Imagic
MICROSURGEON

GAME PROGRAM INSTRUCTIONS

"We interrupt this broadcast to bring you live coverage from the scene of a local accident. Gus?"

"Howard, noxious vapors escaping from a disabled tanker have caused a medical emergency. Dr. Weissblut of nearby Xenon Medical Center tells us why. Doctor?"

"Gus, these fumes attack one's immunity to the simplest disorders. Tar deposits suddenly fester on the lungs; tumors grow at an alarming rate; even bacterial infections become potentially lethal. The list goes on. There's only one way to treat it: Microsurgery. We have to get inside and eliminate these conditions before they become fatal. But I'm due in the operating room. Excuse me."

"Thank you, Doctor. Back to you, Howard."

"Microsurgical Staff - Emergency!"

You're part of the team of expert microsurgeons and technicians at Xenon Medical Center. Working alone, or assisted by a skilled medical technician, you attempt to save victims exposed to this weird gas. Time works against you. You must use every bit of knowledge and instinct at your disposal.

Examine the patient's status chart, it tells you the patient's overall condition and directs you to those organs in greatest need of attention. Watch your power reserves!

The Robot Probe, the primary tool of a microsurgeon, has been implanted in your patient. You control its progress through the body by remote control. Your screen displays the intricate maze of the circulatory(red arteries, purple veins) and lymphatic(orange lymph) systems. These routes carry the Robot Probe through the patient's body. Stray outside them and legions of roaming white blood cells (phagocytes) will mistake the Robot Probe for a dangerous intruder and attack!

Vital organs come into view as you steer the Robot Probe toward surgical "hot spots" - areas which need immediate medical attention. Tumors, tar deposits, gall stones, viruses, bacterial infections, even tapeworms - the number and variety to be cured is staggering!

Keep track of the Robot Probe power supply. The Robot Probe is a delicate and expensive piece of equipment and must be salvaged. If power runs low before your surgical tasks are completed, race toward the eye, mouth, nose, or ear. The Robot Probe can safely exit at these points.

OBJECTIVES:

Keep track of your patient's status. Eliminate disease and infection by shooting the appropriate medication from the Robot Probe. Pilot the Robot Probe out of the body before power runs out. "Doctor, your patient is prepped for microsurgery." Good luck - to you both!

QUACK SURGERY

To begin surgery immediately, do the following. (Note: These techniques do not guarantee success in microsurgery. For that, read the entire instruction manual.)

Plug in cartridge. Turn console on. Press any number on the left controller to select a patient.

Easiest patient: 1

Status Chart appears. Next, press 1 (Inside Body) on right or left controller. Screen shifts to view inside patient. Pilot Robot Probe with left controller disk. Keep Robot Probe completely inside red, purple, or orange areas. Otherwise, roaming white blood cells will attack. To speed up Robot Probe: press Fast/Slow on left or right controller keypad. To return Robot Probe to normal speed: press Fast/Slow again. To select and dispense medications:

Left Controller:

Press and hold any side button on controller. Aim and fire by pressing disk along its edge in the direction you want medication applied while still holding side button. Ultrasonic rays are automatically selected at the beginning of microsurgery. They cure most diseases. To select antibiotic: press number 8 on controller. To select aspirin: press number 9. To use ultrasonic ray after another medication has been selected: press number 7.

Right Controller:

Press number 7, 8, or 9 to select medications(See above.) Aim and fire with disk. To begin microsurgery again, press Reset button.

1-Player Microsurgery:

Steer with left controller. Select and administer medications with left or right controller. Save time by using both controllers when working alone during microsurgery. Steer with the left controller, shoot with the right. Practice!

2-Player Microsurgery:

1 player steers Robot Probe with left controller.

1 player selects and administers medications with right controller.

Console Controls Insert cartridge in right side of unit, label up. Turn power switch to on. To begin microsurgery again, hit Reset button. Remove hand controllers from console unit. 2 Microsurgeon keypad covers come in every package. Each one will be clearly marked for use on either the left or right controller. Don't get them confused. Slip the left keypad cover into the left controller. Be sure they are securely in place. The keypad covers help guide you through microsurgery.

Note: Turn console unit off while TV is still on. Do not remove cartridge while the console is still on.

To pause during microsurgery at any time without losing valuable power time units, press keypad numbers 1 and 9 or 3 and 7 simultaneously. To resume microsurgery where you left off, press any side button, keypad number, or the disk.

Microsurgery Begins

To select one of the 9 Microsurgeon variations: press a number (1-9) on the left controller.

Patient's Overall Status:	Fair	Critical	Random*
Basic Surgical Difficult	1	2	3
Intermediate Surgical Difficult	4	5	6
Advanced Surgical Difficult	7	8	9

*Random patients come to you directly from the Emergency Room. Their overall condition cannot be known until microsurgery begins and their status charts appear.

Status Chart Patient's Number: Patient's ID bracelet number.

LOCATION: Major organ the Robot Probe is in or near.

STATUS: Patient's overal condition.

POWER: Amount of energy the Robot Probe has in reserve.

HEART, LUNGS, AND ALL OTHER INDIVIDUAL ORGANS: Individual organs and their current condition.

INFECTION: Level of bacterial infection in patient's system.

When you have selected your patient, that patient's status chart appears on your screen. Four possible conditions may be listed for the patient's overall status and the status of individual organs:

GOOD: Stable; no need to worry.

SERIOUS: Potentially dangerous; needs watching.

CRITICAL: Life-threatening; requires immediate attention.

To begin microsurgery once your patient has been selected:

Press number 1 (Inside Body) on the left or right controller keypad cover. Screen shifts from status chart to view inside patient. Robot Probe appears at or near center of screen - a small white, diamond-shaped instrument.

Piloting the Robot Probe

Pilot the Robot Probe with the disk on the left controller.

To move the Robot Probe up: press top of disk.

To move Robot Probe down: press bottom of disk.

To move Robot Probe right: press right side of disk.

To move Robot Probe left: press left side of disk.

To move Robot Probe at an angle: press disk at that angle.

To speed up Robot Probe: press Fast/Slow at bottom of left or right keypad.

To return Robot Probe to normal speed: press Fast/Slow again.

The Robot Probe has been designed to travel through: the circulatory system: red arteries, purple veins the lymphatic system: orange lymph The patient's body accepts the presence of the Robot Probe only while it remains completely inside arteries, veins, and lymph.

If the Robot Probe moves outside these 3 routes: The Robot Probe slows down, moving most slowly when stuck in bone. Roaming white blood cells attack the Robot Probe as a foreign presence in the body.

Treatments

The Robot Probe comes equipped with three treatments:

Ultrasonic Rays: press 7
Antibiotic: press 8
Aspirin: press 9

You can use a treatment in any direction by holding a side button and pressing the edge of the circular disk at that point corresponding to the location of the disease in relation to the Robot Probe.

These treatments effectively combat all disorders.

Disease Chart

TREATMENTS - ULTRASONIC RAY ANTIBIOTIC ASPIRIN

DISEASE
cholesterol build-up (grey, inarteries)
bacteria (green, appears throughoutbody)
viruses (green, appear and disappear throughout body)
gall stones (tan, in gall bladder)
kidney stones (yellow, in kidney)
tapeworms (red, in intestine)
tar deposits (black, in both lungs)
tumor (grey mass, in brain)

White Blood Cells

2 kinds of white blood cells will appear on your microsurgical screen:

Roaming white blood cells(phagocytes):

Roaming white blood cells attack the Robot Probe whenever the Robot Probe leaves the circulatory or lymphatic systems. To avoid phagocyte attacks, stay completely within red, purple, or orange areas. Though usually a healthy presence in the body, a phagocyte may need to be destroyed if it interferes with the Robot Probe. Lose 1 power unit if a phagocyte touches the Robot Probe. Lose additional units the longer it touches the Robot Probe. To destroy a phagocyte: fire ultrasonic ray.

Note: The more advanced the surgery, the more phagocytes will attack the Robot Probe, and for longer periods of time.

Stationary white blood cells(lymphocytes):
Lymphocytes appear as white structures in arteries, veins, and lymph.
Lymphocytes do not move.
Lymphocytes appear as microsurgery progresses; the more serious the patient's condition, the greater the number of lymphocytes.
Robot Probe moves very slowly when lymphocytes block its way.
Phagocytes will usually attack the Robot Probe while it moves through a lymphocyte.

Status Changes During Microsurgery

The patient's status changes during microsurgery. Individual organs will improve as you treat them with the Robot Probe's shots. Try to restore the condition of an organ to "Good" status. Once "Good," an organ stabilizes and cannot deteriorate. If an organ is listed on the status chart as being other than "Good," it will worsen over time unless treated. Patient's overall status changes during microsurgery as well. As individual organs improve after you have treated them with the Robot Probe, the patient's overall condition improves. Patient's overall condition will worsen if two or more individual organs deteriorate beyond the overall condition listed.

Example: Patient's overall status as microsurgery begins: "Fair." Two or more individual organs originally listed as "Fair" deteriorate to "Serious" during

microsurgery. Other organs remain the same. Patient's overall status changes from "Fair" to "Serious." Refer often to your patient's status chart. It will tell you the current status of all organs.

To recall status chart to the screen: Press 2 (Patient Status) on left or right controller keypad. Return to view inside body by pressing number 1 (Inside Body). Race to save your patient before this final overall status appears: TERMINAL.

If patient's overal status becomes TERMINAL: Patient's status chart reappears on your screen automatically, listing the individual "Terminal" organs. Your fee appears in place of POWER on the status chart. Note: Individual organs may go "Terminal" while patient's overall status remains "Fair," "Serious," or "Critical." Patient's individual organs, once listed as "Terminal," cannot be saved. When two or more organs become "Terminal," patient's overall status becomes "Terminal." Your time has run out.

Scoring

Your fee at the end of microsurgery is calculated automatically. Since fees are high for microsurgery, only those patients with full medical insurance are billed. Microsurgeons, more interested in curing patients than in making tons of money, donate their fees to various disease research foundations.

FEE appears on the patient's status chart in place of LOCATION.
If patient's overall status at the end of microsurgery reads:
GOOD: you earn $4000
FAIR: you earn $3000
SERIOUS: you earn $2000
CRITICAL: you earn $1000
TERMINAL: you earn nothing.

For every individual organ status which reads GOOD at the end of microsurgery: Earn $200. You earn this fee even if an organ began in GOOD condition. Earn $1 for every power unit left at the end of microsurgery. End microsurgery early by piloting the Robot Probe out through the eye, ear, nose or mouth: Earn $200. Exit improperly: Earn no additional fee. The tougher the microsurgery, the higher your fees at the end.

If patient's overall status at beginning of microsurgery was:
GOOD: no zero added to end of fee
FAIR: 1 zero added to end of fee
SERIOUS: 2 zeroes added to end of fee
CRITICAL: 3 zeroes added to end of fee

Level of Surgical Difficulty affects your fee: Basic Surgical Difficulty: no zero added to end of fee. Intermediate Surgical Difficulty: 1 zero added to end of fee. Advanced Surgical Difficulty: 2 zeroes added to end of fee.

Note: The billing system is complicated. Not to worry - it is automatically calculated for you.

Microsurgery ends if:

Overall patient status goes TERMINAL.
Robot Probe runs out of energy while still in patient:
Microsurgeon is awarded fee.
Robot Probe exits body during surgery:
Proper exit: Microsurgeon is awarded fee.
Improper exit: Microsurgeon is not awarded fee for preserving Robot Probe or for saving power.

Robot Probe Power

The amount of power the Robot Probe has to run on is set at the beginning of microsurgery.

Power units in reserve appear on patient's status chart next to POWER.

The more serious a patient's condition is as microsurgery begins, the more power units the Robot Probe has in reserve.

One exception: Patient Number 1, Robot Probe has a lot of power.

The Robot Probe consumes power units at a regular rate:

Normal speed: use 1 power unit every 20 seconds.

Faster speed: use 3 power units every 20 seconds.

Dispense a treatment from Robot Probe:

Lose 1 power unit.

Gain up to 3 power units for each virus you hit with the first shot. Gain one less power unit for each additional shot.

Use more than 3 shots to eliminate 1 virus:

Lose 1 power unit for each additional shot.

Virus or phagocyte touches Robot Probe:

Lose 1 power unit.

Lose additional power units the longer a virus or phagocyte touches Robot Probe.

Gain 1 power unit if you eliminate any of the following with one shot: tapeworm, bacteria, kidney and gall stones.

Lose 1 power unit for each additional shot.

A full-sized tumor can be eliminated with not fewer than 4 ultrasonic ray shots. When the tumor disappears, the Robot Probe reserves are credited up to 3 points. This means the Robot Probe can treat a tumor without losing power units if only 4 ultrasonic shots are used to destroy the tumor. Use more than 4 shots and the Robot Probe loses 1 power unit for each additional shot.

Surgical Tips

Keep the Robot Probe completely inside arteries, veins and lymph. If it is not entirely inside, roaming white blood cells(phagocytes) will attack. Don't be sidetracked by minor ailments if a life-threatening critical or serious condition exits. Treat the most dangerous conditions first. If the heart needs attention according to the patient's status chart, you must eliminate cholestorol build-up in the arteries throughout the body. Cure "Infection" as listed on the status chart by eliminating bacteria. Bacteria appear and disappear, moving arround the body. Aim quickly and get them! Viruses are tricky, too. When one comes into view, select aspirin, aim and eliminate it before it slides out of range. Aspirin is a pain reliever, not really a cure. It

cannot destroy a virus, but it can temporarily disable one. If the patient's brain needs attention, destroy cholesterol buildup and any tumors you find there. Remember, there are two lungs. You must treat both before your patient's lung status will be affected. Intestinal trouble means tapeworms. Fire at those parasites! Gall and kidney stones only appear in a patient whose gall bladder and kidneys are listed in a condition other than "Good." If the Robot Probe lies between organs, the area across from Location on the status chart will be blank. Keep moving. Study the two-page map of the body in this manual. Figure out the fastest routes to "hot spots" in the patient. You'll know you are near the lungs when you hear air rushing in and out, as in a tunnel. Your patient's heartbeat can be clearly heard as you travel near or through its chambers. Can you name the four chambers of the heart? For 1 player games, try moving the Robot Probe with the left controller and firing treatments with the right controller. Including Emergency Room admissions, 197 patients require microsurgery.

Keep track of the patient's ID bracelet number in the upper right-hand corner of his or her status chart. If you treat the same number more than once, you will be operating on a patient with identical symptoms. Have your skills improved?

How many of these patients can you successfully treat?

Write and tell us about exceptional cases you have treated. We are anxious to understand the nature of this disorder. We need your input! What is your progress, Doctor?

Write to: Dr. Weissblut
Xenon Microsurgical Unit
c/o IMAGIC
981 University Ave.
Los Gatos, CA 95030

Glossary

Antibiotic Used in the treatment of infectious diseases. An antibiotic is a chemical substance which destroys and inhibits the growth of bacteria.

Artery Part of a complex system of blood vessels. An artery carries blood from the heart to other parts of the body. Arteries and veins make up the circulatory system. The Robot Prober moves through arteries smoothly.

Aspirin A pain reliever. Aspirin can temporarily relieve symptoms caused by viruses.

Bacteria Bacteria are microscopic organisms that come in many shapes and sizes. Some bacteria, like those you encounter during microsurgery, produce disease.

Bone Bone is hard connective tissue which makes up the skeletal frame for the body.

Brain The brain is the body's think tank and a part of the central nervous system. The brain is made up of a complex mass of soft grey and white matter located in, and enclosed by, the cranium.

Cholesterol Cholesterol is present in many foods one eats - fats and oils especially. It also occurs naturally in the body. Cholesterol can build up in your system, sometimes leading to high blood pressure as well as other medical difficulties associated with poor blood circulation.

Ear The better to hear you with, the ear is a delicate and complex system of bones, fluid, and hair cells that stimulate the auditory nerve and send impulses

to the brain. The Robot Probe can safely exit through the ear.

Eye The better to see you with, the eye is a spherical organ which enables sight. The Robot Probe can safely exit through the eye, as much as tears do.

Gall Bladder The gall bladder is a small sac attached to the liver. It concentrates and stores bile.

Gall Stones Small hard pellets that do not break down properly in the gall bladder, causing extreme discomfort as a result.

Heart A hollow, muscular pump, the heart keeps the blood circulating throughout the body by a series of expansions and contractions.

Intestines The lower part of the alimentary canal. The intestines move and finally eliminate waste material from the body.

Kidneys The kidneys are two bean-shaped organs in the abdomen. Urine collects in the kidneys before being excreted.

Kidney Stones Kidney stones are small, hard pellets that can grow in the kidneys. Their presence can disrupt the proper function of the kidneys and cause extreme discomfort.

Liver The liver is one of the body's cleaning houses for bile. It serves other metabolic functions as well.

Lungs The lungs are two long, saclike organs which enable breathing. Among other functions, the lungs provide the oxygen for blood cells brought to the heart via veins. Once exposed to oxygen, these blood cells are then pumped to other parts of the body via arteries.

Lymph This yellow-orange fluid comes from body tissues. It contains white blood cells and a plasma-like fluid. Lymph is carried to the bloodstream by the lymphatic system.

Lymphatic System That system of vessels which carries lymph to the bloodstream. The Robot Probe moves easily through the lymphatic system on its trek through the body.

Lymphocytes Lymphocytes are the stationary white blood cells found in the lymphatic and circulatory systems. They can inhibit the Robot Probe on its journey, should the Probe become stuck in one.

Mouth The better to eat you with, the mouth is the opening in one's face that admits food, drink, etc. A mouth contains teeth, with which one chews, and a tongue, with which one tastes and manipulates food. It is also one cavity through which the Robot Probe can safely exit the body.

Neck That part of the body which connects the head and the trunk.

Nose The better to smell yo uwithg, the nose is the part of the face containing nostrils and organs for the sense of smell. It is involved in breathing and contributes to the modulation of the voice. The Robot Probe can safely exit here.

Phagocytes Phagocytes are roaming white blood cells which travel through the body, destroying foreign particles.

Roaming White Blood Cells See "Phagocytes."

Stationary White Blood Cells See "Lymphocytes."

Stomach An elastic, saclike organ, the stomach stores, dilutes, and digests food.

Tapeworms Tapeworms are flat, tapelike parasites that thrive in the intestines.

Tar Deposits These dark, sticky patches on the lungs result from the inhalation of smoke from coal, wood and, especially, tobacco. These deposits can interfere with breathing and general health.

Tumor Tumors are abnormal, diseased growths that crowd healthy tissue. Continued growth of some tumors - especially in the brain - can be life-threatening.

Ultrasonic Rays Found exclusively in the Robot Probe arsenal, ultrasonic rays use sound waves to eliminate diseases while leaving vital tissue unharmed.

Veins Veins are blood vessels which form a part of the circulatory system. Veins carry blood to the heart where it will be exposed to oxygen and then recirculated through the arteries.

Virus A virus is an ultramicroscopic infectious agent that causes diseases.

Designed by Richard S. Levine

Photo Credit: Lennart Nilsson, Behold Man, Little, Brown & Co., Boston, Mass.