical conditions when they occur.

Mission Timer—indicates how much time you have to complete your mission by locating and treating your patient's injury. If you don't complete your mission before time runs out, you'll lose your patient.

Information Window—ordinarily shows a diagram of the probe itself and the status of the probe's major components (engines, optical sensors, directional control, drug inventory, radio, and laser). At other times, this window will display information from the medical libraries, lists of available drugs, and status messages.

Reading the View Window

The view window shows you what the optical sensors mounted on the front of the probe see—the inside of the veins, arteries, and organs of your patient. When you begin your mission, you'll see a dark purplish-red tunnel in the window, the inside of the common iliac vein where the probe is first injected. As you move through the vein, you'll see objects of different shapes and sizes tumbling toward you, carried along in the bloodstream. Many of these objects are red blood cells, some are white blood cells and other immune agents, and some are viruses, bacteria, or other invaders.

You'll spend most of your time looking at this window, both to maneuver the probe and to identify health problems (either organisms in the bloodstream or serious conditions in the veins, arteries, or organs). Use the view window in combination with the directional monitor to spot oncoming branches in your path so that you can turn in plenty of time.

Using the Body Map

If you press the **M** key, the normal view window display will be replaced by a map of the patient's body showing veins in blue, arteries in red, and the major organs.

The window doesn't show the entire body map at one time, but the map scrolls as you move through the body, and the probe's current location on the map is shown by a small flashing square. As you near your destination, the injury site will be indicated by a flashing black cross. Because of the dense environment of the brain, the cross is only an approximation of the injury site—you'll have to come very close to the injury before you can actually see it.

The probe continues to move while the map is in the window, but you can navigate by keeping one eye on the directional monitor. If you spend too much time looking at the map, however, you'll miss the chance to identify and treat medical problems along the way.

To return from the map display to the normal view window display, press the **Esc** key.

Controlling Your Speed

To control the speed of your probe, use the **=/+** and **-/—** keys (**;/+** and **-/=** on the Color Computer 3).

To speed up the probe, press the **+** key. Each time you press the **+**, you increase the speed of the probe one notch (shown on the speed gauge).
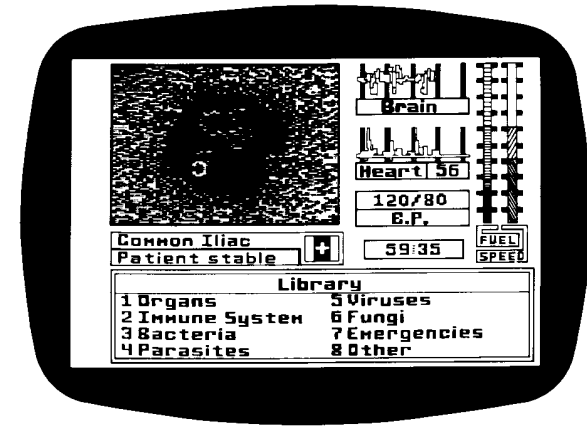
To slow down the probe, press the - key. Each time you press the -, you decrease the speed of the probe one notch. If you reduce the probe's speed to zero, you'll find that it doesn't stand still for long. Instead, it will move slowly in the direction of the bloodstream.

Steering the Probe
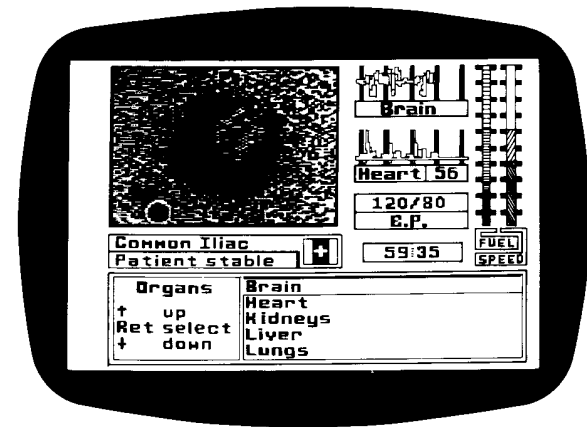
To steer the probe as you move through the body, use the < and > keys. To turn left, press the < key; to turn right, press the > key. Each press of the < or > key will turn the probe 45 degrees in the corresponding direction.

Using the Computer Libraries

To help you on your mission, you have access to eight special libraries of medical information. To access the libraries, press the **L** key, and the following screen will appear in the information window:

Select one of the eight special libraries by pressing a key from **1** to **8**. If you press **1**, for example, this screen will appear:

Scan through the list of specific subjects by using the **Pg Up/ Pg Dn** and **Up Arrow/Down Arrow** keys (press **SHIFT** along with the arrow keys on the Color Computer 3), until the pointer is next to the subject about which you want information. Then press the **Enter** key to display the information.

The information will be displayed in the information window, with any accompanying pictures displayed in the view window. If the information requires more than one screen, you'll see the ↵ symbol in the lower right corner of the information window. Press the **Enter** key to move on to the next screen.

When you've read the library entry, press the **Esc** key once to return to the list of specific subjects. Press the **Esc** key a second time to return to the opening library screen. And press the **Esc** key a third time to return to the normal view window and status display.

While in the library you can press **S** to return directly to the normal view window and status display at any time.

You can also access any one of the eight special libraries directly from the normal view window and status display simply by typing the number of the library you want (1—8).

Getting Help

If you press the **?** key, a short list of basic commands will appear in the information window. To return to the probe status display, press **S** or the **Esc** key.

On the Case

Once you've taken a case and read the patient's medical history, your mission begins. You go straight to the normal view window and status display described in the previous section, and the mission timer starts running. You now have 60 minutes (or less in difficult cases) to complete your mission. The mission ends when you—

• locate and successfully treat your patient's primary injury, or

• lose your patient because you have

— run out of time,

— run out of fuel, or

— failed to treat a serious medical emergency.

Scoring

On each mission, you have the opportunity to add to your total point score. The points you accumulate reflect your increasing skill as a microsurgeon and enable you to take on tougher and more interesting cases.

There are nine skill levels in *Laser Surgeon: The Microscopic Mission*, from Trainee to Micro-Surgery Specialist Class 4. The points needed to qualify for each skill level are as follows:

0	Trainee
2,000	Intern
5,000	Resident
10,000	Physician
15,000	Surgeon
20,000	Micro-Surgery Specialist Class 1
25,000	Micro-Surgery Specialist Class 2
30,000	Micro-Surgery Specialist Class 3
35,000	Micro-Surgery Specialist Class 4

On each mission, you can score points by:

- locating and successfully treating your patient's primary injury.

- properly treating any medical emergencies that occur during a mission.

- identifying and properly treating other medical problems that you discover during a mission.

- prescribing suitable post-surgery lifestyle changes for your patient to treat medical problems identified during a mission.

You can also lose points during a mission, and even lower your rating, by:

- losing your patient through improper treatment.

- weakening your patient by damaging veins, arteries, and organs through collisions or inaccurate laser fire.

- destroying red blood cells or non-attacking white blood cells.

- failing to prescribe or incorrectly prescribing suitable lifestyle changes for your patient's medical problems.

The opening player selection screen will always show your current skill rating and point total. You can never have a final total score of less than 0.

Reaching the Injury Site

Your patient's case history will tell you the nature and location of the injury you must treat. You'll find that the injuries you encounter are all in or near the arteries of the brain. (Microsurgery by means of the probe is a difficult and expensive procedure, so injuries to less critical and sensitive parts of the body are handled by less-skilled surgeons using ordinary surgical procedures.)

The first task on your mission is to figure out how to get from the probe's insertion point—the common iliac vein in your patient's thigh—to the injury location in the proper artery of the brain. To see your current location in the body and

identify which way you need to go, use the on-screen map, which shows an outline of the body with the major veins, arteries, and organs marked. As you move up the body, the map will scroll so that you can always see what's ahead of you.

As you go, watch the location monitor (which tells you the name of the current vein, artery, or organ you're in) and the directional monitor (which shows all the intersections you pass). With this information, you can make a map of the body that will help you if you need to backtrack and will also save you time on later missions.

To get from the probe's insertion point in the iliac vein to the arteries of the brain, you must travel through the right side of the heart, enter the lungs to cross over to the left side of the heart, navigate through the left side of the heart, and then travel up the arteries into the brain.

Passing Through the Heart. The heart has four chambers—the right auricle, right ventricle, left auricle, and left ventricle. The right auricle takes oxygen-depleted blood from veins and transfers it to the right ventricle, which pumps it to the lungs. The left auricle takes freshly-oxygenated blood from the lungs and transfers it to the left ventricle, which pumps it out through the arteries to the body's tissues and organs.

On your mission, you'll have to pass through both sides of the heart. And to pass safely through the heart, you must stop it from beating, or else your probe will suffer massive damage.

To stop the heart, use the **defibrillator** from your inventory of drugs and instruments. As you approach the heart valve in the right auricle, press **I** to get the inventory list (it will appear in the information window). Use **Up Arrow** and **Down Arrow** to scan through the inventory list until **defibrillator** is
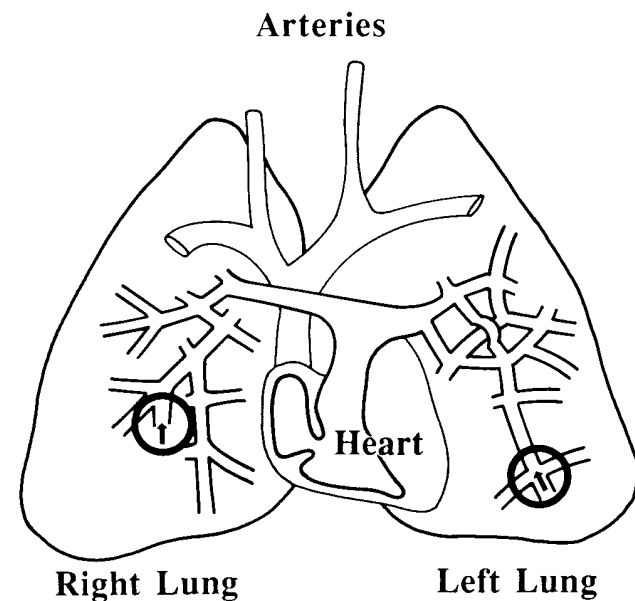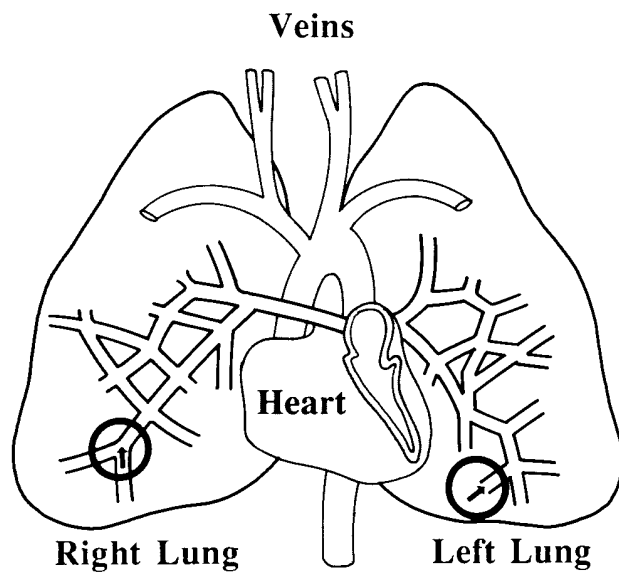
highlighted, and then press **D** for **Dispense**. If you are successful, the patient's heart rate will drop to zero as the heart stops beating (defibrillators don't always work the first time, so you may have to try again).

Once the heart is stopped, navigate through the open heart valve, through the right ventricle, and out the second heart valve. Once you're clear of the heart, use the defibrillator again to restart the patient's heart. You must move quickly through the heart—if you keep it stopped too long, your patient will die.

Passing Through the Lungs. To reach the arteries of the brain, you must pass through the left side of the heart, which takes blood from the lungs and pumps it out to the body through the arteries. To reach the left side of the heart, you must pass through the lungs.

When blood flows from the right side of the heart into the lungs, it flows into a maze of smaller and smaller channels until it reaches the very small channels called capillaries. In the capillaries, the blood takes on oxygen and then flows into larger channels and back to the left side of the heart. Most capillaries are much too fine to allow your probe to pass through, but somewhere in the maze of lung capillaries, there are a few crossover points large enough to allow your probe to pass through. Here more than anywhere, you'll need to make careful maps to keep from getting hopelessly lost and running out of time.

Use the diagram of the lungs shown on the following page as a general map.

Veins

Right Lung   Heart   Left Lung

Arteries

Right Lung   Heart   Left Lung

① cross over points from veins to arteries

Once you pass through the lungs, you need to navigate through the left side of the heart (using the defibrillator as before) so that you can proceed up through the arteries of the neck into the brain itself.

Identifying and Treating Medical Problems

Throughout each mission, you'll spend most of your time looking at the view window. Here you'll see not only the veins and arteries but also the various elements found in the blood itself, including red blood cells, immune agents, viruses, and bacteria. Some of these, like red blood cells, are beneficial, while others, like bacteria, are not and should be treated or destroyed.

Identifying Objects. You can identify any object you see in the view window by using the laser sight, with one exception when you're in the brain—see **Injuries in the Brain Tissue**, page 26.

If you have a joystick attached, use it to maneuver the laser sight (a white cross that will appear as soon as you move the joystick) so that the cross is on the object you want to identify. Then press the joystick button to have the computer identify the object.

If you don't have a joystick, use the four arrow keys to maneuver the laser sight. When the sight is centered on the object you want to identify, press the **Insert** key (**F1** on the Color Computer 3) to have the computer identify the object.

The computer will print the identification you asked for in the information window. If the simple identification is sufficient, press **Esc, ?** or **S** to return the information window to its normal status display. If you want more detailed information on the object, press **Enter**.

When you ask for detailed information on an object, the computer will show you a picture of the object along with its name in the view window. It will also show one or more screens of text describing the object in the information window (if you see the ◢ symbol at the end of the first screen of text, press **Enter** to see further screens).

To return to the normal main control screen view, press **?** or **Esc**, then **S** to restore the probe status display.

Treating Medical Problems. In many cases, when the computer library gives you information on an object, it will also give you a prescription (identified by the symbol R_x) consisting of one or more drugs. If the object is something harmful—like a virus, fungus, or bacterium—you can use the prescription to destroy it and increase your patient's health.

To dispense the prescription, press **I** to get the drug inventory. The list of available drugs will appear in the information window. If the drug you need is not already highlighted, use the **Pg Up/Pg Dn** and **Up Arrow/Down Arrow** keys (press **SHIFT** along with the arrow keys on the Color Computer 3) to scan through the drug list and highlight the proper drug. Then press **D** to dispense the drug.

Once the prescription has been dispensed, press **Esc** to leave the drug library and return to the normal main control screen. You must press **Esc** to leave the drug library before you can use the laser sight again—it is inactive while you are in the drug library.

Prescribing Lifestyle Changes. In cases where the library gives you a second screen of information on an object, the second screen will usually contain a *lifestyle prescription*—suggestions for changes in the patient's behavior to lessen the chances of disease or injury in the future. These lifestyle prescriptions have no immediate effect on your patient, but they do contribute to the patient's long-term health. If you prescribe them in the proper cases, they also add points to your total score. (But improper prescriptions cost you points.)

To prescribe such a lifestyle tip, press the **X** key while the prescription is displayed in the information window. The text will change color to indicate it has been read and prescribed. If you mistakenly mark a lifestyle prescription that doesn't apply, press **X** a second time to unmark it.

A lifestyle prescription may or may not be combined with a drug prescription, according to the nature of the disease or injury.

Using the Laser. In some cases, you may need to use your laser to destroy an object, either because that is the optimum treatment (as with a bone fragment, for example) or because the proper drug is no longer in your inventory.

Use the joystick or the arrow keys to center the laser sight on the object. Then press the red joystick button or the **Delete** key (**F2** on the Color Computer 3) to fire the laser. Though effective, the laser is not as selective as a drug, so you must be careful not to destroy red blood cells or damage the vein or artery walls when you use it.

Treating Medical Emergencies

During the course of your mission, you may face sudden medical emergencies when your patient's condition suddenly deteriorates for one reason or another (shock, irregular heart action, seizure, etc.). You'll hear a warning beep, and the patient condition monitor (below the view window) will flash a message identifying the nature of the emergency.

To find out how to treat the emergency, press **Enter**. The view window will show the recommended prescription, and the information window will give a more detailed description of the condition. Once you have the prescription, treat it as you treat any medical problem—press **I** to get the drug inventory, use **Pg Up/Pg Dn** and **Up Arrow/Down Arrow** (press **SHIFT** along with the arrow keys on the Color Computer 3) to highlight the proper drug, press **D** to dispense it, and then press **Esc** to exit the drug library. Once you have properly treated the emergency condition, the patient condition monitor will return to its normal state, showing the message **Patient stable.** Note that treating some injuries requires that you dispense more than one drug.

Pausing, Quitting, or Restarting the Mission

To pause the mission at any time, type **P**—everything, including the mission timer, will be suspended. To resume the mission, press any key.

If you must quit the mission before it is over, type **Q**. You will lose your patient, but the computer will figure your score up to that point in the mission and add it to (or subtract it from) your total score.

To restart *Laser Surgeon: The Microscopic Mission* once a mission has ended, on Tandy 1000 and 3000 computers press the **Ctrl, Alt,** and **Delete** keys simultaneously; on the Color Computer 3, press **R** (or to exit the game entirely, press **Break**).

When the Going Gets Tough...

If all you had to do was launch a probe, motor up to the brain, and zap a few bacteria on the way, microsurgery would be easy. But life's tough, and a microsurgeon's life is even tougher. Even as a trainee, you'll find unexpected kinks in the road, and as you become more skilled, you'll get tougher and tougher cases, tough enough to put even the best microsurgeon to the test.

Hazards

You face hazards on every mission you take. The more skillful you are, the tougher the case, and the tougher the case, the greater the hazards.

Collisions. If you run into anything—an artery wall, for example—you'll damage your probe. The probe status report (in the information window) will tell you which systems are damaged and how badly. If your optical system gets heavily damaged, for example, you'll have trouble seeing anything in the view window. If your drug inventory gets damaged, some drugs won't be available when you need them—they'll appear in a different color and you won't be able to highlight them. If your control gets damaged, the probe won't respond to your commands all the time.

Even though the blood stream is full of objects floating toward you, you'll rarely collide with any of them because the probe is so small—they'll just slide by. However, if you meet a virus or other object dead center (it does happen), you'll collide, unless you manage to avoid it or destroy it first. Keep your eyes open.

Attacks. Don't expect safe passage just because you're on a mission of mercy. Some of the microbes that attack the body may decide to attack you as well. Worse yet, the body's immune system thinks you're an outsider and may decide to attack you, too. Either way, the attacks can damage your probe badly.

Sometimes the attack may be just a quick hit-and-run, but other times, you'll have to fight off repeated attacks. If you keep your eyes on the view window, you can figure out what's attacking you and destroy it with drugs or the laser. (Don't get trigger-happy with the laser, though—it's not as selective as the drugs, and it arouses the immune system.)

Other Hazards. The tougher the case, the more critical the patient's condition and the more emergencies you'll face. In advanced cases, the patient's condition will be very unstable, the body will probably be full of immune agents and invading microbes, and you'll have less time to complete your mission.

Suppressing Immune Reactions

The body's immune system is equipped to recognize foreign objects so that it can fight off invaders—bacteria, viruses, fungi. It also sees your probe as a foreign object, so it's likely to think you're an invader and turn its immune agents loose on you.

You can partially suppress this immune reaction by coating the probe with a substance found in the kidneys. To coat the probe, you need to locate a *hookup site* in the kidney. These hookup sites are rare, but they're usually found near a *kidney pore*. Use the laser sight and the **Insert** key (**F1** on the Color Computer 3) to identify any unfamiliar objects in the kidneys until you locate a hookup site. When you have a hookup site in view, press **H** to complete the hookup and coat the probe. The coating isn't 100% effective, but it helps.

You can also sometimes find tiny, invisible hookup sites at the ends of the vessel passages in the liver and kidney. If you randomly try to hook up in these areas, you may just get lucky.

Refueling the Probe

Every laser shot uses up fuel. Every side trip you make or wrong turn you take uses up fuel. If you're not careful, you'll run out of fuel before you reach your objective.

If you have the time, you can refuel the probe from glucose stored in the liver. As in the kidney, you need to locate a hookup site in the liver, which you'll usually find near a *liver pore*. Use the laser sight and the **Insert** key (**F1** on the Color Computer 3) to identify unknown objects until you locate the hookup site, and then press **H** to refuel your probe. Once the refueling is complete, you'll see your fuel gauge register full again, and you can return to your mission.

Injuries in the Brain Tissue

Not all your patients will have injuries in the arteries of the brain. Some will have injuries actually in the brain tissue near an artery but outside it.

To reach an injury in the brain tissue itself, you'll have to penetrate the artery wall (at one of several special locations). You then must navigate your way through the brain to the injury site, avoiding the neurons and other obstructions (an active neuron can give you a very unhealthy jolt when it fires). In the dense environment of the brain tissues, your probe's identifier is rendered ineffective, so keep your eyes open to spot the injury.

Think carefully before you plunge into the brain tissue—it's a drastic procedure. Once you enter the brain tissue, you won't be able to get back into the artery—even though you may see it in the locator box as you pass above or below it through the brain tissue. So make sure you're as close to the injury site as you can get.

Making Maps

The most important thing you can do to help yourself on your first mission and every mission after is to make maps. Map every vein and artery you travel and every intersection you cross, especially in the kidneys, liver, lungs, and head.

These maps will help you find your way back to the main veins or arteries if you get turned around or lost. And when you get to the toughest cases, where every second counts, they'll help you get to the injury site as quickly as possible.

Glossary of Selected Medical Terms

Anterior. Situated before or toward the front of. An anterior cerebral artery, for example, is located toward the front of the cerebrum.

Aorta. The main trunk artery that carries blood away from the heart to other branching arteries, which then distribute the blood through the body.

Artery. Any one of the blood vessels carrying blood away from the heart to the various parts of the body.

Atrium. A main chamber of the heart, sometimes called an auricle. The left and right auricles receive blood from the veins and pump it to the left and right ventricles, respectively. See also *Ventricle*.

Auricle. See *Atrium*.

Brachio-cephalic artery. A major artery near the heart that carries blood toward both the arm and the head.

Carotid artery. One of the main pair of arteries that carry blood up the neck to supply the head and brain.

Cerebellar artery. Any of several arteries carrying blood to the part of the brain known as the cerebellum.

Cerebellum. The back part of the brain.

Cerebral artery. Any of several arteries carrying blood to the part of the brain known as the cerebrum.

Cerebrum. The large upper and front parts of the brain.

Circle of Willis. An interconnected set of arteries found near the middle part of the brain.

Hepatic vein. A major vein carrying blood away from the liver and toward the heart.

Iliac vein. A major vein in the thigh that carries blood toward the heart.

Ophthalmic artery. Any of several arteries carrying blood toward the eyes.

Posterior. Situated behind or toward the back of. A posterior cerebral artery, for example, is located toward the back of the cerebrum.

Pulmonary. Of, or relating to, the lungs. A pulmonary artery, for example, is a blood vessel that carries blood from the heart to the lungs.

Renal vein. A major vein carrying blood away from the kidneys and toward the heart.

Subclavian artery. An artery carrying blood toward the shoulder and arm.

Superior. Situated above. A superior cerebellar artery, for example, is located in the upper part of the cerebellum.

Vein. Any one of the blood vessels carrying blood back to the heart from various parts of the body.

Vena cava. A major vein carrying blood back toward the right atrium of the heart.

Ventricle. A main chamber of the heart. The left and right ventricles receive blood from the left and right auricles, respectively, and pump it out of the heart. See also *Auricle*.

Appendix

If you don't have a Color Computer with Disk Extended Color BASIC, version 1.1 or later, or if you don't have the OS-9 System, you can type in the following program and use it to start *Laser Surgeon: The Microscopic Mission*.

Turn on your computer and, using a formatted diskette *other than* your *Laser Surgeon: The Microscopic Mission* diskette, enter the following program.

```
10 REM ******
20 REM * BOOT OS-9 FROM BASIC
30 REM ******
40 FOR I=0 TO 70
50 READ A$
60 POKE &H5000+I, VAL("&H"+A$)
70 NEXT I
80 CLS:PRINT "INSERT LASER SURGEON DISK-
ETTE"
90 PRINT "INTO DRIVE 0 AND PRESS A KEY"
100 A$=INKEY$:IF A$="" THEN 100
110 EXEC &H5000
120 DATA 86,22,8E,26,00,8D,0D
130 DATA FC,26,00,10,83,4F,53
140 DATA 26,03,7E,26,02,39,34
150 DATA 20,10,BE,C0,06,A7,22
160 DATA 86,02,A7,A4,6F,21,6F
170 DATA 23,6C,23,AF,24,10,BE
180 DATA C0,06,A6,23,81,13,27
190 DATA 12,AD,9F,C0,04,4D,27
200 DATA 06,6C,23,6C,24,20,E9
210 DATA 7F,FF,40,35,A0,4F,20
220 DATA F8
```

When you've finished entering the program, with the **OK** prompt on the screen type **SAVE** "*****" and press **Enter**.

To start *Laser Surgeon: The Microscopic Mission*, turn on your computer and insert the diskette on which you've saved the program above, then type **RUN** "*****" and press **Enter**. Then follow the instructions on the screen.