

**MOTION CONTROL SHOE DELAYS FATIGUE OF
SHANK MUSCLES IN RUNNERS WITH OVERPRONATING
FEET.**

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EXCESSIVE REARFOOT PRONATION CAN CAUSE VARIOUS OVERUSE INJURIES IN RUNNERS SUCH AS SHIN SPLINTS, PLANTAR FASCIITIS AND ACHILLES TENDINOPATHY.

EXCESSIVE REARFOOT MOTION MAY BE CONTROLLED BY EITHER A FOOT ORTHOSIS OR A MOTION CONTROL SHOE (ANTI PRONATION SHOE)

MOTION CONTROL FOOTWEAR ADOPTS DIFFERENT MEDIAL AND LATERAL MIDSOLE HARDNESS.

HYPOTHESIS:

THE MOTION CONTROL SHOE CAN PREVENT EXCESSIVE SHANK MUSCLE ACTIVATION AND DELAY FATIGUE.

METHODS:

20 RUNNERS WITH EXCESSIVE REARFOOT PRONATION WERE TESTED WITH RUNNING 10 KM ON A TREADMILL WEARING EITHER A MOTION CONTROL RUNNING SHOE OR A NEUTRAL RUNNING SHOE .

ACTIVITY OF THEIR TIBIALIS ANTERIOR AND FIBULARIS LONGUS WERE RECORDED WITH SURFACE ELECTROMYOGRAPHY

RESULTS:

SIGNIFICANT CORRELATIONS WERE FOUND BETWEEN THE CHANGE IN TIB ANT AND FIB LONG ROOT-MEAN SQUARE ELECTROMYOGRAPHY VALUES OF BOTH SHOE CONDITIONS WITH RUNNING MILEAGE.

10,5% AND 9,6% MORE ACTIVITY IN TIB ANT AND FIB LONG IN THE NEUTRAL SHOE /MOTION CONTROL SHOE.

THIS MEANS THAT MOTION CONTROL FOOTWEAR MAY FACILITATE A MORE STABLE ACTIVATION PATTERN AND A HIGHER FATIGUE RESISTANCE OF THE TIBIALIS ANTERIOR AND FIBULARIS LONGUS IN RUNNERS WITH EXCESSIVE REARFOOT PRONATION.

CLINICAL RELEVANCE :

THE MOTION CONTROL SHOE MAY INCREASE THE
RUNNING ENDURANCE AND REDUCE OVERUSE
INJURIES.

**INJURY REDUCTION EFFECTIVENESS OF ASSIGNING
RUNNING SHOES BASED ON PLANTAR SHAPE IN
MARINE CORPS TRAINING**

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A.J.S.M. VOL.38,No 9, p 1759

BACKGROUND

SHOE MANUFACTURERS MARKET

MOTION CONTROL FOR LOW PLANTAR SHAPES

HARDER MIDSOLE MATERIAL TO LIMIT
EXCESSIVE PRONATION

STABILITY FOR NORMAL PLANTAR SHAPES

CONTAINING SOME MOTION CONTROL
FEATURES AND CUSHIONING CHARACTERISTICS

CUSHIONED SHOES FOR HIGH PLANTAR SHAPES

SOFTER MIDSOLE MATERIAL / GREATER SHOCK
ABSORPTION AND PERMIT MORE PRONATION

METHODS

MARINE CORPS RECRUITS DIVIDED IN 2 GROUPS

EXPERIMENTAL GROUP

PROVIDED WITH THE TYPE OF SHOE CORRESPONDING WITH THE FORM OF THE PLANTAR SHAPE

CONTROL GROUP

RECEIVED A STABILITY SHOE REGARDLESS OF PLANTAR SHAPE

BOTH GROUPS 12 WEEK OF INTENSIVE TRAINING

RESULTS

LITTLE DIFFERENCE IN INJURY RISK BETWEEN THE EXPERIMENTAL AND THE CONTROL GROUPS

CONCLUSION

ASSIGNING SHOES BASED ON THE SHAPE OF THE PLANTAR FOOT SURFACE HAD LITTLE INFLUENCE ON INJURIES

**EFFICACY OF SURGERY FOR FEMOROACETABULAR
IMPINGEMENT.**

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A.J.S.M. VOL 38 , No 11 p 2337.

BACKGROUND :

RECENT STUDIES ON THE SURGICAL TREATMENT OF FAI HAVE INTRODUCED A LARGE AMOUNT OF CLINICAL DATA. HOWEVER, THERE HAS BEEN NO CLEAR CONSENSUS OF ITS EFFICACY.

METHODS :

23 REPORTS OF CASE STUDIES ON THE SURGICAL TREATMENT OF FAI WERE IDENTIFIED AND A SYSTEMIC REVIEW WAS CONDUCTED.

THE GOAL OF SURGERY :

1° CORRECT THE CAM DEFORMITY WITH AN OSTEOPLASTY OF THE FEMORAL NECK.

2° CORRECT THE PINCER DEFORMITY WITH TRIMMING OF THE ACETABULAR RIM.

3° THE TORN LABRUM CAN BE REPAIRED OR DEBRIDED.

4° THE DELAMINATED CARTILAGE IS DEBRIDED TO A STABLE EDGE/ IF SUBCHONDRAL BONE IS EXPOSED MICROFRACTURE IS PERFORMED.

OPEN TECHNIQUE versus TOTAL ARTROSCOPIC TECHNIQUE .

NO OCCURRENCE OF FEMORAL HEAD NECROSIS OR FEMORAL NECK FRACTURE.

COMPLICATION RATE IS LOW BUT POSSIBLE ARE :

NEUROPRAXIA (MERALGIA PARESTHETICA)

POSTOPERATIVE PORTAL BLEEDING

P.A.O.

INFECTION

3 QUESTIONS:

1° DOES TREATMENT FOR FAI SUCCEED IN IMPROVING SYMPTOMS.

2° IS LABRAL REFIXATION SUPERIOR TO SIMPLE RESECTION.

3° DOES TREATMENT ALTER THE NATURAL PROGRESSION OF OA IN THIS GROUP OF YOUNG PATIENTS .

23 REPORTS

1 AS LEVEL II EVIDENCE

2 AS LEVEL III EVIDENCE

20 AS LEVEL IIII EVIDENCE

970 CASES (608 MALE AND 362 FEMALE)

MEAN AGE 34,8 YEARS

LENGHT OF FOLLOW UP RANGES FROM 6 MONTHS
TO 5,2 YEARS.

QUESTION 1

DOES TREATMENT FOR FIA IMPROVES SYMPTOMS?

THE OPEN AND ARTROSCOPIC METHOD SIGNIFICANTLY IMPROVED MEAN POSTOPERATIVE SCORES.

NEVERTHELESS IN SOME STUDIES 30% OF THE PATIENTS WERE DISSATISFIED.

QUESTION 2 :

IS LABRAL REFIXATION SUPERIOR TO RESECTION?

ESPINOSA :

IMPROVING WITH LABRAL REFIXATION COMPARING
TO RESECTION.

LAUDE :

NO SIGNIFICANT DIFFERENCE IN OUTCOME.

QUESTION 3:

DOES TREATMENT ALTERS THE PROGRESSION OF OA?

ALL CASE STUDIES ARE RELATIVELY RECENT AND

DEGENERATIVE JOINT DISEASE BEING A GRADUAL

PROCES IT WAS DIFFICULT TO ELUCIDATE THE EFFECT

ON THE PROGRESSION OF OA .

TO SOON TO CONCLUDE WHETHER OPERATIVE

TREATMENT CAN DELAY OR HALT THE PROGRESSION

OF OA.

NIET OPGELOSTE VRAGEN

OPEN OF GESLOTEN TECHNIEK??

WELK ONDERDEEL VAN DE INGREEP (LABRUM,
KRAAKBEEN, WEGNAME CAM OF PINCER)

BRENGT NU IN FEITE BETERSCHAP??

**COMPUTED TOMOGRAPHY ASSESSMENT OF HIP
JOINTS IN ASYMPTOMATIC INDIVIDUALS IN RELATION
TO FEMOROACETABULAR IMPINGEMENT.**

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BACKGROUND:

FEMOROACETABULAR IMPINGEMENT (F.A.I.) HAS BECOME A RECOGNIZED ENTITY PREDISPOSING TO ACETABULAR LABRAL TEARS AND CHONDRAL DAMAGE , LEADING TO DEVELOPMENT OF OSTEOARTHRITIS OF THE HIP JOINT.

PURPOSE:

INVESTIGATE THE PREVALENCE OF BONY ABNORMALITIES PREDISPOSING TO F.A.I. IN ASYMPTOMATIC INDIVIDUALS WITHOUT EXPOSING THE PARTICIPANTS TO UNNECESSARY RADIATION.

4 BONY CHARACTERISTICS PREDISPOSING TO F.A.I.

ACETABULAR RETROVERSION

ACETABULAR OVERCOVERAGE (COXA PROFUNDA)

DECREASED FEMORAL HEAD-NECK OFFSET

ASPHERICITY OF THE FEMORAL HEAD

HYPOTHESIS :

THESE FINDINGS ARE COMMON IN ASYMPTOMATIC INDIVIDUALS.

METHODS :

50 INDIVIDUALS (100 HIPS) RANGING FROM 15 TO 40 YEARS OF AGE WERE SEEN WITH ABDOMINAL TRAUMA OR ABDOMINAL PAIN IN WHOM CT WAS PERFORMED .

THESE PATIENTS WERE NOT KNOWN TO HAVE A HISTORY OF HIP – RELATED PROBLEMS.

SEVERAL MEASUREMENTS ON A 64-SLICE CT SCANNER WERE MADE IN RELATION TO F.A.I.

ACETABULAR VERSION AND CROSSOVER SIGN /
CENTER EDGE ANGLE / ALPHA ANGLE /
FEMORAL HEAD – NECK OFFSET /
FEMORAL HEAD SPHERICITY.

RESULTS :

14 OF 100 JOINTS HAD RELATIVE ACETABULAR RETROVERSION (VERSION ANGLE BENEETH 15°) .

20 OF 100 JOINTS HAD A POSITIVE ACETABULAR CROSSOVER SIGN.

16 OF 100 JOINTS HAD ACETABULAR OVERCOVERAGE (COXA PROFUNDA) .

10 OF 100 JOINTS HAD AN ALPHA –ANGLE GREATER THAN 55° .

12 OF 100 JOINTS HAD DECREASED FEMORAL
HEAD – NECK OFFSET (LESS THAN 8 mm) .

26 OF 100 JOINTS HAD AN ASPHERICAL FEMORAL
HEAD AT THE ANTERIOR HEAD –NECK JUNCTION

DISCUSSION :

31 % OF FEMALE JOINTS AND 48% OF MALE HIP JOINTS HAD AT LEAST 1 PREDISPOSING FACTOR FOR DEVELOPING F.A.I. 39% OF THE JOINTS!!!!

THE MAJORITY (66% TO 100 %) OF THE FINDINGS WERE BILATERAL.

11% OF THE JOINTS HAD MORE THAN 1 PREDISPOSING FACTOR .

TAKE HOME MESSAGE :

IT WOULD BE INTERESTING TO FOLLOW THESE INDIVIDUALS LONG TERM TO SEE WHAT PROPORTION OF THEM DEVELOPS SYMPTOMATIC PROBLEMS.

ANATOMY IS ONLY ONE OF THE CONTRIBUTING FACTORS IN DEVELOPING F.A.I..THE TYPES OF PHYSICAL ACTIVITY AND MECHANISMS OF INJURY ALSO PLAY A ROLE .

THE CLINICAL SIGNIFICANCE OF THESE FINDINGS IN ASYMPTOMATIC INDIVIDUALS REMAINS UNCLEAR.

**EFFECTS OF HYALURONIC ACID ON SUBACROMIAL
SYNOVIAL FIBROBLASTS DERIVED FROM SHOULDERS
WITH ROTATOR CUFF TEARS .**

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BACKGROUND :

INTRA-ARTICULAR HYALURONIC ACID IS KNOWN TO BE EFFECTIVE FOR THE TREATMENT OF ROTATOR CUFF TEARS.

HOWEVER, THE MECHANISM OF ITS ANTI-INFLAMMATORY ACTION HAS NOT BEEN CLARIFIED.

PURPOSE:

TO EXAMINE THE EFFECTS OF H.A. ON THE EXPRESSION
OF MESSENGER RNAs FOR THE PRODUCTION OF

CYTOKINES INTERLEUKIN-1BETA

INTERLEUKIN-6

TNF-ALFA

CYCLOOXYGENASE-2/PROSTAGLANDINE E2

IN FIBROBLASTS DERIVED FROM SHOULDERS WITH
ROTATOR CUFF TEARS.

METHODS :

MONOLAYER CULTURES OF INTERLEUKIN-1-STIMULATED SUBACROMIAL SYNOVIAL FIBROBLASTS.

VARIOUS CONCENTRATIONS OF H.A. WERE ADDED.

GENE EXPRESSION LEVELS WERE ANALYZED WITH QUANTITATIVE REAL-TIME POLYMERASE CHAIN REACTION.

INTRACELLULAR PRODUCTION OF CYCLOOXYGENASE PROTEIN WAS IDENTIFIED WITH WESTERN BLOTTING.

PROSTAGLANDIN CONCENTRATIONS WERE MEASURED WITH ENZYME-LINKED IMMUNOSORBENT SEROLOGIC ASSAY.

RESULTS:

IMMUNOFLUORESCENCE CYTOCHEMISTRY CONFIRMED THE BINDING OF H.A. ON THE FIBROBLASTS.

DOSE-DEPENDENTLY H.A. DECREASES THE EXPRESSION OF PROINFLAMMATORY CYTOKINE MESSENGER RNAs.

DOSE-DEPENDENTLY H.A. DECREASES PRODUCTION OF CYCLOOXYGENASE-2 AND PROSTAGLANDINE E2.

CONCLUSION:

THIS STUDY PROVIDED A BASIS OF THE ANTI-INFLAMMATORY MECHANISM OF H.A. FOR ROTATOR CUFF TEARS.

CLINICAL RELEVANCE:

H.A. MAY BE USED FOR OTHER TYPES OF INFLAMMATORY DISEASES.