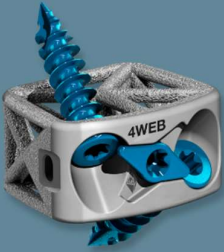
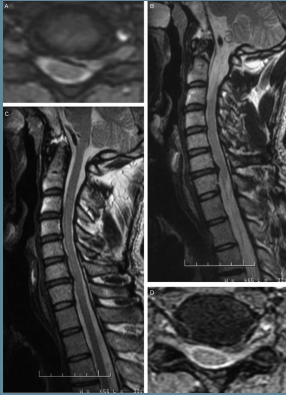


ANTERIOR CERVICAL DISCECTOMY & FUSION ACDF



➤ OBJECTIVES OF SURGERY

THE MAIN REASON FOR THIS SURGERY IS TO DECOMPRESS NERVES AND NERVE ROOTS THAT HAVE BEEN COMPRESSED BY THE PROCESS OF DISC PROTRUSION. THIS STOPS THE NERVES BEING IRRITATED AND RELIEVES THE SYMPTOMS OF PAIN IN THE ARM. IF THERE ARE ANY SYMPTOMS OF NUMBNESS, PINS AND NEEDLES OR WEAKNESS, THE SURGERY CAN ALSO STOP THE WORSENING OF THESE SYMPTOMS AND OFTEN ALLOWS THE NERVES TO RECOVER IN TIME TO NORMAL FEELING AND MOVEMENT OF THE ARMS.

THIS PROCEDURE ALSO RESTORES THE PRE-EXISTING DISTANCE BETWEEN THE VERTEBRAL BODIES, WHICH OPENS THE SPACE FOR THE NERVES THAT EXIT THE SPINAL CANAL. IN SOME PATIENTS, THIS ALSO FACILITATES CORRECTION OF DEFORMITY, EITHER CERVICAL KYPHOSIS OR VERTEBRAL SLIP.

➤ DETAILS OF SURGERY

THE SURGERY IS PERFORMED WITH THE PATIENT LYING ON THE BACK ON A SPECIALISED OPERATING TABLE. THE APPROACH TO THE SPINE IS VIA THE FRONT OF THE NECK, USING AN INCISION IN THE NECK SKIN CREASE. THE BLOOD VESSELS AND MUSCLES ARE MOVED ASIDE FOR A SAFE APPROACH TO THE FRONT OF THE SPINE (VERTEBRAL BODY). NO MUSCLES ARE CUT DURING THIS APPROACH, THUS RECOVERY FROM THIS TYPE OF SURGERY IS QUICKER THAN SURGERY APPROACHED FROM THE BACK.

EACH LEVEL TAKES APPROXIMATELY 30 MINUTES TO COMPLETE, TYPICALLY, TWO LEVELS ARE THE MORE COMMON EXTENT OF THE SURGERY. A WOUND DRAIN IS USED FOR 1-2 DAYS.

➤ DECOMPRESSION

THE DECOMPRESSION OF THE SPINAL CANAL AND NERVE ROOTS IS DIRECT (UNLIKE DURING POSTERIOR APPROACH) AND IS ALSO AIDED BY DISTRACTING THE VERTEBRAE APART, THUS ALSO EFFECTIVELY MAKING THE SPACE FOR NERVES LARGER. THE INTERVERTEBRAL DISC IS REMOVED ENTIRELY DURING THIS SURGERY.

➤ INSTRUMENTATION

THE VERTEBRAL BODIES ARE DISTRACTED AND HELD APART BY A LARGE CAGE (CAGE IS OF TRUSS DESIGN). A PLATE IS USED TO REINFORCE THE CONSTRUCT FROM THE FRONT OF THE VERTEBRAL BODIES AND SCREWS ARE PLACED EITHER VIA INTEGRATED SPACE THROUGH THE CAGE, VIA THE PLATE OR BOTH.

ALL OF THESE ARE MADE OF HIGH-GRADE SURGICAL TITANIUM (CAGES ARE LASER 3D PRINTED) THAT BY THEIR PROPERTIES RESEMBLE REAL BONE AND ITS FLEXIBILITY AND STIFFNESS.

THE DISCS ARE REPLACED BY CAGES THAT ALLOW DISTRACTION OF THE VERTEBRAE AND RECONSTITUTION OF THE TUNNEL FOR EACH NERVE ROOT AS THEY EXIT THE SPINAL CANAL. THEY ALSO ALLOW NORMAL CERVICAL SPINE LORDOSIS TO BE RESTORED.

THE SCREWS, AND CAGES STAY IN THE SPINE INDEFINITELY, AS THEY ARE NOT POSSIBLE TO BE FELT BY THE PATIENTS. THEY COULD BE REMOVED, BUT THIS WOULD REQUIRE ANOTHER SURGERY AND THAT IS MOST OFTEN NOT NECESSARY.

➤ BONE GRAFT FUSION

HIGHLY EFFECTIVE BONE SUBSTITUTE (SYNTHETIC) IS PLACED INSIDE AND THE CAGES TO FORM THE INTER-BODY FUSION. THIS TAKES PLACE OVER SEVERAL WEEKS.

THE SUCCESS OF THE FUSION IS LARGELY OUT OF CONTROL OF THE SURGEON AND THE PATIENT AT THAT POINT, BUT TOGETHER WITH OVER DECADES DEVELOPED SURGICAL TECHNIQUE AND THE PATIENT FOLLOWING A HEALTHY LIFESTYLE WITH ADEQUATE NUTRITION, IN OVER 95% CASES, THE BONE GRAFT IS FUSED WITHIN 6 MONTHS AFTER SURGERY. AT THAT POINT THE METALWARE BECOMES SUPERFLUOUS, AND THE PATIENT COULD ENGAGE IN THE MOST STRENUOUS ACTIVITIES.

➤ COMPLICATIONS OF SURGERY

MUCH LIKE WITH ANY SURGERY, THERE ARE POSSIBLE RISKS AND COMPLICATIONS ASSOCIATED WITH THIS PROCEDURE. THE THREE CATEGORIES OF COMPLICATIONS ARE RELATIVELY COMMON RISKS, RARE RISKS AND THOSE THAT ARE STILL UNCOMMON, BUT VERY RELEVANT TO THIS PARTICULAR PROCEDURE.

MORE COMMON RISKS AND COMPLICATIONS (> 5%) INCLUDE:

- INFECTION, REQUIRING ANTIBIOTICS AND FURTHER TREATMENT
- MINOR PAIN, BLEEDING OR BRUISING AT THE WOUND SITE
- DIFFICULTY WITH SWALLOWING AND VOICE

THESE USUALLY SETTLE IN SHORT AMOUNT OF TIME AND IF SO, REQUIRING ONLY MINOR INTERVENTIONS.

RARE COMPLICATIONS INCLUDE:

- HEART COMPLICATIONS (HEART ATTACK, IRREGULAR BEAT)
- STROKE OR STROKE LIKE COMPLICATIONS
- PULMONARY EMBOLISM
- DEATH

UNCOMMON RISKS AND COMPLICATIONS (1-5%), THAT ARE SPECIFIC TO THIS TYPE OF SURGERY INCLUDE:

- DEEP WOUND BLEEDING (MORE COMMON IF ON PRIOR BLOOD THINNERS)
- NERVE ROOT INJURY CAUSING A WEAKNESS OR NUMBNESS
- FLUID LEAK FROM SPINAL NERVES COVERINGS (CSF)
- ONGOING PERSISTENT ARM NUMBNESS DUE TO NERVE DAMAGE FROM COMPRESSED NERVE ROOTS
- ONGOING PERSISTENT NECK PAIN
- DETERIORATION OF OTHER DISCS. THIS MAY REQUIRE FURTHER SURGERY
- SYMPATHETIC NERVES IRRITATION WITH HOT AND COLD SENSATION TO THE FINGERS
- THE TITANIUM SCREWS MAY BREAK OR DISCONNECT WHILST THE BONE IS FUSING
- HEADACHE RELATED TO NECK POSITION CHANGE

- THE BONE MAY NOT FUSE. THIS MAY CAUSE PAIN AND LOOSENING OF SCREWS OR FAILURE OF IMPLANTS
- SMALL AREAS OF THE LUNG MAY COLLAPSE, INCREASING THE RISK OF CHEST INFECTION. THIS MAY NEED ANTIBIOTICS AND PHYSIOTHERAPY
- IN PATIENTS WITH HIGH BODY-MASS INDEX, INCREASE RISK OF WOUND INFECTION, CHEST INFECTION, HEART AND LUNG COMPLICATIONS, AND THROMBOSIS
- BLOOD CLOT IN THE LEG (DVT) CAUSING LEG PAIN AND SWELLING

RARE RISKS AND COMPLICATIONS (< 1%) THAT ARE SPECIFIC TO THIS PROCEDURE INCLUDE:

- PARAPLEGIA FROM A BLOOD CLOT OR SPINAL CORD IRRITATION. THIS MAY REQUIRE FURTHER SURGERY AND THOUGH CAN BE TEMPORARY, IT MAY ALSO BE PERMANENT
- INJURY TO MAJOR BLOOD VESSELS AND NERVES
- INJURY TO NERVES THAT SUPPLY THE MAIN BREATHING MUSCLE DIAPHRAGM AND NERVES THAT SUPPLY THE VOICE BOX, CAUSING BREATHING ISSUES AND HOARSENESS OF VOICE
- INJURY TO THE WIND PIPE (TRACHEA) AND THE FOOD PIPE (OESOPHAGUS)
- PERSISTENT BLEEDING THAT MAY CAUSE SHORTNESS OF BREATH AFTER SURGERY, THAT MAY REQUIRE EMERGENCY SURGERY

MAJORITY OF THE ABOVE COMPLICATIONS ARE USUALLY TEMPORARY AND RESOLVE IN TIME, SOME MAY REQUIRE FURTHER SURGERY TO BE ADEQUATELY TREATED. THEY CAN HAVE LASTING EFFECTS OR PERMANENT IN NATURE.

➤ RECOVERY AFTER SURGERY

THE LENGTH AND EASE OF RECOVERY IS DEPENDENT ON THE PATIENT'S AGE AND THE COMPLEXITY OF THE SURGERY. HOWEVER, THE FRONT (CERVICAL) APPROACH TO THE SPINE IS MUCH THE SAME IN EXTENT WHETHER ONE OR TWO LEVELS ARE OPERATED ON.

THE HOSPITAL STAY IS USUALLY 1-3 DAYS. DURING THIS TIME THE PATIENT RE-ESTABLISHES THEIR INDEPENDENCE. THE DISCHARGE DESTINATION IS USUALLY HOME. THE SUBSEQUENT 2 WEEKS IS SPENT EXERCISING AND ENGAGING IN INCREASINGLY MORE VIGOROUS ACTIVITY. BY 2 WEEKS AFTER SURGERY, THE PATIENT IS USUALLY ABLE TO DO MAJORITY OF ACTIVITIES THEY WISH, WITH MINOR DIFFICULTIES. BY 6 WEEKS AFTER SURGERY, THE PATIENTS ARE ABLE TO DO MOST ACTIVITIES WITHOUT DIFFICULTIES.

IN GENERAL, IF THE PATIENT IS LESS THAN 40 YEARS OLD, THE ABOVE TIME ESTIMATES CAN BE HALVED AND IF THEY ARE OVER 80, THEY MAY BE DOUBLED.

➤ PAIN AFTER SURGERY

THE MAJORITY OF DISCOMFORT DIRECTLY AFTER AND FOR APPROXIMATELY 2 WEEKS AFTER SURGERY IS DUE TO MUSCLE PAIN. THIS OCCURS AS THE NECK MUSCLES RECOVER FROM NEW POSITION OF ITS VERTEBRAE. THE PAIN IS NOT DANGEROUS AND DOES NOT INDICATE ANY WRONG DOING BY THE PATIENT OR ANY UNDUE EFFECT TO COMPROMISE THE OUTCOME OF THE SURGERY.

THIS PAIN IS WELL MANAGED BY COMBINATION OF EXERCISE (WALKING), REST AND ADEQUATE PAIN RELIEF.

THIS WILL ALL BE EXPLAINED DURING THE HOSPITAL STAY AND DURING POST-OPERATIVE REVIEWS.

PROCEDURE, SIDE AND LEVELS:

Patient label:

IT IS IMPORTANT FOR YOU TO UNDERSTAND THE NATURE OF YOUR OPERATION, WHAT WE ARE TRYING TO ACHIEVE FOR YOU AND THE COMPLICATIONS WHICH CAN OCCUR. OCCASIONALLY SOME OF THESE CAN BE QUITE SIGNIFICANT, INCLUDING PERMANENT LOSS OF FUNCTION AND YOU MAY EVEN NEED TO HAVE A SECOND OPERATION. MOST HOWEVER, ARE LESS SIGNIFICANT AND OFTEN TEMPORARY. WE HAVE MENTIONED SOME OF THESE COMPLICATIONS (ABOVE AND BELOW), BUT IT IS NOT A FULL LIST AND OTHER UNFORESEEN CIRCUMSTANCES CAN ARISE. WE WILL TRY AND GIVE YOU AS MUCH INFORMATION AS YOU NEED AND WANT TO HAVE, SO THAT YOU CAN MAKE THE DECISION WHETHER TO PROCEED WITH YOUR OPERATION.

BY SIGNING BELOW YOU ARE ACKNOWLEDGING THAT YOU:

- ☐ UNDERSTAND THE MAIN PRINCIPLES OF THE OPERATIVE PROCEDURE THAT MY SPINAL SURGEON IS TO UNDERTAKE. I HAVE READ THE INFORMATION BOOKLET PREVIOUSLY GIVEN TO ME ABOUT MY OPERATION. I FEEL THAT I HAVE BEEN GIVEN EVERY OPPORTUNITY TO ASK ANY QUESTIONS ABOUT THIS PROCEDURE.
- ☐ UNDERSTAND THAT THE SURGERY IN QUESTION IS NOT A "CURE", BUT IT IS THE NATURE OF SPINAL SURGERY TO EXPECT A GOOD PERCENTAGE IMPROVEMENT. I ALSO UNDERSTAND THAT IMPROVEMENTS MAY NOT BE IMMEDIATE BUT MAY BE GAINED IN THE LONGER TERM. I AM ALSO AWARE OF THE LIKELY OUTCOME IF I DO NOT HAVE SURGERY.
- ☐ UNDERSTAND THAT COMPLICATIONS WHICH MAY OCCUR WITH THIS TYPE OF PROCEDURE INCLUDE: NERVE ROOT INJURY, DURAL LEAK OR SPINAL CORD INJURY; RECURRENCE OF MY PROBLEM; FIBROUS TISSUE FORMATION; INFECTION AND SKIN AND NERVE PRESSURE PROBLEMS. GENERAL ANAESTHETIC AND MEDICAL PROBLEMS MAY INCLUDE CHEST INFECTIONS, URINARY INFECTIONS, AND OTHERS.
- ☐ UNDERSTAND THAT THERE ARE ALSO VERY RARE BUT SERIOUS COMPLICATIONS WHICH HAVE BEEN RECORDED FROM THIS TYPE OF SURGERY WHICH, IN EXTREME CIRCUMSTANCES, MIGHT INCLUDE: DEATH, PARALYSIS, EYE COMPLICATIONS INCLUDING BLINDNESS, SERIOUS VASCULAR INJURY, STROKE AND OTHER SERIOUS ANAESTHETIC AND MEDICAL PROBLEMS.

SIGNATURE:

DATE:
