

Systematic reviews, meta-analyses**Internal validity**

The study addresses an appropriate and clearly focused question

A description of the methodology used is included

The literature search is sufficiently rigorous to identify all the relevant studies

Study quality is assessed

Data extraction is clearly described

The most important characteristics from the original research are described

There are enough similarities between the selected studies to make combining them reasonable

Statistical pooling is correctly performed

Statistical heterogeneity is adequately taken into account

Study quality is taken into account

Overall assessment of the study

Are the results of the systematic review:

- valid?
- applicable to the patient group targeted in the search question?

Checklist Randomised Controlled Trials**Internal validity**

The study addresses an appropriate and clearly focused question

The assignment of subjects to treatment groups is randomized

An adequate concealment method is used

Subjects are kept blind about treatment allocation

Outcome assessors are kept blind about treatment allocation

The treatment and control groups are similar at the start of the trial

The only difference between groups is the treatment under investigation

All relevant outcomes are measured in a standard, valid and reliable way

All the subjects are analyzed in the groups to which they were randomly allocated (intention to treat)

Overall assessment of the study

Are the results of the study:

- valid?
- applicable to the patient group targeted in the search question?

Checklist Randomised Controlled Trials (Park, Kang et al. 2007)

Internal validity

The study addresses an appropriate and clearly focused question

Yes

The assignment of subjects to treatment groups is randomized

Yes

An adequate concealment method is used

Yes

Subjects are kept blind about treatment allocation

Yes

Outcome assessors are kept blind about treatment allocation

Yes

The treatment and control groups are similar at the start of the trial

Yes

The only difference between groups is the treatment under investigation

Yes

All relevant outcomes are measured in a standard, valid and reliable way

Yes

All the subjects are analyzed in the groups to which they were randomly allocated (intention to treat)

No: although this is stated in the article, 2 vs. 4 patients were excluded from analyses because of poor compliance

Overall assessment of the study

Are the results of the study:

- valid? yes
- applicable to the patient group targeted in the search question? yes

Checklist COHORT studies (Allgayer, Dietrich et al. 2005)

Internal validity

The study addresses an appropriate and clearly focused question

Yes

The cohort being studied is selected from source populations that are comparable in all respects other than the factor under investigation

Unclear – patients were referred, likely that the more severe cases were referred and less severe cases not

The likelihood that some eligible subjects might have the outcome at the time of enrolment is assessed and taken into account in the analysis

Not applicable

Comparison by exposure status is made between full participants and those lost to follow up

No – 24/95 patients lost to follow-up. Unclear why

The outcomes are clearly defined

Yes

The assessment of outcome is made blind to exposure status

No

The measure of assessment of exposure is reliable

Not applicable

The main potential confounders are identified and taken into account in the design and analysis

Not applicable

Overall assessment of the study

Are the results of the study:

- valid? Yes
- applicable to the patient group targeted in the search question? Yes

Checklist COHORT studies (Bartlett, Sloots et al. 2011)

Internal validity

The study addresses an appropriate and clearly focused question

Yes

The cohort being studied is selected from source populations that are comparable in all respects other than the factor under investigation

Unclear – patients were referred, likely that the more severe cases were referred and less severe cases not

The likelihood that some eligible subjects might have the outcome at the time of enrolment is assessed and taken into account in the analysis

Not applicable

Comparison by exposure status is made between full participants and those lost to follow up

No – 7/19 patients were not reported on at 2.4 years of follow-up. Unclear why

The outcomes are clearly defined

Yes

The assessment of outcome is made blind to exposure status

No

The measure of assessment of exposure is reliable

Not applicable

The main potential confounders are identified and taken into account in the design and analysis

Not applicable

Overall assessment of the study

Are the results of the study:

- valid? Yes
- applicable to the patient group targeted in the search question? Yes

Checklist COHORT studies (de Miguel, Oteiza et al. 2011)

Internal validity

The study addresses an appropriate and clearly focused question

Yes

The cohort being studied is selected from source populations that are comparable in all respects other than the factor under investigation

Yes

The likelihood that some eligible subjects might have the outcome at the time of enrolment is assessed and taken into account in the analysis

Not applicable

Comparison by exposure status is made between full participants and those lost to follow up

Not applicable: no loss to follow-up

The outcomes are clearly defined

Yes

The assessment of outcome is made blind to exposure status

No-non-blinded study

The measure of assessment of exposure is reliable

Yes

The main potential confounders are identified and taken into account in the design and analysis

No

Overall assessment of the study

Are the results of the study:

- valid? Yes
- applicable to the patient group targeted in the search question? Yes

Checklist COHORT studies (Gillespie, Barbaric et al. 1985)

Internal validity

The study addresses an appropriate and clearly focused question

Yes

The cohort being studied is selected from source populations that are comparable in all respects other than the factor under investigation

This is a single case study form a larger series, unclear why not more cases/complete series was reported on

The likelihood that some eligible subjects might have the outcome at the time of enrolment is assessed and taken into account in the analysis

Not applicable

Comparison by exposure status is made between full participants and those lost to follow up

Not applicable

The outcomes are clearly defined

No
 The assessment of outcome is made blind to exposure status
 No
 The measure of assessment of exposure is reliable
 Not applicable
 The main potential confounders are identified and taken into account in the design and analysis
 No
Overall assessment of the study
 Are the results of the study:
 - valid? Valid as a case study
 - applicable to the patient group targeted in the search question? Yes

Checklist COHORT studies (Ho and Tan 1997)

Internal validity

The study addresses an appropriate and clearly focused question
 Yes
 The cohort being studied is selected from source populations that are comparable in all respects other than the factor under investigation
 Unclear what the source population was. 1/11 patients had had cervical cancer; 10/11 patients had had rectal cancer
 The likelihood that some eligible subjects might have the outcome at the time of enrolment is assessed and taken into account in the analysis
 Not applicable
 Comparison by exposure status is made between full participants and those lost to follow up
 No loss to follow-up reported
 The outcomes are clearly defined
 Yes
 The assessment of outcome is made blind to exposure status
 No
 The measure of assessment of exposure is reliable
 Not applicable
 The main potential confounders are identified and taken into account in the design and analysis
 Not applicable
Overall assessment of the study
 Are the results of the study:
 - valid? Yes
 - applicable to the patient group targeted in the search question? Yes

Checklist COHORT studies (Ho 2001)

Internal validity

The study addresses an appropriate and clearly focused question
 Yes
 The cohort being studied is selected from source populations that are comparable in all respects other than the factor under investigation
 Unclear what the source population was
 The likelihood that some eligible subjects might have the outcome at the time of enrolment is assessed and taken into account in the analysis
 Not applicable
 Comparison by exposure status is made between full participants and those lost to follow up
 No loss to follow-up
 The outcomes are clearly defined
 Yes
 The assessment of outcome is made blind to exposure status
 No
 The measure of assessment of exposure is reliable
 Not applicable
 The main potential confounders are identified and taken into account in the design and analysis
 Not applicable
Overall assessment of the study

Are the results of the study:

- valid? Yes
- applicable to the patient group targeted in the search question? Yes

Checklist COHORT studies (Holzer, Rosen et al. 2008)

Internal validity

The study addresses an appropriate and clearly focused question

Yes

The cohort being studied is selected from source populations that are comparable in all respects other than the factor under investigation

Unclear what the source population was, in addition, 1/7 patients had Crohn's disease

The likelihood that some eligible subjects might have the outcome at the time of enrolment is assessed and taken into account in the analysis

Not applicable

Comparison by exposure status is made between full participants and those lost to follow up

No loss to follow-up

The outcomes are clearly defined

Yes

The assessment of outcome is made blind to exposure status

No

The measure of assessment of exposure is reliable

Not applicable

The main potential confounders are identified and taken into account in the design and analysis

No

Overall assessment of the study

Are the results of the study:

- valid? Yes
- applicable to the patient group targeted in the search question? Yes

Checklist COHORT studies (Jarrett, Matzel et al. 2005)

Internal validity

The study addresses an appropriate and clearly focused question

Yes

The cohort being studied is selected from source populations that are comparable in all respects other than the factor under investigation

Yes

The likelihood that some eligible subjects might have the outcome at the time of enrolment is assessed and taken into account in the analysis

Not applicable

Comparison by exposure status is made between full participants and those lost to follow up

Not applicable

The outcomes are clearly defined

Yes

The assessment of outcome is made blind to exposure status

No

The measure of assessment of exposure is reliable

Yes – though actual figures FIQL not reported

The main potential confounders are identified and taken into account in the design and analysis

Not applicable

Overall assessment of the study

Are the results of the study:

- valid? Yes
- applicable to the patient group targeted in the search question? Yes

Checklist COHORT studies (Kim, Yu et al. 2011)

Internal validity

The study addresses an appropriate and clearly focused question

Yes

The cohort being studied is selected from source populations that are comparable in all respects other than the factor under investigation

Yes

The likelihood that some eligible subjects might have the outcome at the time of enrolment is assessed and taken into account in the analysis

Not applicable

Comparison by exposure status is made between full participants and those lost to follow up

Not applicable

The outcomes are clearly defined

Yes

The assessment of outcome is made blind to exposure status

No

The measure of assessment of exposure is reliable

Yes

The main potential confounders are identified and taken into account in the design and analysis

Not applicable

Overall assessment of the study

Are the results of the study:

- valid? Yes
- applicable to the patient group targeted in the search question? Yes

Checklist Case Control studies (Koch, Rietveld et al. 2009)

Internal validity

The study addresses an appropriate and clearly focused question

Yes

The cohort being studied is selected from source populations that are comparable in all respects other than the factor under investigation

Yes

The likelihood that some eligible subjects might have the outcome at the time of enrolment is assessed and taken into account in the analysis

Not applicable

Comparison by exposure status is made between full participants and those lost to follow up

Not applicable

The outcomes are clearly defined

Yes

The assessment of outcome is made blind to exposure status

No

The measure of assessment of exposure is reliable

Yes

The main potential confounders are identified and taken into account in the design and analysis

Not applicable

Overall assessment of the study

Are the results of the study:

- valid? Yes
- applicable to the patient group targeted in the search question? Yes

Checklist Case Control studies (Laforest, Bretagnol et al. 2012)

Internal validity

The study addresses an appropriate and clearly focused question

Yes

The cohort being studied is selected from source populations that are comparable in all respects other than the factor under investigation

Yes

The likelihood that some eligible subjects might have the outcome at the time of enrolment is assessed and taken into account in the analysis

The likelihood that some subjects might not be incontinent is not described and unlikely to have been taken into account

Comparison by exposure status is made between full participants and those lost to follow up
Not applicable
The outcomes are clearly defined
Yes
The assessment of outcome is made blind to exposure status
No
The measure of assessment of exposure is reliable
Yes
The main potential confounders are identified and taken into account in the design and analysis
No: pre-intervention scores were not identified

Overall assessment of the study

Are the results of the study:
- valid? Yes
- applicable to the patient group targeted in the search question? Yes

Checklist Randomised Controlled Trials

Internal validity

The study addresses an appropriate and clearly focused question
Yes
The assignment of subjects to treatment groups is randomized
Yes – computer generated sequence
An adequate concealment method is used
Yes – central allocation
Subjects are kept blind about treatment allocation
Yes – though might have been able to guess allocation because of side effects
Outcome assessors are kept blind about treatment allocation
Not applicable
The treatment and control groups are similar at the start of the trial
Yes, with regard to erectile function scores – other characteristics not reported on
The only difference between groups is the treatment under investigation
Yes
All relevant outcomes are measured in a standard, valid and reliable way
Yes
All the subjects are analyzed in the groups to which they were randomly allocated (intention to treat)
Yes

Overall assessment of the study

Are the results of the study:
- valid? Yes
- applicable to the patient group targeted in the search question? in part, 20/32 patients did not have rectal cancer

Checklist COHORT studies (Maeda, Maruta et al. 2002)

Internal validity

The study addresses an appropriate and clearly focused question
Yes
The cohort being studied is selected from source populations that are comparable in all respects other than the factor under investigation
Unclear – the source population is not described
The likelihood that some eligible subjects might have the outcome at the time of enrolment is assessed and taken into account in the analysis
Not applicable
Comparison by exposure status is made between full participants and those lost to follow up
Not applicable
The outcomes are clearly defined
Yes
The assessment of outcome is made blind to exposure status
No
The measure of assessment of exposure is reliable

Yes

The main potential confounders are identified and taken into account in the design and analysis

Not applicable

Overall assessment of the study

Are the results of the study:

- valid? Yes
- applicable to the patient group targeted in the search question? Yes

Checklist COHORT studies (Matzel, Stadelmaier et al. 2002)

Internal validity

The study addresses an appropriate and clearly focused question

Yes

The cohort being studied is selected from source populations that are comparable in all respects other than the factor under investigation

Unclear what the source population was

The likelihood that some eligible subjects might have the outcome at the time of enrolment is assessed and taken into account in the analysis

Not applicable

Comparison by exposure status is made between full participants and those lost to follow up

Not applicable

The outcomes are clearly defined

Yes

The assessment of outcome is made blind to exposure status

No

The measure of assessment of exposure is reliable

Yes

The main potential confounders are identified and taken into account in the design and analysis

Not applicable

Overall assessment of the study

Are the results of the study:

- valid? Yes
- applicable to the patient group targeted in the search question? Yes

Checklist COHORT studies (Moya, Arroyo et al. 2012)

Internal validity

The study addresses an appropriate and clearly focused question

Yes

The cohort being studied is selected from source populations that are comparable in all respects other than the factor under investigation

Unclear: source population not reported on

The likelihood that some eligible subjects might have the outcome at the time of enrolment is assessed and taken into account in the analysis

Not applicable

Comparison by exposure status is made between full participants and those lost to follow up

No loss to follow-up described

The outcomes are clearly defined

Yes

The assessment of outcome is made blind to exposure status

No

The measure of assessment of exposure is reliable

Not applicable

The main potential confounders are identified and taken into account in the design and analysis

Not applicable

Overall assessment of the study

Are the results of the study:

- valid? Yes
- applicable to the patient group targeted in the search question? Yes

Checklist COHORT studies (Ortega, Ortega et al. 2012)

Internal validity

The study addresses an appropriate and clearly focused question

Yes

The cohort being studied is selected from source populations that are comparable in all respects other than the factor under investigation

Unclear: source population not reported on

The likelihood that some eligible subjects might have the outcome at the time of enrolment is assessed and taken into account in the analysis

Not applicable

Comparison by exposure status is made between full participants and those lost to follow up

No loss to follow-up described

The outcomes are clearly defined

Yes

The assessment of outcome is made blind to exposure status

No

The measure of assessment of exposure is reliable

Not applicable

The main potential confounders are identified and taken into account in the design and analysis

Not applicable

Overall assessment of the study

Are the results of the study:

- valid? Yes
- applicable to the patient group targeted in the search question? Yes

Checklist COHORT studies (Pucciani, Ringressi et al. 2008)

Internal validity

The study addresses an appropriate and clearly focused question

Yes

The cohort being studied is selected from source populations that are comparable in all respects other than the factor under investigation

Yes

The likelihood that some eligible subjects might have the outcome at the time of enrolment is assessed and taken into account in the analysis

Not applicable

Comparison by exposure status is made between full participants and those lost to follow up

No loss to follow-up described

The outcomes are clearly defined

Yes

The assessment of outcome is made blind to exposure status

No

The measure of assessment of exposure is reliable

Not applicable

The main potential confounders are identified and taken into account in the design and analysis

Not applicable

Overall assessment of the study

Are the results of the study:

- valid? Yes
- applicable to the patient group targeted in the search question? Yes

Checklist COHORT studies (Ratto, Grillo et al. 2005)

Internal validity

The study addresses an appropriate and clearly focused question

Yes

The cohort being studied is selected from source populations that are comparable in all respects other than the factor under investigation

Unclear what the source population was

The likelihood that some eligible subjects might have the outcome at the time of enrolment is assessed and taken into account in the analysis

Not applicable
Comparison by exposure status is made between full participants and those lost to follow up
No loss to follow-up
The outcomes are clearly defined
Yes
The assessment of outcome is made blind to exposure status
No
The measure of assessment of exposure is reliable
Not applicable
The main potential confounders are identified and taken into account in the design and analysis
Not applicable

Overall assessment of the study

Are the results of the study:
- valid? Yes
- applicable to the patient group targeted in the search question? Yes

Checklist COHORT studies (Ratto, Parello et al. 2009)

Internal validity

The study addresses an appropriate and clearly focused question
Yes
The cohort being studied is selected from source populations that are comparable in all respects other than the factor under investigation
Unclear what the source population was
The likelihood that some eligible subjects might have the outcome at the time of enrolment is assessed and taken into account in the analysis
Not applicable
Comparison by exposure status is made between full participants and those lost to follow up
No loss to follow-up
The outcomes are clearly defined
Yes
The assessment of outcome is made blind to exposure status
No
The measure of assessment of exposure is reliable
Not applicable
The main potential confounders are identified and taken into account in the design and analysis
Not applicable

Overall assessment of the study

Are the results of the study:
- valid? Yes
- applicable to the patient group targeted in the search question? Yes

Checklist COHORT studies (Sterk, Shekarriz et al. 2005)

Internal validity

The study addresses an appropriate and clearly focused question
Yes
The cohort being studied is selected from source populations that are comparable in all respects other than the factor under investigation
Yes
The likelihood that some eligible subjects might have the outcome at the time of enrolment is assessed and taken into account in the analysis
Not applicable
Comparison by exposure status is made between full participants and those lost to follow up
No loss to follow-up
The outcomes are clearly defined
Yes
The assessment of outcome is made blind to exposure status
No
The measure of assessment of exposure is reliable
Not applicable

The main potential confounders are identified and taken into account in the design and analysis
No

Overall assessment of the study

Are the results of the study:

- valid? Yes
- applicable to the patient group targeted in the search question? Yes

- Allgayer, H., C. F. Dietrich, et al. (2005). "Prospective comparison of short- and long-term effects of pelvic floor exercise/biofeedback training in patients with fecal incontinence after surgery plus irradiation versus surgery alone for colorectal cancer: clinical, functional and endoscopic/endosonographic findings." Scand J Gastroenterol **40**(10): 1168-1175.
- Bartlett, L., K. Sloots, et al. (2011). "Biofeedback therapy for symptoms of bowel dysfunction following surgery for colorectal cancer." Tech Coloproctol **15**(3): 319-326.
- de Miguel, M., F. Oteiza, et al. (2011). "Sacral nerve stimulation for the treatment of faecal incontinence following low anterior resection for rectal cancer." Colorectal Dis **13**(1): 72-77.
- Gillespie, L., Z. Barbaric, et al. (1985). "Effect of abdominal perineal resection on genitourinary tract." Urology **25**(3): 259-263.
- Ho, Y. H. (2001). "Postanal sphincter repair for anterior resection anal sphincter injuries: report of three cases." Dis Colon Rectum **44**(8): 1218-1220.
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- Holzer, B., H. R. Rosen, et al. (2008). "Sacral nerve stimulation in patients after rectal resection--preliminary report." J Gastrointest Surg **12**(5): 921-925.
- Jarrett, M. E., K. E. Matzel, et al. (2005). "Sacral nerve stimulation for faecal incontinence following a rectosigmoid resection for colorectal cancer." Int J Colorectal Dis **20**(5): 446-451.
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- Koch, S. M., M. P. Rietveld, et al. (2009). "Retrograde colonic irrigation for faecal incontinence after low anterior resection." Int J Colorectal Dis **24**(9): 1019-1022.
- Laforest, A., F. Bretagnol, et al. (2012). "Functional disorders after rectal cancer resection: Does a rehabilitation programme improve anal continence and quality of life?" Colorectal Disease **14**(10): 1231-1237.
- Maeda, K., M. Maruta, et al. (2002). "Effect of oral diazepam on anal continence after low anterior resection: a preliminary study." Tech Coloproctol **6**(1): 15-18.
- Matzel, K. E., U. Stadelmaier, et al. (2002). "Bilateral sacral spinal nerve stimulation for fecal incontinence after low anterior rectum resection." Int J Colorectal Dis **17**(6): 430-434.
- Moya, P., A. Arroyo, et al. (2012). "Sacral nerve stimulation in patients with severe fecal incontinence after rectal resection." Techniques in Coloproctology **16**(3): 263-264.
- Ortega, M., G. S. Ortega, et al. (2012). "Sacral nerve stimulation for the treatment of faecal incontinence after anterior resection." Colorectal Disease **14**: 29.
- Park, J. S., S. B. Kang, et al. (2007). "The efficacy and adverse effects of topical phenylephrine for anal incontinence after low anterior resection in patients with rectal cancer." Int J Colorectal Dis **22**(11): 1319-1324.

- Pucciani, F., M. N. Ringressi, et al. (2008). "Rehabilitation of fecal incontinence after sphincter-saving surgery for rectal cancer: encouraging results." Dis Colon Rectum **51**(10): 1552-1558.
- Ratto, C., E. Grillo, et al. (2005). "Sacral neuromodulation in treatment of fecal incontinence following anterior resection and chemoradiation for rectal cancer." Dis Colon Rectum **48**(5): 1027-1036.
- Ratto, C., A. Parello, et al. (2009). "Sacral nerve stimulation as therapeutic option in patients with faecal incontinence following rectal cancer treatment." Colorectal Disease **11**: 22.
- Sterk, P., B. Shekarriz, et al. (2005). "Voiding and sexual dysfunction after deep rectal resection and total mesorectal excision: prospective study on 52 patients." International journal of colorectal disease **20**(5): 423-427.