The Total Hip and Knee Replacement Surgery Newsletter

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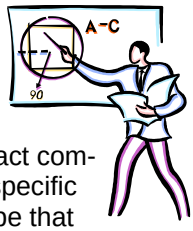
Minimally Invasive Surgery (MIS) with Rapid Recovery; What every patient needs to know. *by Michael C. Welch, MD*

During the last five years our total joint patients have enjoyed smaller and smaller surgical incisions. In some cases and conditions, this has contributed to a quicker recovery from total joint surgery. However, there are two key points that patients should be aware of: 1.) smaller skin incisions have not greatly altered the invasive nature of the total joint surgery that occurs deep to the skin and 2.) both the size and diagnosis of each individual patient determines the appropriate surgical approach for ultimate success of the operation.

We **do** currently use new state of the art surgical instruments that allow us to shrink the patient's incision to the smallest, safest dimension, without compromising the long term success of the prosthetic joint implant. Patients, understandably so, are attracted to the idea that small incisions mean a more rapid recovery. While smaller incisions may be (it hasn't been proven yet) a contributing factor to accelerated recovery, it is important to understand that many other factors impact the post surgical experience. Among these factors include the patient's positive attitude, general good medical health and fitness level, and as well, anesthesia type, post operative pain management, participation in accelerated physical therapy and expedient supportive home discharge planning. For the well being of our patients, we have optimized all of these factors which influence the speed and ease of recovering from total joint replacement surgery. Of these issues, post operative pain management is initiated with regional nerve blocks, long acting medications left in the surgical site to counter act pain and IV anti-inflammatory medications administered during the surgical procedure. Because of these measures, almost all of our total joint patients wake up quite comfortable with little or no discomfort for the first few post operative hours. We have worked very closely over the years with the nursing staff to ensure that pain management remains the highest priority for all of our total joint patients. However, since many of the other factors contributing to an accelerated or rapid recovery may be out of the direct control of the physician, patients vary greatly in their response to a small incision or minimally invasive total joint surgery. For additional information on the rapid recovery program please visit: http://www.myrapidrecovery.com

Computer Aided Orthopaedic Surgery

Computer Aided Orthopaedic Surgery (CAOS) utilizes computers and navigation software in the operating room to aid in total joint surgery. This technology has been available in preliminary form for four or five years now. The idea is to provide the surgeon with exact computer measurements unique to each specific patient during the surgery with the hope that a superior surgical outcome can be created. The main issues with computerized navigation is that it is still in the very early phases of development and as of yet, is not particularly user friendly for the entire operating team. The use of navigation frequently leads to longer surgery times, and may not be helpful in some cases at all. In general the concept is probably here to stay and will gradually find a home in routine total joint surgery as the computer science supporting it becomes more sophisticated. Whether the use of navigation techniques lead to superior surgical results and provide longer lasting total joint surgeries, will take several years of intense scientific study to clarify.



Hard Bearing Technology In Total Hip Replacement Surgery

Traditional metal on plastic total hip bearings have been drastically improved and therefore, patients in their seventies and eighties can expect such a total joint, performed today, to last them a lifetime. For younger patients, fortunately today's hard bearings of metal and ceramic have significantly brightened the picture for the long-term survivorship of a modern total joint. Using today's materials, the life of a well cared for total joint could reasonably extend to 25-30 years in many cases. In a side by side comparisons of these two materials, the ceramic bearings demonstrate slightly better wear rates; however, because of the superior strength of metal, these metal bearings can be made into much larger shapes. The larger sizes of the metal ball mimics the normal size of the human hip importantly leading to lower dislocation rates and greater range of motion/function after surgery. Even larger metal balls are currently being developed and because of this fact, we currently trend toward more metal on metal bearings than ceramic on ceramic. For additional information on the metal/metal or ceramic/ceramic hip systems, please visit: http://www.metalonmetal.com, http://www.orthoave.com and http://www.strykerceramics.com

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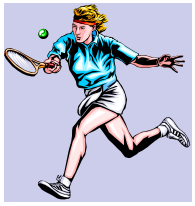
Physical Activities Following Total Joint Replacement Surgery

Over the past decade, the expectations of both patients and surgeons have continued to evolve. Many patients are seeking more from their 'new joints' with examples abound in the media such as the golfing legend Jack Nicklaus making the headlines after his successful hip replacement surgery or football legend Joe Namath after knee replacement surgery. In response to desires of patients to return to athletic activity, the medical community has responded by creating a set of guidelines to promote healthy activity while preventing potential complications.

According the American College of Sports Medicine, a regular exercise program of aerobic activity for 30 minutes three times a week has been shown to be important for psychological and physiologic well being. The benefits of physical activity following total joint replacement surgery have been scientifically documented. Studies have shown that artificial joints last longer in highly active patients performing approved activities when compared to less active patients. Many less active patients fear that they will wear out their new joints by doing too much, but actually they are doing themselves more harm than good! The bottom line is… the stronger the muscles are around the artificial hip or knee the longer it will likely last.

The surgeons of the Hip and Knee Society announced activity guidelines for total hip and knee joint replacement patients in 1999. We present this information as a guideline of activities for total joint replacement patients who have regained the muscle strength and muscle endurance to perform the listed activities. We suggest you discuss with us which activities are appropriate for your joint replacement surgery. Recommended activities following **total hip replacement** surgery include: Golf, stationary bicycling, swimming, walking, doubles tennis, horseshoes, shooting, shuffleboard, croquet and ballroom dancing. Activities which are recommended with experience and good physical shape include: Low impact aerobics, road bicycling, bowling, canoeing, hiking, horseback riding, cross-country skiing, and weight lifting. Activities which are not recommended include: singles tennis, high impact aerobics, baseball, softball, basketball, football, volleyball, handball, racquetball, gymnastics, hockey, lacrosse, rock climbing, soccer and any running or jogging activates. Recommended activities following **total knee replacement** surgery include: low impact aerobics, stationary bicycling, bowling, golf, dancing, horseback riding, croquet, walking, swimming, shooting, shuffleboard, horseshoes and handball. Activities allowed with experience and good physical conditioning include: road bicycling, canoeing, hiking, rowing, cross country skiing, stationary skiing, speed walking, weight lifting, doubles tannins and ice skating. Activities not recommended following total knee replacement surgery include: high impact aerobics, racquetball, squash, rock climbing, football, gymnastics, volleyball, hockey, lacrosse, singles tennis, soccer and any running or jogging activities.



The Vanguard Total Knee and the Oxford Unicompartmental Knee Systems

Dr. Michael Welch was the first surgeon in Cincinnati and amongst the first surgeon in the country to introduce the Vanguard Total Knee System by Biomet, Inc. This new knee system is one of only a few available that is designed specifically for small incision total knee surgeries. What distinguishes this system from other available systems on the market is that it integrates the Oxford Unicompartmental knee for patients who require only a partial replacement of one area of the knee. Special geometric knee system designs create the possibilities for more stability and a greater range of motion after surgery.

The Vanguard's seamless and integrated design allows the surgeon to alter the type of knee implanted during the operation without having to switch to a different total joint system. In addition, computerized navigation software is currently being written by software engineers. This will permit easy use of navigation enhanced surgery with unique applications specifically for the Vanguard and Oxford total knee systems.

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