

# VIRTUAL KNEE REPLACEMENT INSTRUCTIONS

## PART ONE – PERFORMING THE KNEE REPLACEMENT

Go to the following website: <http://www.edheads.org> and click on "Virtual Knee". Next, click start next to the surgeon to bring up a new window. At the reception desk, choose the virtual surgery to get started.

**NOTE: You may use headphones if you have them, otherwise you will need to adjust your computer's volume level to keep noise to a minimum.**

## PART TWO- DIAGNOSING PATIENTS AND CHOOSING THE PROPER PROSTHETIC

Back at the "Virtual Knee" page click start next to the doctor in the white coat to start the "Choose the Prosthetic" activity. For this activity you must first check the "prosthetics overview" file in the surgeon's office. It will tell you very briefly about the five types of knee hardware that are available and more importantly what types of patients they are used for. You may refer to this file at any time during the activity. Read the charts and check the x-rays for each patient one at a time. Compare each case with the prosthetics overview to determine which procedure to perform. There is also a glossary of useful terms at the top menu for you to use at any time. Fill in the table with the required information.

## PART THREE- INTERESTING PEOPLE IN KNEE REPLACEMENT

Go back to the "Virtual Knee" page and click the link to "Interesting People". At the bottom left of this page you will find a list of five people who are involved in knee replacement. It takes more than just a surgeon to make this procedure work! Pick any **three of the five** people who's careers interest you and answer the following questions for each (each person was asked to answer these same questions in order): **1.** Give a general description of this persons job. What do they do? **2.** What is the best part of the person's job? **3.** What is the most exciting part of the person's job? **4.** How has the persons career changed in the last 10 years?

# VIRTUAL KNEE REPLACEMENT

## PART ONE – PERFORMING THE KNEE REPLACEMENT

As you are guided through performing the surgery, you will be asked a few questions, please write the answers to those questions below:

- Q1. Are we performing surgery today?
- Q2. Which knee needs surgery?
- Q3. What functions should these drugs perform?
- Q4. Why do you think knee surgery involves so many drapes?
- Q5. What purpose do you think the perpendicular lines serve?
- Q6. Why do you think the two tibial components are inserted separately instead of as one unit?
- Q7. Why do you think so many steps are taken to insure proper alignment?
- Q8. What is the major difference between these two methods of closing the incision?
- Q9. What kind of forces do you think the new knee will need to withstand?

After you finish the procedure check the surgery photos option to see how the real operation looks compared to your virtual one.

## PART TWO- DIAGNOSING PATIENTS AND CHOOSING THE PROPER PROSTHETIC

Okay doctor, as you diagnose and treat each patient, fill the information for each case below and on the back of this page:

Patient	What procedure is needed for the patient and what information in the chart or x-rays led you to make this recommendation?	If surgery is performed what type of prosthetic implant did you choose and why? Were the post-operative results a success?
#1		
#2		

#3		
#4		
#5		

**PART THREE- INTERESTING PEOPLE IN KNEE REPLACEMENT**

List the three people you choose below and answer the four questions about each of their careers. You may use extra paper if needed: