RoB(Risk of bias)

연번(Ref ID)		1(#28)
1저자(출판연도)		Jalalvandi(2022)
영역	비뚤림위험	사유
Adequate sequence generation (무작위 배정순서 생성)	■ 낮음 □ 높음 □ 불확실	– This single-blind randomized clinical trial ~ design – Permuted block randomization 수행 Using **permuted block randomization** method with a block size of four, they were **randomly** assigned to two groups~
Allocation concealment (배정순서 은폐)	■ 낮음 □ 높음 □ 불확실	– In order to control the potential selection bias, the **random allocation sequence** was generated by a person who was not involved in the enrollment or screening of participants
Blinding of participants and personnel (연구 참여자, 연구자에 대한 눈가림)	□ 낮음 ■ 높음 □ 불확실	– This single-blind randomized clinical trial ~ design – The **statistician** who analyzed the data was blind to the group allocation of participants.~ **blinding the participants** was not possible. In addition, **the researchers** that provided the treatments for participants were not blind, because they were involved in the intervention process and data collection.
Blinding of outcome assessment (결과평가에 대한 눈가림)	■ 낮음 □ 높음 □ 불확실	
Incomplete outcome data addressed (불충분한 결과자료)	■ 낮음 □ 높음 □ 불확실	– 결측치 없음
Free of selective reporting (선택적 보고)	■ 낮음 □ 높음 □ 불확실	– 프로토콜이 존재하고, 연구방법에 언급된 모든 결과를 보고함 ▪ The trial was retrospectively registered in the Iranian Registry of Clinical Trials (www.irct.ir) on 03/02/2019 as IRCT20180408039227N1. ▪ all methods were performed in accordance with the Declaration of Helsinki.
Other bias : Funding (그 외 비뚤림)	■ 낮음 □ 높음 □ 불확실	– Funding was supported by Kermanshah University of Medical Sciences (reference number: 97831). We affirm that we have **no financial affiliation(including research funding) or involvement with any commercial organization that has a direct financial interest** in any matter included in this manuscript. – The authors declare that they have **no competing interests**.

연번(Ref ID)	2(#1438)	
1저자(출판연도)	Tella(2022)	
영역	비뚤림위험	사유

영역	비뚤림위험	사유
Adequate sequence generation (무작위 배정순서 생성)	■ 낮음 □ 높음 □ 불확실	– This study was a single-blinded randomized clinical trial approved (ADM/DCST/HREC/2047) ~ – **Randomization Permuted block sizes** of 5, 4, and 3 generated a list of computer codes for 51 participants assigned to three groups
Allocation concealment (배정순서 은폐)	■ 낮음 □ 높음 □ 불확실	
Blinding of participants and personnel (연구 참여자, 연구자에 대한 눈가림)	□ 낮음 ■ 높음 □ 불확실	– This study was a <u>single-blinded</u> randomized clinical trial approved (ADM/DCST/HREC/2047) ~ – 참여자에 대한 눈가림은 있으나 연구자에 대한 눈가림 언급없음 – Different days and times of group intervention ensured <u>blinding for participants</u>.
Blinding of outcome assessment (결과평가에 대한 눈가림)	□ 낮음 □ 높음 ■ 불확실	– 평가자의 눈가림에 대한 구체적인 언급 없음
Incomplete outcome data addressed (불충분한 결과자료)	■ 낮음 □ 높음 □ 불확실	– 결측치 없음
Free of selective reporting (선택적 보고)	■ 낮음 □ 높음 □ 불확실	– 프로토콜이 존재하고, 연구방법에 언급된 모든 결과를 보고함 – This study was a single-blinded randomized clinical trial approved **(ADM/DCST/HREC/2047)** by the Health Research and Ethics Committee of a University Teaching Hospital.
Other bias : Funding (그 외 비뚤림)	■ 낮음 □ 높음 □ 불확실	– The authors declare **no conflict of interest** whatsoever.

연번(Ref ID)		3(#58)
1저자(출판연도)		Caldas(2021)
영역	비뚤림위험	사유

영역	비뚤림위험	사유
Adequate sequence generation (무작위 배정순서 생성)	■ 낮음 □ 높음 □ 불확실	– This is a single-blind randomized controlled trial, ~ – The randomization performed by participating **researcher** <u>not involved with the recruitment or evaluation of patients</u>. – The allocation in the groups was randomized and <u>concealed and was achieved through the use of **random numbering, sealed and opaque envelops**</u>.
Allocation concealment (배정순서 은폐)	■ 낮음 □ 높음 □ 불확실	
Blinding of participants and personnel (연구 참여자, 연구자에 대한 눈가림)	□ 낮음 ■ 높음 □ 불확실	– This is a <u>single-blind</u> randomized controlled trial, ~ – 연구참여자, 결과평가자(evaluator) 눈가림 적용 ▪ **The evaluator researcher was blind**, without any knowledge as to which group each patients was included in and **patients were blind** to the type of TENS. ▪ (assessment) The functional capacity and quality-of-life questionnaires were then applied: Roland-Morris and Short Form-36 health survey (SF-36)~. This **process was by the same evaluator**, all in the same sequence~
Blinding of outcome assessment (결과평가에 대한 눈가림)	■ 낮음 □ 높음 □ 불확실	
Incomplete outcome data addressed (불충분한 결과자료)	□ 낮음 ■ 높음 □ 불확실	– 대상자 56명 중 12명 drop-out(21.4%) Figure 1 shows the participants not included and the **12 losses (three in each group)**~ Possible limitations of this study are **the nonachievement of intention to treat and a drop rate of approximately 21%**.
Free of selective reporting (선택적 보고)	■ 낮음 □ 높음 □ 불확실	– 프로토콜이 존재하고, 연구방법에 언급된 모든 결과를 보고함 ▪ This is a single-blind randomized controlled trial,~ which was accepted by the ethics committee with the following registration number(1.953.896) and registered and accepted in Clinical Trials with the following prospective registry: NCT03111199
Other bias : Funding (그 외 비뚤림)	■ 낮음 □ 높음 □ 불확실	– Financial disclosure statements have been obtained, and **no conflicts of interest have been reported** by the authors or by any individuals in control of the content of this article.

연번(Ref ID)	4(#47)	
1저자(출판연도)	Dias(2021)	
영역	비뚤림위험	사유
Adequate sequence generation (무작위 배정순서 생성)	■ 낮음 □ 높음 □ 불확실	– This is a randomized, double-blind clinical trial, ~ – the participants were **randomized using random blocks** Before, block randomization was perfomed for TENS group. For this, each block contained 15 papers, 5 containing of GT100Hz, 5 of GT2Hz and 5 of GTP. When the 15 papers were drawn, a new block was formed.
Allocation concealment (배정순서 은폐)	■ 낮음 □ 높음 □ 불확실	
Blinding of participants and personnel (연구 참여자, 연구자에 대한 눈가림)	■ 낮음 □ 높음 □ 불확실	– This is a randomized, double-blind clinical trial, – In total, these blocks were repeated 7 times, totalizing 105 **participants**, who were blinded to the intervention. In addition, 1 **physiotherapist** who was unaware of the study performed the intervention.
Blinding of outcome assessment (결과평가에 대한 눈가림)	□ 낮음 □ 높음 ■ 불확실	– 평가자의 눈가림에 대한 구체적인 언급 없음
Incomplete outcome data addressed (불충분한 결과자료)	■ 낮음 □ 높음 □ 불확실	– 연구방법, 연구결과 대상자 수가 동일(결측치 없음)
Free of selective reporting (선택적 보고)	■ 낮음 □ 높음 □ 불확실	– 프로토콜이 존재하고, 연구방법에 언급된 모든 결과를 보고함 　▪ number 1145540 and prospectively registered on ensaiosclinicos.gov.br(RBR-59YGR8)
Other bias : Funding (그 외 비뚤림)	■ 낮음 □ 높음 □ 불확실	– The authors declare they have **no conflicts of interest**

연번(Ref ID)	5(#238)	
1저자(출판연도)	Facci(2011)	
영역	비뚤림위험	사유

영역	비뚤림위험	사유
Adequate sequence generation (무작위 배정순서 생성)	■ 낮음 □ 높음 □ 불확실	– the patients were randomized, through **numbers created by a computer**, into three groups: 1) TENS (n = 50); 2) interferential current (n = 50); 3) controls (n = 50). The randomized design was balanced in groups of 50. – A set of **sealed**, sequentially numbered **opaque envelopes** was used for study group assignment.
Allocation concealment (배정순서 은폐)	■ 낮음 □ 높음 □ 불확실	
Blinding of participants and personnel (연구 참여자, 연구자에 대한 눈가림)	□ 낮음 ■ 높음 □ 불확실	– DESIGN AND SETTING: **Single-blind** randomized controlled – the study was single blinded, i.e. <u>the examiner had no contact</u> with the patient during the treatment ~ – The <u>examination was done by an independent physiotherapist</u> before and after the protocol of ten treatment sessions. This examiner did not follow the treatment and <u>did not know which group the patients had been included</u> in.~ however, the pain intensity was also <u>evaluated</u> using VAS among the patients that received TENS and interferential current.
Blinding of outcome assessment (결과평가에 대한 눈가림)	■ 낮음 □ 높음 □ 불확실	
Incomplete outcome data addressed (불충분한 결과자료)	■ 낮음 □ 높음 □ 불확실	– 대상자 150명 중 13명 drop-out(8.66%) - Thus 150 patients were included in the study and evaluated.~ **Thirteen patients (8.66%) gave up** during the treatment, of whom six (12%) were in group 3 (2%). - Although 13 patients(8.66%) did not finish the study, this small number of losses was not enough to influence the significant results of this clinical trial. – ITT 분석을 수행하여 결과에 영향을 끼치지 않음 The **intention-to-treat** analysis included all the patients with VAS pain evaluations, and the worst results were considered to be losses
Free of selective reporting (선택적 보고)	□ 낮음 □ 높음 ■ 불확실	– 연구방법에 제시한 모든 결과는 언급되었으나, 시술 후 통증점수(VAS), 기능장애(RMDQ)결과는 그래프만 제시되고 결과값 없이 유의성만 보고하였음
Other bias : Funding (그 외 비뚤림)	■ 낮음 □ 높음 □ 불확실	– Sources of funding: None – Conflict of interest: None

연번(Ref ID)		6(#209)
1저자(출판연도)		Choi(2009)
영역	비뚤림위험	사유
Adequate sequence generation (무작위 배정순서 생성)	□ 낮음 □ 높음 ■ 불확실	– 무작위 배정순서에 대한 구체적인 언급 없음
Allocation concealment (배정순서 은폐)	□ 낮음 □ 높음 ■ 불확실	– 언급 없음
Blinding of participants and personnel (연구 참여자, 연구자에 대한 눈가림)	□ 낮음 □ 높음 ■ 불확실	– 눈가림에 대한 언급 없음
Blinding of outcome assessment (결과평가에 대한 눈가림)	□ 낮음 □ 높음 ■ 불확실	
Incomplete outcome data addressed (불충분한 결과자료)	■ 낮음 □ 높음 □ 불확실	– 연구방법, 연구결과 대상자 수가 동일(결측치 없음)
Free of selective reporting (선택적 보고)	■ 낮음 □ 높음 □ 불확실	– 연구방법에 언급된 모든 결과를 보고함
Other bias : Funding (그 외 비뚤림)	□ 낮음 □ 높음 ■ 불확실	– 언급없음

연번(Ref ID)		7(#266)
1저자(출판연도)		Itoh(2009)
영역	비뚤림위험	사유
Adequate sequence generation (무작위 배정순서 생성)	■ 낮음 □ 높음 □ 불확실	– The design of this study was a randomly controlled clinical trial <u>using a block randomised procedure</u>. – According to a block **randomised allocation** table(<u>generated by Sample Size, version 2.0, Int</u>), the enrolled patients were allocated to (1) the control(CT) group (2) the acupuncture (ACP) group (3) the transcutaneous electrical nerve stimulation(TENS) group or (4) the acupuncture and TENS (A&T) group.
Allocation concealment (배정순서 은폐)	■ 낮음 □ 높음 □ 불확실	
Blinding of participants and personnel (연구 참여자, 연구자에 대한 눈가림)	□ 낮음 □ 높음 ■ 불확실	– 눈가림에 대한 구체적인 언급 없음
Blinding of outcome assessment (결과평가에 대한 눈가림)	□ 낮음 □ 높음 ■ 불확실	
Incomplete outcome data addressed (불충분한 결과자료)	■ 낮음 □ 높음 □ 불확실	– 대상자 32명 중 6명 drop-out(18.7%) <u>One</u> patient in the ACP, <u>two</u> patients in the TENS group, <u>one</u> patient in the A&T group, and <u>one</u> patient in the CT group dropped out as they had not responded to the respective treatment.~ The <u>dropout rate was not significantly different among the groups</u>. The analyses were performed on the 26 patients who completed the study and provided required information
Free of selective reporting (선택적 보고)	■ 낮음 □ 높음 □ 불확실	– 연구방법에 언급된 모든 결과를 보고함
Other bias : Funding (그 외 비뚤림)	□ 낮음 □ 높음 ■ 불확실	– 언급없음

연번(Ref ID)	8(#279)	
1저자(출판연도)	Kofotolis(2008)	
영역	비뚤림위험	사유
Adequate sequence generation (무작위 배정순서 생성)	□ 낮음 □ 높음 ■ 불확실	– 무작위 배정순서에 대한 구체적인 언급 없음
Allocation concealment (배정순서 은폐)	■ 낮음 □ 높음 □ 불확실	– 순환법 등의 순서를 사용하여 배정순서 은폐가 이루어짐 The 92 individuals included in <u>the sample were given a</u> <u>**number-name and each number-name encountered w**</u> <u>**as sequentially allocated to each of the four groups**</u> <u>sta</u> <u>rting from the first through the fourth in line</u> with the o rder of experimental conditions presentation
Blinding of participants and personnel (연구 참여자, 연구자에 대한 눈가림)	□ 낮음 ■ 높음 □ 불확실	– This was a sequentially allocated, **single-blinded** and controlled study.
Blinding of outcome assessment (결과평가에 대한 눈가림)	□ 낮음 □ 높음 ■ 불확실	– 평가자의 눈가림에 대한 구체적인 언급 없음
Incomplete outcome data addressed (불충분한 결과자료)	■ 낮음 □ 높음 □ 불확실	– 대상자 92명 중 4명 drop-out(4.3%) **4 patients dropped out** during the intervention period. This was due to inconvenience with transportation (for two subjects) whereas two subjects (randomized to the placebo group) dropped out due to perception that treatment was of no help
Free of selective reporting (선택적 보고)	■ 낮음 □ 높음 □ 불확실	– 연구방법에 언급된 모든 결과를 보고함
Other bias : Funding (그 외 비뚤림)	□ 낮음 □ 높음 ■ 불확실	– 언급 없음

연번(Ref ID)		9(#1344)
1저자(출판연도)		Jarzem(2005)
영역	비뚤림위험	사유

영역	비뚤림위험	사유
Adequate sequence generation (무작위 배정순서 생성)	■ 낮음 □ 높음 □ 불확실	– 난수표 이용, 등록 순서에 따라 순차적으로 무작위 배정 Patients were randomized by random number tables into one of four treatment groups upon enrollment in this study ~The patients were assigned to the group in a consecutive fashion depending on the order of enrollment.
Allocation concealment (배정순서 은폐)	□ 낮음 □ 높음 ■ 불확실	– 구체적인 언급 없음
Blinding of participants and personnel (연구 참여자, 연구자에 대한 눈가림)	□ 낮음 □ 높음 ■ 불확실	– In this study, 324 patients with chronic low back pain with blinded randomization to one of four treatment groups~ – 결과측정을 위해 훈련받은 물리치료사 1인 눈가림 진행, 참여자의 눈가림에 대한 구체적 언급 없음 A single observer using a gravity goniometer at each visit measured objective physical measurements of straight leg raising, hip, and lumbar flexion. This was a blinded observer, who was a trained physiotherapist, and was not the TENS technician responsible for the initial adjustment of the device.
Blinding of outcome assessment (결과평가에 대한 눈가림)	■ 낮음 □ 높음 □ 불확실	
Incomplete outcome data addressed (불충분한 결과자료)	□ 낮음 ■ 높음 □ 불확실	– 대상자 350명 중 26명 drop-out: 무작위 배정 전 1명 제외, 배정 후 선정기준에 부적합하여 5명 탈락 Twenty-six patients(7.4%) were excluded due to inability to return to clinic for all the evaluation sessions ~ – 3개월 추적관찰 시, 전체 환자의 70%만 응답함 (30%의 탈락률) Only 70% of the patients returned a diary after three months with a totally complete visual analog scale for pain
Free of selective reporting (선택적 보고)	□ 낮음 ■ 높음 □ 불확실	– 3개월 시점에서 통증 결과 관련 데이터를 전달받지 못해 분석 불가 At each visit measures of outcome were examined. The patient filled out a diary to keep track of ancillary care, frequency of pain medication usage, intensity of pain [visual analog scale] and other general medical concerns, as well as the usage of the TENS unit. (한계)~ The visual analog scale data for evaluation of efficacy of pain relief was not analyzed because of incomplete data.
Other bias : Funding (그 외 비뚤림)	■ 낮음 □ 높음 □ 불확실	– The authors have not received financial support for the completion of this project.

연번(Ref ID)		10(#1397)
1저자(출판연도)		Topuz(2004)
영역	비뚤림위험	사유
Adequate sequence generation (무작위 배정순서 생성)	■ 낮음 □ 높음 □ 불확실	– The aim of this randomized, controlled study was to determine and compare the efficacy of ~ – 밀봉된 봉투를 사용하여 무작위 배정 실시
Allocation concealment (배정순서 은폐)	■ 낮음 □ 높음 □ 불확실	Random assignment was performed by **drawing from sealed envelopes** <u>to ensure approximately equal numbers of patients in the treatment groups.</u>
Blinding of participants and personnel (연구 참여자, 연구자에 대한 눈가림)	□ 낮음 ■ 높음 □ 불확실	– 연구자에 대한 눈가림 수행되지 않았음 The major limitations in the study design includes **potential bias** because of <u>inability to blind the investigator to the treatment modality</u>.
Blinding of outcome assessment (결과평가에 대한 눈가림)	□ 낮음 □ 높음 ■ 불확실	– 구체적인 언급없음
Incomplete outcome data addressed (불충분한 결과자료)	■ 낮음 □ 높음 □ 불확실	– 대상자 60명 중 5명 drop-out(8.3%) **Five dropouts(8.3% of sample)** for personal reasons; <u>three of the dropouts were in the Placebo TENS group and two were in the percutaneous neuromodulation therapy group</u>
Free of selective reporting (선택적 보고)	■ 낮음 □ 높음 □ 불확실	– 연구방법에 언급된 모든 결과를 보고하고 있음
Other bias : Funding (그 외 비뚤림)	□ 낮음 □ 높음 ■ 불확실	– 언급없음

연번(Ref ID)		11(#385)
1저자(출판연도)		Cheing(1999)
영역	비뚤림위험	사유
Adequate sequence generation (무작위 배정순서 생성)	■ 낮음 □ 높음 □ 불확실	– They were randomly assigned to the TENS or placebo group, after stratification by gender as well as duration and severity of pain.
Allocation concealment (배정순서 은폐)	□ 낮음 □ 높음 ■ 불확실	– 배정순서 은폐에 대한 구체적인 언급 없음
Blinding of participants and personnel (연구 참여자, 연구자에 대한 눈가림)	□ 낮음 □ 높음 ■ 불확실	– 눈가림에 대한 언급 없음
Blinding of outcome assessment (결과평가에 대한 눈가림)	□ 낮음 □ 높음 ■ 불확실	– 언급없음
Incomplete outcome data addressed (불충분한 결과자료)	■ 낮음 □ 높음 □ 불확실	– 결측치가 발생하지 않음
Free of selective reporting (선택적 보고)	■ 낮음 □ 높음 □ 불확실	– 연구방법에 언급된 모든 결과를 보고하고 있음
Other bias : Funding (그 외 비뚤림)	■ 낮음 □ 높음 □ 불확실	– No commercial party having a direct financial interest in the results of the research supporting this article~

연번(Ref ID)	12(#434)	
1저자(출판연도)	Deyo(1990)	
영역	비뚤림위험	사유
Adequate sequence generation (무작위 배정순서 생성)	■ 낮음 □ 높음 □ 불확실	– The subjects were randomly assigned to one of four groups [Treatment assignment] A pseudo-random assignment of the patients to the 3 groups, TENS(14), placebo-TENS(12) and control(16), was done controlling for 4 variables: sex, weight, diagnosis and pain severity.
Allocation concealment (배정순서 은폐)	■ 낮음 □ 높음 □ 불확실	–
Blinding of participants and personnel (연구 참여자, 연구자에 대한 눈가림)	□ 낮음 □ 높음 ■ 불확실	– 연구참여자의 눈가림이 있었으나, 연구자에 대한 눈가림 여부는 알 수 없음 On the basis of the questions answered at the end of the intervention period, **patient blinding with regarded to TENS therapy was partially successful.** Among the subjects receiving true TENS, 100% guess that they had functioning units were functioning properly. In the sham-TENS group, 84% guesssed that they had functioning units, but their degree of certainty was less than that of the true-TENS group
Blinding of outcome assessment (결과평가에 대한 눈가림)	■ 낮음 □ 높음 □ 불확실	– 평가자의 눈가림 진행, 치료 과정에 참여했던 연구보조원은 결과에 대한 평가 미참여 All measures of outcome were obtained **either by the subjects themselve or by evaluators(physicians or nurse practitioners) blinded** to the TENS or exercise assignmets.~ Only the research assistant who supervised both TENS and exercise was aware of the treatment assignments, and she **performed no evaluations outcome.**
Incomplete outcome data addressed (불충분한 결과자료)	■ 낮음 □ 높음 □ 불확실	– 대상자 145명 중 20명 drop-out(14%), 결측치 및 결측사유가 군간 유사함 145 subjcts were enrolled and randomly assigned to study treatments~ **By the four-week assessment, 20 subjects had dropped out(14%)**: (five from group 1; three from group 2; five from group 3; seven from group 4) The **most common reasons for dropping out** were inconveniencd and difficulties with transportation~
Free of selective reporting (선택적 보고)	□ 낮음 □ 높음 ■ 불확실	– 시술 전의 통증 값(VAS)은 모든 군(4개)에 대한 값이 개별로 제시되어 있으나, 시술 후의 통증 값은 2군씩 묶어 제시하였음
Other bias : Funding (그 외 비뚤림)	□ 낮음 ■ 높음 □ 불확실	– Supported by **a grant(9920) from the Robert Wood Johnson Foundation**, by a Multipurpose Arthritis Center Grant ~

연번(Ref ID)	13(#316)	
1저자(출판연도)	Bertalanffy(2005)	
영역	비뚤림위험	사유
Adequate sequence generation (무작위 배정순서 생성)	■ 낮음 □ 높음 □ 불확실	– [Study Design] 100 patients aged 19 years or older were screened for participation in this **randomized,** placebo-controlled, double-blind study.
Allocation concealment (배정순서 은폐)	■ 낮음 □ 높음 □ 불확실	– The randomization was obtained with **computer-generated codes**, which were **sealed** in **sequentially numbered opaque envelopes.**
Blinding of participants and personnel (연구 참여자, 연구자에 대한 눈가림)	■ 낮음 □ 높음 □ 불확실	– randomized, placebo-controlled, **double-blind** study – Paramedic A recorded all baseline parameters and measurements. Then paramedic A left the site and paramedic B entered. Paramedic B performed TENS in accordance with the following procedure in the absence of paramedic A. At the end of transportation, paramedic A performed data collection, again in the absence of paramedic B.
Blinding of outcome assessment (결과평가에 대한 눈가림)	■ 낮음 □ 높음 □ 불확실	– This **blinding scenario had been well** rehearsed before starting the trial and **was controlled through five audits by two physicians of our university hospital** during the data-collection phase.
Incomplete outcome data addressed (불충분한 결과자료)	■ 낮음 □ 높음 □ 불확실	– 대상자 72명 중 drop-out(12.5%), 결측치 및 결측사유가 군간 유사함 72 patients signed the informed consent and were enrolled in this study. ~ After obtaining the final diagnosis from hospital the day after data collection, **6 patients in group1 and 3 patients in group2 had to be excluded** from data analysis because of pain from other than spinal or muscular disorders.
Free of selective reporting (선택적 보고)	■ 낮음 □ 높음 □ 불확실	– 연구방법에 언급된 모든 결과를 보고하고 있음
Other bias : Funding (그 외 비뚤림)	■ 낮음 □ 높음 □ 불확실	– Supported by an unrestricted study grant of **the Vienna Red Cross, Vienna**, Austria.

연번(Ref ID)		14(#406)
1저자(출판연도)		Herman(1994)
영역	비뚤림위험	사유
Adequate sequence generation (무작위 배정순서 생성)	■ 낮음 □ 높음 □ 불확실	– Numerical randomization schedules were generated by **compute**r in balanced block sizes of 10
Allocation concealment (배정순서 은폐)	□ 낮음 □ 높음 ■ 불확실	– 구체적인 언급 없음
Blinding of participants and personnel (연구 참여자, 연구자에 대한 눈가림)	■ 낮음 □ 높음 □ 불확실	– **Blindness of personnel and subjects to each subject's group allocation was maintained** throughout the trial, except for the therapist who applied the TENS
Blinding of outcome assessment (결과평가에 대한 눈가림)	□ 낮음 □ 높음 ■ 불확실	– 구체적인 언급 없음
Incomplete outcome data addressed (불충분한 결과자료)	□ 낮음 ■ 높음 □ 불확실	– The most obvious limitation of the study is the **disproportionate drop-out rate among the subjects**. – Although each group began the study with 29 subjects, complete data on all outcome measures were available for <u>only 15 subjects((51.7%) in Group A and 26 subjects(89.7%)</u> in Group B.
Free of selective reporting (선택적 보고)	□ 낮음 □ 높음 ■ 불확실	– 연구방법에 제시한 모든 결과를 언급하긴 하였으나, 시술 후 통증점수(VAS), 기능장애(RMDQ)결과는 그래프만 제시되고 결과값 없이 유의성만 보고하였음
Other bias : Funding (그 외 비뚤림)	■ 낮음 □ 높음 □ 불확실	– 캐나다 보건복지부로부터 지원받음 This work was supported by a grant from **National Health and Welfare Canada**(#6606-4077-60).