

KEY QUESTION 1

1. KEY QUESTION 1

a. *Wat is de meerwaarde van lokale behandeling, al dan niet gecombineerd met neoadjuvante (chemo)radiotherapie, ten opzichte van conventionele chirurgie bij patiënten met een stadium 1-4 rectumcarcinoom op het gebied van lokale controle, QoL en OS?*

P: patiënten met een stadium stadium 1-4 rectumcarcinoom

I: lokale behandeling (chirurgische excisies van volledige dikte van de rectumwand: *transanal excision using a retractor (Parks), transanal endoscopic microsurgery (TEM), single port transanal endoscopic surgery (SPTS)*): niet: Endoscopic Mucosal Resection (EMR)) + neoadjuvante (chemo)radiotherapie

C: conventionele (Total Mesorectal Excision, Abdomino Perineal Resection) chirurgie, *al dan niet met neo-adjuvante (chemo)radiotherapie*

O: lokale controle, OS, QoL

2. SEARCH STRATEGY 1

Searches were run on December 2012 for systematic reviews (SRs), randomised controlled trials (RCTs) and observational studies. Pubmed Medline, OVID Embase and the Cochrane Database of Systematic Reviews (CDSR) were searched. Detailed search strings are given below.

3. SEARCH RESULTS 1

SYSTEMATIC REVIEWS AND META-ANALYSES

The Medline search yielded 24 hits, while the Embase search yielded 349 hits. The search in the CDSR yielded no Cochrane reviews.

FULL-TEXT EVALUATION

After merging the 2 search files into 1 file and removal of the duplicates, 326 records were screened on title and abstract. Of these 311 were excluded. The most important reasons for exclusion were that studies were on other patients, interventions or comparisons.

Of the remaining 15 studies, the full-text was retrieved. In addition, 1 file was found through reference tacking. Table 1 provides an overview of the evaluation of these 16 studies.

Table 1. Key question 1: overview of reviews evaluated full-text.

	Reference	In- /Excluded	Reason(s)
1	Barendse, R. M., F. J. C. Van Den Broek, et al. (2011). "Systematic review of endoscopic mucosal resection versus transanal endoscopic microsurgery for large rectal adenomas." <i>Endoscopy</i> 43 (11): 941-949	Ex	On rectal adenomas
	Borschitz, T., D. Wachtlin, et al. (2008). "Neoadjuvant chemoradiation and local excision for T2-3 rectal cancer." <i>Annals of surgical oncology</i> 15 (3): 712-720.	Ex	No quality appraisal, used for reference tracking
	Carrara, A., D. Mangiola, et al. (2011). "Local excision	Ex	Review in abstract form

	Reference	In- /Excluded	Reason(s)
	as single treatment for early stages of rectal cancer: Indications and causes of local failure. Systematic literature review and meta- analysis." <u>Techniques in Coloproctology</u> 15 (2) : 235.		
	Doornebosch, P. G., R. A. Tollenaar, et al. (2009). "Is the increasing role of Transanal Endoscopic Microsurgery in curation for T1 rectal cancer justified? A systematic review." <u>Acta Oncol</u> 48(3) : 343-353	Ex	No quality appraisal, unclear whether patients in included studies had had neoadjuvant (chemo)radiation
5	Hingorani, M., J. E. Hartley, et al. (2012). "Avoiding radical surgery after pre- operative chemoradiotherapy: A possible therapeutic option in rectal cancer?" <u>Acta Oncologica</u> 51(3) : 275-284	Ex	No quality appraisal, used for reference tracking
	Martin, S. T., H. M. Heneghan, et al. (2012). "Systematic review and meta- Analysis of outcomes following pathological complete response to neoadjuvant chemoradiotherapy for rectal cancer." <u>British Journal of Surgery</u> 99(7) : 918-928	Ex	>98% of patients included in included series did not have a local excision; the meta- analyses excluded those patients
	Martin, S. T., H. M. Heneghan, et al. (2012). "Systematic review of outcomes after intersphincteric resection for low rectal cancer." <u>British Journal of Surgery</u> 99(5) : 603-612	Ex	On intersphincteric resection
	Praveen, C. R. (2011). "Transanal endoscopic microsurgery: Where it stands as of today?" <u>World Journal of Laparoscopic Surgery</u> 4(2) : 109-115	Ex	No quality appraisal
	Repici, A., C. Hassan, et al. (2012). "Efficacy and safety of endoscopic submucosal dissection for colorectal neoplasia: a systematic review." <u>Endoscopy</u> 44(2) : 137-150	Ex	On endoscopic submucosal resection
10	Sgourakis, G., S. Lanitis, et al. (2011). "Transanal endoscopic microsurgery for T1 and T2 rectal cancers: a meta- analysis and meta- regression analysis of outcomes." <u>Am Surg</u> 77(6) : 761-772	Ex	Only one out of 11 included studies used neoadjuvant therapy. Used for reference tracking
	Smith, F. M., D. Waldron, et al. (2010). "Rectum- conserving surgery in the era of chemoradiotherapy." <u>British Journal of Surgery</u> 97(12) : 1752-1764	Ex	No quality appraisal, used for reference tracking
	Suppiah, A., S. Maslekar, et al. (2008). "Transanal endoscopic microsurgery in early rectal cancer: time for a trial?" <u>Colorectal Dis</u> 10(4) : 314-327; discussion 327-319	Ex	No quality appraisal, used for reference tracking
	Tappenden, P., J. Chilcott, et al. (2009). "Systematic review of economic evidence for the detection, diagnosis, treatment, and follow- up of colorectal cancer in the United Kingdom." <u>International journal of technology assessment in health care</u> 25(4) : 470-478	Ex	No studies on local therapy included
	Taylor, I. (2008). "Surgical issues in rectal cancer." <u>Annals of Oncology</u> 19 (S8) : viii41- viii42.	Ex	Narrative review
15	Tytherleigh, M. G., B. F. Warren, et al. (2008). "Management of early rectal cancer." <u>British Journal of Surgery</u> 95(4) : 409-423	Ex	Narrative review based on a systematic search
16	Wu, Y., Y. Y. Wu, et al. (2011). "TEM and conventional rectal surgery for T1 rectal cancer: A meta- analysis." <u>Hepato- Gastroenterology</u> 58(106) : 364-368	Ex	No quality appraisal, used for reference tracking

OTHER STUDIES

The Medline search yielded 1122 hits, while the Embase search yielded 2399 hits.

FULL-TEXT EVALUATION

After merging the 2 search files into 1 file and removal of the duplicates, 3086 hits were screened on title and abstract. Of these, 2881 were excluded. The most important reasons for exclusion were that studies were concerned with other patients or other interventions.

Of the remaining 205 studies, the full-text was retrieved. Table 2 provides an overview of the evaluation of these studies. In addition, 15 studies were identified through reference tracking and evaluated full text (table 3).

Studies had to include at least X patients whom had received neoadjuvant therapy. The follow-up should be at least 1 year.

Table 2. Key question 1: overview of full-text evaluated other studies

	Reference	In-/Excluded	Reason(s)
1	Allaix, M. E., A. Arezzo, et al. (2012). "Transanal Endoscopic Microsurgery for Rectal Neoplasms. How I Do It." <u>J Gastrointest Surg.</u>	Ex	Describes oncologic outcomes of a series included for full text selection (Morino 2011)
	Allaix, M. E., A. Arezzo, et al. (2009). "Transanal endoscopic microsurgery for rectal neoplasms: experience of 300 consecutive cases." <u>Dis Colon Rectum</u> 52 (11): 1831-1836.	Ex	T1 series (38 patients without neoadjuvant therapy); T2 and T3 patients: only 3/37 T2 patients received neoadjuvant therapy
	Allaix, M. E., A. Arezzo, et al. (2011). "Risk factors for recurrence after transanal endoscopic microsurgery for rectal malignant neoplasm." <u>Surgical Endoscopy and Other Interventional Techniques</u> 25 : S28.	Ex	Neoadjuvant treatment for T1 not mentioned. 'Five patients with pT2 cancer who received a neo-adjuvant treatment are disease-free, while recurrence occurred in 26.3% (10/38) pT2 cancers submitted either to surgery, adjuvant therapy or to clinical surveillance. Recurrence rate in pT3 was 46%'
	Allaix, M. E., A. Arezzo, et al. (2012). "Transanal endoscopic microsurgery versus laparoscopic total mesorectal excision for selected T2N0 rectal cancer." <u>Digestive and Liver Disease</u> 44 : S169.	Ex	11 of 43 P2 patients were treated neoadjuvantly. Observational study
	Allaix, M. E., A. Arezzo, et al. (2012). "Transanal Endoscopic Microsurgery vs. Laparoscopic Total Mesorectal Excision for T2N0 Rectal Cancer." <u>J Gastrointest Surg</u> 16 (12): 2280-2287.	Ex	43 T2N0 TEM patients, 11 of whom received neoadjuvant RT. Observational study
	Allaix, M. E., A. Arezzo, et al. (2011). "Transanal endoscopic microsurgery versus laparoscopic total mesorectal excision for selected T2N0 rectal cancer." <u>Techniques in Coloproctology</u> 15 (2): 235-236.		On request
	Allaix, M. E., M. Mistrangelo, et al. (2009). "Transanal endoscopic microsurgery for rectal malignant neoplasms. Results of 104 consecutive patients." <u>Colorectal Disease</u> 11 : 50.	Ex	Neoadjuvant therapy not mentioned for T1 or T3 patients
	Allaix, M. E., F. Rebecchi, et al. (2011). "Long-term functional results and quality of life after transanal endoscopic microsurgery." <u>Br J Surg</u> 98 (11): 1635-1643.	Ex	Outcomes not reported separately for benign and malign disease
	Amann, M., A. Modabber, et al. (2012). "Transanal endoscopic microsurgery in treatment of rectal adenomas and T1 low-risk carcinomas." <u>World J Surg Oncol</u> 10 (1): 255.	Ex	41 T1 carcinomas, no mention of neoadjuvant therapy
10	Araujo, S. E., V. E. Seid, et al. (2012). "Transanal endoscopic microsurgery: a Brazilian initial experience in private practice." <u>Hepatogastroenterology</u> 59 (118): 1822-1827.		On request
	Arezzo, A., M. E. Allaix, et al. (2010). "Risk factors for recurrence after transanal endoscopic microsurgery for rectal malignant neoplasm." <u>Colorectal Disease</u> 12 : 3.	Ex	Neoadjuvant therapy not mentioned
	Ashraf, S., R. Hompes, et al. (2012). "A critical appraisal of endorectal ultrasound and transanal endoscopic microsurgery and decision-making in early rectal cancer." <u>Colorectal Dis</u> 14 (7): 821-826.	Ex	Other focus
	Atallah, S., M. Albert, et al. (2010). "Transanal minimally invasive surgery: a giant leap forward." <u>Surg Endosc</u> 24 (9):	Ex	Sort follow-up (6 weeks)

	Reference	In- /Excluded	Reason(s)
	2200-2205.		
	Baatrup, G., B. Breum, et al. (2009). "Transanal endoscopic microsurgery in 143 consecutive patients with rectal adenocarcinoma: results from a Danish multicenter study." <u>Colorectal Dis</u> 11 (3): 270-275.	Ex	In: 72 T1 patients; Ex: T2 and T3 patients: neoadjuvant therapy not mentioned
15	Bach, S. P., J. Hill, et al. (2009). "A predictive model for local recurrence after transanal endoscopic microsurgery for rectal cancer." <u>Br J Surg</u> 96 (3): 280-290.	Ex	'39 received neoadjuvant long-course radiotherapy and were excluded from the main analysis owing to the possibility of stage migration'
	Badiani, S., M. Peacock, et al. (2012). "Organ preservation is possible: Local excision of early rectal cancer with Transanal Endoscopic Microsurgery (TEMS)." <u>Colorectal Disease</u> 14 : 16.	In	9 T1 patients treated neoadjuvantly; 3 T3 patients treated neoadjuvantly
	Badiani, S., M. Peacock, et al. (2012). "TEMS as treatment for early rectal cancer: A single regional referral centre experience." <u>Colorectal Disease</u> 14 : 19-20.		On request
	Bansal, V. K., M. C. Misra, et al. (2010). "Transanal excision of anorectal lesions." <u>Trop Gastroenterol</u> 31 (1): 1-4.		On request
	Barendse, R. M., P. G. Doornebosch, et al. (2012). "Transanal employment of single access ports is feasible for rectal surgery." <u>Ann Surg</u> 256 (6): 1030-1033.	Ex	No long-term follow-up
20	Barendse, R. M., P. Fockens, et al. (2011). "The significant rectal neoplasm and mucosectomy by transanal endoscopic microsurgery (Br J Surg 2011; 98: 1342-1344)." <u>Br J Surg</u> 98 (10): 1495; author reply 1495-1496.	Ex	Letter with no original observational data
	Barendse, R. M., F. J. van den Broek, et al. (2012). "Endoscopic mucosal resection vs transanal endoscopic microsurgery for the treatment of large rectal adenomas." <u>Colorectal Dis</u> 14 (4): e191-196.	Ex	On rectal adenomas
	Barker, J. A. and J. Hill (2011). "Incidence, treatment and outcome of rectal stenosis following transanal endoscopic microsurgery." <u>Tech Coloproctol</u> 15 (3): 281-284.	Ex	Other outcome: rectal stenosis
	Barreto, S. G. and P. J. Shukla (2008). "Local excision and endoscopic posterior mesorectal resection versus low anterior resection in T1 rectal cancer (Br J Surg 2008; 95: 375-380)." <u>British Journal of Surgery</u> 95 (7): 930-931.	Ex	18 T1 patients; neoadjuvant treatment not mentioned
	Beets, G. L., L. A. Heijnen, et al. (2012). "Minimal invasive treatment for clinical complete and good responders after chemoradiation for rectal cancer." <u>European Journal of Surgical Oncology</u> 38 (9): 755.	Ex	Little information on 5 TEM patients
	Belluco, C., A. De Paoli, et al. (2011). "Long-term outcome analysis of patients with complete pathological response after neoadjuvant chemoradiation for cT3 rectal cancer: Implications for local excision surgical strategies." <u>Annals of Surgical Oncology</u> 18 : S30.	Ex	Abstract of which the full article is included for full text evaluation (Belluco 2011)
	Belluco, C., A. De Paoli, et al. (2011). "Long-term outcome of patients with complete pathologic response after neoadjuvant chemoradiation for cT3 rectal cancer: implications for local excision surgical strategies." <u>Ann Surg Oncol</u> 18 (13): 3686-3693.	In	29 cT3 patients treated by local excision after neoadjuvant chemoradiotherapy
	Belluco, C., A. De Paoli, et al. (2010). "Long-term results using local excision after neoadjuvant chemoradiation therapy in T3 rectal cancer patients." <u>European Journal of Surgical Oncology</u> 36 (9): 884.	Ex	Abstract of which the full article is included for full text evaluation (Belluco 2011)
	Bertrand, M., P. Rouanet, et al. (2012). "TransAnal Endoscopic Proctectomy (TAEP) e An innovative procedure for difficult resection of rectal tumors in men with narrow pelvis." <u>European Journal of Surgical Oncology</u> 38 (9): 755-756.		On request
	Bignell, M. B., A. Ramwell, et al. (2010). "Complications of transanal endoscopic microsurgery (TEMS): a prospective audit." <u>Colorectal Dis</u> 12 (7 Online): e99-103.	Ex	Sort follow-up

	Reference	In- /Excluded	Reason(s)
30	Bokkerink, G. M., E. J. de Graaf, et al. (2011). "The CARTS study: Chemoradiation therapy for rectal cancer in the distal rectum followed by organ-sparing transanal endoscopic microsurgery." <u>BMC Surg</u> 11 : 34.	Ex	Study protocol
	Bokkerink, G. M. J., I. H. J. T. De Hingh, et al. (2011). "Transanal endoscopic microsurgery (TEM) after (Chemo)radiation therapy for distal rectal cancer." <u>European Journal of Cancer</u> 47 : S402.	Ex	Short follow-up
	Borley, N. (2011). "Long-term functional results and quality of life after transanal endoscopic microsurgery (Br J Surg 2011; 98: 1635-1643)." <u>Br J Surg</u> 98 (11): 1635-1643.		On request
	Borley, N. (2012). "Transanal glove port is a safe and cost-effective alternative for transanal endoscopic microsurgery (Br J Surg 2012; 99: 1429-1435)." <u>Br J Surg</u> 99 (10): 1435.		On request
	Borley, N. R. and J. M. Wheeler (2011). "The significant rectal neoplasm and mucosectomy by transanal endoscopic microsurgery." <u>Br J Surg</u> 98 (10): 1342-1344.	Ex	Expert opinion-type article
	Borschitz, T., I. Gockel, et al. (2008). "Oncological outcome after local excision of rectal carcinomas." <u>Ann Surg Oncol</u> 15 (11): 3101-3108.	Ex	Neoadjuvant therapy not mentioned
	Borschitz, T., W. Kneist, et al. (2008). "Local excision for more advanced rectal tumors." <u>Acta Oncol</u> 47 (6): 1140-1147.	Ex	Narrative review, used for reference tracking
	Borschitz, T., D. Wachtlin, et al. (2008). "Neoadjuvant chemoradiation and local excision for T2-3 rectal cancer." <u>Ann Surg Oncol</u> 15 (3): 712-720.	Ex	Narrative review, used for reference tracking
	Brenner, B., R. Brenner, et al. (2010). "Local excision after neoadjuvant chemoradiation for rectal cancer: Is it an acceptable treatment option?" <u>Journal of Clinical Oncology. Conference</u> 28 (15 SUPPL. 1).		On request
	Bujko, K., P. Richter, et al. (2009). "Preoperative radiotherapy and local excision of rectal cancer with immediate radical reoperation for poor responders." <u>Radiother Oncol</u> 92 (2): 195-201.	In	47 T1-2 patients treated with neoadjuvant therapy
40	Bujko, K., P. Richter, et al. (2011). "Preoperative radiotherapy and local excision of rectal cancer: Results of a randomized study." <u>Radiotherapy and Oncology</u> 99 : S64.	Ex	89 T1-T3 patients treated neoadjuvantly. Results not presented per stage
	Burger, J. W., E. J. de Graaf, et al. (2010). "Local excision of rectal cancer after chemoradiation: feasibility depends on the primary stage." <u>Int J Colorectal Dis</u> 25 (9): 1141-1142.	Ex	Description of a single case
	Callender, G. G., P. Das, et al. (2010). "Local excision after preoperative chemoradiation results in an equivalent outcome to total mesorectal excision in selected patients with T3 rectal cancer." <u>Ann Surg Oncol</u> 17 (2): 441-447.	In	47 T3 patients treated with local excision after neoadjuvant chemoradiation
	Camp, E. R., J. T. Lucas, et al. (2011). "Local excision and selective radical resection after neoadjuvant chemoradiation for rectal cancer." <u>Journal of Clinical Oncology. Conference: ASCO Annual Meeting</u> 29 (15 SUPPL. 1).		On request
	Canda, A. E., C. Terzi, et al. (2012). "Transanal single-port access microsurgery (TSPAM)." <u>Surg Laparosc Endosc Percutan Tech</u> 22 (4): 349-353.	Ex	Adenomas and 1 carcinoma in situ
	Carmichael, J. C. and M. J. Stamos (2011). "Ransanal excision of rectal cancer: A work in progress." <u>Oncology</u> 25 (14).		On request
	Carrara, A., D. Mangiola, et al. (2011). "Local excision as single treatment for early stages of rectal cancer: Indications and causes of local failure. Systematic literature review and meta-analysis." <u>Techniques in Coloproctology</u> 15 (2): 235.	Ex	Review in abstract form
	Carroll, P. A., J. Larkin, et al. (2012). "T1 colorectal cancers: How appropriate is local excision?" <u>Colorectal Disease</u> 14 : 17.		On request
	Cattorini, L., M. Coccetta, et al. (2009). "PT2 report after transanal endoscopic microsurgery excision in elderly patient		On request

	Reference	In- /Excluded	Reason(s)
	T1 staged: A case report." <i>BMC Geriatrics</i> 9 (SUPPL. 1).		
	Chang, A. J., C. S. Nahas, et al. (2008). "Early rectal cancer: local excision or radical surgery?" <i>J Surg Educ</i> 65 (1): 67-72.	Ex	Narrative review
50	Chen, Y. Y., Z. H. Liu, et al. (2012). "Transanal Endoscopic Microsurgery versus Laparoscopic Lower Anterior Resection for the Treatment of T1-2 Rectal Cancers." <i>Hepatogastroenterology</i> 60 (124).		On request
	Christoforidis, D., H. M. Cho, et al. (2009). "Transanal endoscopic microsurgery versus conventional transanal excision for patients with early rectal cancer." <i>Ann Surg</i> 249 (5): 776-782.	Ex	Patients with neoadjuvant therapy were excluded
	Clark, J. and P. Ziprin (2008). "Local excision and transanal endoscopic microsurgery in the management of rectal cancer with a focus on early carcinoma." <i>Future Oncol</i> 4 (1): 113-124.		On request
	Collinson, R. J. and C. M. N. J. Mc (2009). "'How i do it': TEM for tumors of the rectum." <i>Journal of Gastrointestinal Surgery</i> 13 (2): 359-362.	Ex	Not an observational study
	Dalton, S. J., O. J. Old, et al. (2010). "The management of early rectal cancer with transanal endoscopic microsurgery: Our experience." <i>Colorectal Disease</i> 12 : 20-21.		On request
	Darwood, R. J., J. M. Wheeler, et al. (2008). "Transanal endoscopic microsurgery is a safe and reliable technique even for complex rectal lesions." <i>Br J Surg</i> 95 (7): 915-918.	Ex	Includes complex rectal lesions only
	De Graaf, E. J., P. G. Doornebosch, et al. (2009). "Transanal endoscopic microsurgery versus total mesorectal excision of T1 rectal adenocarcinomas with curative intention." <i>Eur J Surg Oncol</i> 35 (12): 1280-1285.	Ex	Same patients as Doornebosch 2010
	Doornebosch, P. G., F. T. Ferenschild, et al. (2010). "Treatment of recurrence after transanal endoscopic microsurgery (TEM) for T1 rectal cancer." <i>Dis Colon Rectum</i> 53 (9): 1234-1239.	Ex	88 T1 patients; neoadjuvant therapy not mentioned
	Doornebosch, P. G., M. P. Gosselink, et al. (2008). "Impact of transanal endoscopic microsurgery on functional outcome and quality of life." <i>Int J Colorectal Dis</i> 23 (7): 709-713.	Ex	Series of 47 patients out of whom 44 had an adenoma
	Doornebosch, P. G., R. A. Tollenaar, et al. (2009). "Is the increasing role of Transanal Endoscopic Microsurgery in curative T1 rectal cancer justified? A systematic review." <i>Acta Oncol</i> 48 (3): 343-353.	Ex	Review, no quality appraisal
60	Doornebosch, P. G., E. Zeestraten, et al. (2012). "Transanal endoscopic microsurgery for T1 rectal cancer: size matters!" <i>Surg Endosc</i> 26 (2): 551-557.	Ex	Other outcome: risk factors for recurrence, in a series that has been included (Doornebosch 2010)
	Druzijanic, N., Z. Perko, et al. (2008). "Harmonic scalpel in transanal microsurgery." <i>Hepatogastroenterology</i> 55 (82-83): 356-358.		On request
	Duek, S. D., N. Issa, et al. (2008). "Outcome of transanal endoscopic microsurgery and adjuvant radiotherapy in patients with T2 rectal cancer." <i>Dis Colon Rectum</i> 51 (4): 379-384; discussion 384.	Ex	T2 patients without neoadjuvant therapy
	Dumont, F., D. Goere, et al. (2012). "Transanal endoscopic total mesorectal excision combined with single-port laparoscopy." <i>Dis Colon Rectum</i> 55 (9): 996-1001.	Ex	Short follow-up
	Fantola, G., L. Zorcolo, et al. (2010). "Transanal endoscopic microsurgical excision - A valid treatment for early rectal cancer." <i>European Journal of Surgical Oncology</i> 36 (9): 883.	Ex	26 T1 patients, neoadjuvant therapy not mentioned
	Folkesson, J. and L. Pahlman (2008). "Authors' reply: Population-based study of local surgery for rectal cancer (Br J Surg 2007; 94: 1421-1426)." <i>British Journal of Surgery</i> 95 (2): 262.	Ex	Author's reply with no additional data
	Friel, C. M. (2010). "Local excision of T1 rectal cancer: where are we now?" <i>Dis Colon Rectum</i> 53 (9): 1231-1233.	Ex	Editorial

	Reference	In- /Excluded	Reason(s)
	Funahashi, K., J. Koike, et al. (2009). "Transanal rectal dissection: a procedure to assist achievement of laparoscopic total mesorectal excision for bulky tumor in the narrow pelvis." <i>Am J Surg</i> 197 (4): e46-50.	Ex	On TME
	Garcia-Aguilar, J., Q. Shi, et al. (2010). "Pathologic complete response (pCR) to neoadjuvant chemoradiation (CRT) of uT2uN0 rectal cancer (RC) treated by local excision (LE): Results of the ACOSOG Z6041 trial." <i>Journal of Clinical Oncology. Conference</i> 28 (15 SUPPL. 1).	Ex	Editorial
	Garcia-Aguilar, J., Q. Shi, et al. (2012). "A phase II trial of neoadjuvant chemoradiation and local excision for T2N0 rectal cancer: preliminary results of the ACOSOG Z6041 trial." <i>Ann Surg Oncol</i> 19 (2): 384-391.	Ex	Only peri-procedural outcomes reported
70	Garcia-Aguilar, J. (2013). "Transanal endoscopic microsurgery following neoadjuvant chemoradiation therapy in rectal cancer: a word of caution about patient selection?" <i>Dis Colon Rectum</i> 56 (1): 1-3		On request
	Gleeson, F. C., J. E. Clain, et al. (2011). "Surveillance EUS FNA following transanal excision of primary rectal cancer facilitates early detection of local recurrence." <i>Gastrointestinal Endoscopy</i> 1 : AB170.	Ex	Other focus
	Gleeson, F. C., D. W. Larson, et al. (2012). "Local recurrence detection following transanal excision facilitated by EUS-FNA." <i>Hepatogastroenterology</i> 59 (116): 1102-1107.		On request
	Greenberg, J. A., D. Shibata, et al. (2008). "Local excision of distal rectal cancer: an update of cancer and leukemia group B 8984." <i>Dis Colon Rectum</i> 51 (8): 1185-1191; discussion 1191-1184.	Ex	In: 59 T1 patients without neoadjuvant therapy; Ex: 51 T2 patients without neoadjuvant treatment
	Grimard, L. and H. Stern (2012). "Local excision and brachytherapy for sphincter preservation in rectal cancer: Results on a cohort of 70 patients." <i>Radiotherapy and Oncology</i> 103 : S163.	Ex	Patients with local recurrence were excluded from analyses
	Grimard, L., H. Stern, et al. (2009). "Brachytherapy and local excision for sphincter preservation in T1 and T2 rectal cancer." <i>Int J Radiat Oncol Biol Phys</i> 74 (3): 803-809.	In	51 T1, 84 T2, and 61 T3 patients. T2 and T3 patients were treated with preoperative radiotherapy
	Guerrieri, M., M. Baldarelli, et al. (2008). "Transanal endoscopic microsurgery for the treatment of selected patients with distal rectal cancer: 15 years experience." <i>Surg Endosc</i> 22 (9): 2030-2035.		On request (included by Hingorani's and Smith's review)
	Habr-Gama, A., J. Gama-Rodrigues, et al. (2008). "Late assessment of local control by PET in patients with distal rectal cancer managed non-operatively after complete tumor regression following neoadjuvant chemoradiation." <i>Tech Coloproctol</i> 12 (1): 74-76.		On request
	Han, S. L., Q. Q. Zeng, et al. (2010). "The indication and surgical results of local excision following radiotherapy for low rectal cancer." <i>Colorectal Dis</i> 12 (11): 1094-1098.	Ex	Results not presented separately per stage and per procedure
	Hazard, L. J., D. C. Shrieve, et al. (2009). "Local Excision vs. Radical Resection in T1-2 Rectal Carcinoma: Results of a Study From the Surveillance, Epidemiology, and End Results (SEER) Registry Data." <i>Gastrointest Cancer Res</i> 3 (3): 105-114.	Ex	3.1% of 283 patients treated with local excision and radiotherapy had received radiotherapy preoperatively
80	Hompes, R., N. Mortensen, et al. (2012). "Exploring the role of minimally invasive treatment strategies in early rectal cancer: The significance of functional outcome and quality of life." <i>Surgical Endoscopy and Other Interventional Techniques</i> 26 (2): 582-583.	Ex	Short follow-up
	Hompes, R., F. Ris, et al. (2012). "Transanal glove port is a safe and cost-effective alternative for transanal endoscopic microsurgery." <i>Br J Surg</i> 99 (10): 1429-1435.	Ex	Short follow-up
	Hotta, K., T. Fujii, et al. (2009). "Local recurrence after	Ex	Endoscopic resection

	Reference	In- /Excluded	Reason(s)
	endoscopic resection of colorectal tumors." <u>Int J Colorectal Dis</u> 24 (2): 225-230.		
	Huh, J. W., E. J. Jung, et al. (2008). "Preoperative chemoradiation followed by transanal excision for rectal cancer." <u>J Surg Res</u> 148 (2): 244-250.	In	9 patients with neoadjuvant treatment (1 T2, 8 T3)
	Huh, J. W., Y. A. Park, et al. (2009). "Recurrences after local excision for early rectal adenocarcinoma." <u>Yonsei Med J</u> 50 (5): 704-708.	Ex	Patients with neoadjuvant chemoradiation were excluded
	Ibarzabal, A., S. Delgado, et al. (2011). "MA-NOS colorectal resections: Our experience in malignant disease." <u>Surgical Endoscopy and Other Interventional Techniques</u> 25 : S29.	Ex	Not a local treatment
	Ikematsu, H., Y. Yoda, et al. (2012). "A large scale multi-center study of long-term outcomes after resection for submucosal invasive colorectal cancer (colon vs. rectum)." <u>Gastrointestinal Endoscopy</u> 1 : AB178.	Ex	On endoscopic resection
	Inoue, Y., K. Togashi, et al. (2009). "Risk factors for relapse of T1 stage colorectal cancer resected endoscopically." <u>Gastroenterology</u> 1 : A751.	Ex	On endoscopic resection
	Issa, N., I. Igov, et al. (2011). "Transanal endoscopic microsurgery for upper rectal tumors." <u>Colorectal Disease</u> 13 : 25.		On request
	Issa, N., Y. Melki, et al. (2010). "Transanal endoscopic microsurgery for rectal tumor." <u>Techniques in Coloproctology</u> 14 (1): 90.	Ex	Not reported how many patients with T1 were included; for T2 and T3 patients it was unclear whether neoadjuvant therapy was given
90	Issa, N., A. Murninkas, et al. (2012). "Long-term outcome of local excision after complete pathological response to neoadjuvant chemoradiation therapy for rectal cancer." <u>World J Surg</u> 36 (10): 2481-2487.	Ex	Biased sample of patients treated by local excision after neoadjuvant chemoradiotherapy: only the 23 patients whom were exclusively treated by local excision were followed up, and not the 8 patients whom had residual tumor after local excision and underwent radical excision subsequently
	Issa, N., A. Murninkas, et al. (2010). "Long-term results of local excision for rectal cancer for those with complete rectal wall response following neoadjuvant therapy." <u>Colorectal Disease</u> 12 : 14.		On request
	Iversen, L. H. (2012). "Aspects of survival from colorectal cancer in Denmark." <u>Danish Medical Journal</u> 59 (4).		On request
	Jamal, W. and S. Benoist (2010). "Transanal endoscopic microsurgery." <u>J Visc Surg</u> 147 (3): e161-165.		On request
	Jeong, W. K., J. W. Park, et al. (2009). "Transanal endoscopic microsurgery for rectal tumors: experience at Korea's National Cancer Center." <u>Surg Endosc</u> 23 (11): 2575-2579.	Ex	Unclear how many patients were clinical T1 or T2. T2 patients did not get neoadjuvant therapy.; 3 T3 patients received neoadjuvant therapy
95	Jimenez, F., M. Conde, et al. (2012). "Local excision of rectal cancer in selected patients with T1 and T2 tumours: 25-year results." <u>Colorectal Disease</u> 14 : 50.		On request
	Jin, Z., L. Yin, et al. (2010). "Anorectal functional results after transanal endoscopic microsurgery in benign and early malignant tumors." <u>World J Surg</u> 34 (5): 1128-1132.	Ex	Other outcomes (QoL at 6 months); not reported separately for the 13 patients with carcinoma
	Jung, W. H., A. P. Yoon, et al. (2009). "Recurrences after local excision for early rectal adenocarcinoma." <u>Yonsei Medical Journal</u> 50 (5): 704-708.	Ex	Patients with preoperative chemoradiation were excluded
	Kennelly, R. P., A. Heeney, et al. (2012). "A prospective analysis of patient outcome following treatment of T3 rectal cancer with neo-adjuvant chemoradiotherapy and transanal excision." <u>Int J Colorectal Dis</u> 27 (6): 759-764.	In	10 T3 patients treated with local excision after neoadjuvant chemoradiotherapy
	Kesisoglou, I. and K. Sapalidis (2010). "Treatment of early rectal cancer." <u>Tech Coloproctol</u> 14 Suppl 1 : S33-34.		On request
100	Kim, E., J. M. Hwang, et al. (2008). "Local excision for rectal		On request

	Reference	In-/Excluded	Reason(s)
	carcinoma." <u>Clin Colorectal Cancer</u> 7 (6): 376-385.		
	Kiriyama, S., Y. Saito, et al. (2011). "Comparing endoscopic submucosal dissection with transanal resection for non-invasive rectal tumor: a retrospective study." <u>J Gastroenterol Hepatol</u> 26 (6): 1028-1033.	Ex	All non-invasive tumors
	Koebbrugge, B., K. Bosscha, et al. (2009). "Transanal endoscopic microsurgery for local excision of rectal lesions: is there a learning curve?" <u>Dig Surg</u> 26 (5): 372-377.	Ex	Outcomes not specified by stage; T2 patients did not receive neoadjuvant therapy
	Kogler, P., R. Kafka-Ritsch, et al. (2012). "Is limited surgery justified in the treatment of T1 colorectal cancer?" <u>Surg Endosc</u> .	Ex	29 T1 patients, neoadjuvant therapy not mentioned
	Kondylis, P. D. (2009). "Transanal endoscopic microsurgery for the treatment of rectal cancer: Comparison of wound complication rates with and without neoadjuvant radiation therapy." <u>Diseases of the Colon and Rectum</u> 52 (12): 2057.	Ex	Abstract of another primary article
	Kopelman, Y., P. D. Siersema, et al. (2012). "Endoscopic full-thickness GI wall resection: current status." <u>Gastrointest Endosc</u> 75 (1): 165-173.	Ex	Narrative review
	Kreissler-Haag, D., J. Schuld, et al. (2008). "Complications after transanal endoscopic microsurgical resection correlate with location of rectal neoplasms." <u>Surg Endosc</u> 22 (3): 612-616.	Ex	Short follow-up
	Kundel, Y., R. Brenner, et al. (2008). "Is local excision after complete pathological response to neoadjuvant chemoradiation for rectal cancer an acceptable treatment option?" <u>Annals of Oncology</u> 19 (S8): viii143.	Ex	Abstract of a study that is included for full text evaluation (Kundel 2010)
	Kundel, Y., R. Brenner, et al. (2010). "Is local excision after complete pathological response to neoadjuvant chemoradiation for rectal cancer an acceptable treatment option?" <u>Dis Colon Rectum</u> 53 (12): 1624-1631.	In	14 T1-T4 patients treated with neoadjuvant therapy
	Lebedyev, A., H. Tulchinsky, et al. (2009). "Long-term results of local excision for T1 rectal carcinoma: the experience of two colorectal units." <u>Tech Coloproctol</u> 13 (3): 231-236.		On request
110	Lee, S. H., S. W. Jeon, et al. (2009). "A comparison of transanal excision and endoscopic resection for early rectal cancer." <u>World J Gastrointest Endosc</u> 1 (1): 56-60.	Ex	Neoadjuvant therapy not mentioned
	Leonard, D., J. F. Colin, et al. (2012). "Transanal endoscopic microsurgery: long-term experience, indication expansion, and technical improvements." <u>Surg Endosc</u> 26 (2): 312-322.	Ex	In: 5 T1 patients, neoadjuvant therapy not mentioned. Ex: 4 T2/T3 patients, neoadjuvant therapy not mentioned
	Levic, K., O. Bulut, et al. (2011). "Early salvage surgery after TEM for rectal cancer: Is it oncologically safe?" <u>Colorectal Disease</u> 13 : 37.		On request
	Lezoche, E., M. Baldarelli, et al. (2012). "Randomized clinical trial of endoluminal locoregional resection versus laparoscopic total mesorectal excision for T2 rectal cancer after neoadjuvant therapy." <u>British Journal of Surgery</u> 99 (9): 1211-1218.	In	RCT of TEM vs TME in T2 patients after neoadjuvant therapy
	Lezoche, G., M. Baldarelli, et al. (2008). "A prospective randomized study with a 5-year minimum follow-up evaluation of transanal endoscopic microsurgery versus laparoscopic total mesorectal excision after neoadjuvant therapy." <u>Surg Endosc</u> 22 (2): 352-358.	In	RCT of TEM vs TME in T2 patients after neoadjuvant therapy
	Lezoche, G., M. Guerrieri, et al. (2011). "Transanal endoscopic microsurgery for 135 patients with small nonadvanced low rectal cancer (iT1-iT2, iN0): short- and long-term results." <u>Surg Endosc</u> 25 (4): 1222-1229.	Ex	135 T1-T2 patients; T2 patients received neoadjuvant therapy
	Lezoche, G., A. M. Paganini, et al. (2012). "The role of locoregional resection with TEM to treat small nonadvanced low rectal cancer: The key point to obtaining good results." <u>Surgical Endoscopy and Other Interventional Techniques</u>		On request

	Reference	In- /Excluded	Reason(s)
	26(2): 584-585.		
	Liang, H. H., C. C. Tu, et al. (2012). ""Air Bubble" in the Head after Transanal Excision of a Rectal Carcinoma." <u>J Emerg Med.</u>	Ex	Single case
	Lim, S. B., S. I. Seo, et al. (2012). "Feasibility of transanal minimally invasive surgery for mid-rectal lesions." <u>Surg Endosc</u> 26(11): 3127-3132.		On request
	Loder, P. (2012). "Endoscopic resection of colorectal cancer for cure: are we there yet?" <u>J Gastroenterol Hepatol</u> 27(6): 995-996.	Ex	Editorial
120	Lorenz, C., T. Nimmesgern, et al. (2010). "Transanal single port microsurgery (TSPM) as a modified technique of transanal endoscopic microsurgery (TEM)." <u>Surg Innov</u> 17(2): 160-163.	Ex	Short follow-up
	Lu, C. C., S. E. Lin, et al. (2012). "Comparison of clinical outcome of single-incision laparoscopic surgery using a simplified access system with conventional laparoscopic surgery for malignant colorectal disease." <u>Colorectal Disease</u> 14(4): e171-e176.	Ex	Not a local excision procedure
	Luglio, G., V. Celentano, et al. (2011). "Functional and oncological outcomes after transanal local excision for rectal cancer. A prospective study." <u>European Journal of Surgical Oncology</u> 37 (12): S4	In	16 T1 patients, offered preoperative radiotherapy
	Maas, M., D. Lambregts, et al. (2010). "Local excision for T1-2N0 rectal cancer: Safe selection with lymph node specific contrast-enhanced MRI." <u>Colorectal Disease</u> 12: 4.		On request
	Maas, M., D. M. J. Lambregts, et al. (2010). "Selection of rectal cancer patients eligible for local excision with lymph node specific contrast-enhanced MRI." <u>European Journal of Surgical Oncology</u> 36 (9): 817-818.		On request
	Marakis, G., H. Demetriades, et al. (2009). "Local excision for rectal cancer--safety and efficacy challenges." <u>Ann Surg Oncol</u> 16(8): 2369-2370; author reply 2371-2362.	Ex	Letter, no observational data included
	Marks, J. H., J. L. Frenkel, et al. (2011). "Maximizing Rectal Cancer Results: TEM and TATA Techniques to Expand Sphincter Preservation." <u>Surgical Oncology Clinics of North America</u> 20(3): 501-520.		On request
	Marks, J. H., E. B. Valsdottir, et al. (2009). "Transanal endoscopic microsurgery for the treatment of rectal cancer: comparison of wound complication rates with and without neoadjuvant radiation therapy." <u>Surg Endosc</u> 23(5): 1081-1087.	Ex	Short follow-up
	Meining, A., S. von Delius, et al. (2011). "Risk factors for unfavorable outcomes after endoscopic removal of submucosal invasive colorectal tumors." <u>Clin Gastroenterol Hepatol</u> 9(7): 590-594.	Ex	Endoscopic resection
	Meyer, J. E. and D. L. Sherr (2009). "When less is more, when less is less: local excision in early rectal cancer." <u>Gastrointest Cancer Res</u> 3(3): 123-124.	Ex	Editorial
130	Mittal, R., B. Perakath, et al. (2010). "Transanal excision of anorectal lesions--a single centre experience." <u>Trop Gastroenterol</u> 31(1): 65-68.		On request
	Mizrahi, B., J. Marks, et al. (2009). "T2 rectal cancer: A comparison of radical surgery and local excision by transanal endoscopic microsurgery (TEM) following neoadjuvant therapy." <u>Diseases of the Colon and Rectum</u> 52 (4): 815-816.		On request
	Milkvy, P., J. Majek, et al. (2010). "Endoscopic treatment of praecancerous colorectal lesions and early colorectal cancer." <u>Bratisl Lek Listy</u> 111(1): 50-53.	Ex	Narrative review
	Moore, J. S., P. A. Cataldo, et al. (2008). "Transanal	Ex	Not mentioned whether T2-3 patient had had neoadjuvant therapy. Outcomes not

	Reference	In-/Excluded	Reason(s)
	endoscopic microsurgery is more effective than traditional transanal excision for resection of rectal masses." <u>Dis Colon Rectum</u> 51(7) : 1026-1030; discussion 1030-1021.		reported per stage
	Morino, M., M. E. Allaix, et al. (2011). "Risk factors for recurrence after transanal endoscopic microsurgery for rectal malignant neoplasm." <u>Surg Endosc</u> 25(11) : 3683-3690.	Ex	48 T1 patients, no neoadjuvant therapy; 5 T2 patients with neoadjuvant radiotherapy. 38 T2 patients and 16 P3 patients without neoadjuvant therapy
	Morino, M., A. Arezzo, et al. (2010). "Transanal endoscopic microsurgery for rectal neoplasms. An experience of 333 consecutive cases." <u>Techniques in Coloproctology</u> 14 (1) : 79.	Ex	Unclear how many patients had T1
	Morino, M., A. Arezzo, et al. (2010). "Transanal endoscopic microsurgery for malignant rectal neoplasm. Results of 104 consecutive patients." <u>Techniques in Coloproctology</u> 14 (1) : 79.	Ex	46 T1 patients, neoadjuvant therapy not mentioned; preoperative radiotherapy given in an unknown number of T2 patients
	Nair, R. M., E. M. Siegel, et al. (2008). "Long-term results of transanal excision after neoadjuvant chemoradiation for T2 and T3 adenocarcinomas of the rectum." <u>J Gastrointest Surg</u> 12(10) : 1797-1805; discussion 1805-1796.	In	22 T3 patients and 11 T2-3N1 patients treated with local excision after neoadjuvant chemoradiation
	Nash, G. M., M. R. Weiser, et al. (2009). "Long-term survival after transanal excision of T1 rectal cancer." <u>Dis Colon Rectum</u> 52(4) : 577-582.		On request
	Ngamruengphong, S., M. D. Crowell, et al. (2010). "Long term cancer-free survival is similar with either endoscopic or surgical treatment of malignant colo-rectal polyps - Report of an analysis of the Surveillance, Epidemiology, and End Results database." <u>Gastrointestinal Endoscopy</u> 71 (5) : AB129.	Ex	Endoscopic treatment
140	Nieuwenhuis, D. H., W. A. Draaisma, et al. (2009). "Transanal endoscopic operation for rectal lesions using two-dimensional visualization and standard endoscopic instruments: a prospective cohort study and comparison with the literature." <u>Surg Endosc</u> 23(1) : 80-86.	Ex	Short follow-up
	Oka, S., S. Tanaka, et al. (2011). "Mid-term prognosis after endoscopic resection for submucosal colorectal carcinoma: summary of a multicenter questionnaire survey conducted by the colorectal endoscopic resection standardization implementation working group in Japanese Society for Cancer of the Colon and Rectum." <u>Dig Endosc</u> 23(2) : 190-194.	Ex	Endoscopic resection
	Palma, P., K. Horisberger, et al. (2009). "Local excision of early rectal cancer: is transanal endoscopic microsurgery an alternative to radical surgery?" <u>Rev Esp Enferm Dig</u> 101(3) : 172-178.	Ex	34 T1 patients, neoadjuvant therapy not mentioned
	Park, S. U., Y. W. Min, et al. (2011). "Comparison of clinical outcomes between the endoscopic submucosal dissection and the transanal endoscopic microsurgery for early rectal cancers." <u>Gastrointestinal Endoscopy</u> 1 : AB305.	Ex	Stage of patients not mentioned; neoadjuvant therapy not mentioned; time of follow-up not mentioned
	Peng, J., W. Chen, et al. (2011). "Oncological outcome of T1 rectal cancer undergoing standard resection and local excision." <u>Colorectal Dis</u> 13(2) : e14-19.	Ex	58 T1 patients, neoadjuvant therapy not mentioned
	Peng, J., W. Chen, et al. (2011). "Long-term outcome of early-stage rectal cancer undergoing standard resection and local excision." <u>Clin Colorectal Cancer</u> 10(1) : 37-41.	Ex	Patients who received postoperative therapy were excluded from analysis. Neoadjuvant therapy not mentioned
	Peng, J., Y. Xu, et al. (2010). "Outcome of T1N0 rectal cancer undergoing standard resection and local excision." <u>Diseases of the Colon and Rectum</u> 53 (4) : 638.	Ex	Neoadjuvant treatment not mentioned
	Penninckx, F. (2008). "Organ preservation in rectal cancer." <u>British Journal of Surgery</u> 95(3) : 269-270.		On request
	Perez, R. O., A. Habr-Gama, et al. (2011). "Transanal endoscopic microsurgery for residual rectal cancer after neoadjuvant chemoradiation therapy is associated with significant immediate pain and hospital readmission rates." <u>Dis Colon Rectum</u> 54(5) : 545-551.	Ex	Other outcome (complications)

	Reference	In- /Excluded	Reason(s)
	Perez, R. O., A. Habr-Gama, et al. (2013). "Transanal Endoscopic Microsurgery for Residual Rectal Cancer (ypT0-2) Following Neoadjuvant Chemoradiation Therapy: Another Word of Caution." <u>Dis Colon Rectum</u> 56 (1): 6-13.	Ex	27 T2 patients treated with neoadjuvant therapy
150	Pierce, R. and M. Whiteford (2010). "A comparison of minimally invasive treatments for rectal tumors: TEM vs. laparoscopic TME." <u>Diseases of the Colon and Rectum</u> 53 (4): 704-705.		On request
	Platell, C. (2009). "Transanal endoscopic microsurgery." <u>ANZ J Surg</u> 79 (4): 275-280.	Ex	Outcomes not reported per stage
	Ragupathi, M. and E. M. Haas (2011). "Transanal endoscopic video-assisted excision: application of single-port access." <u>JLS</u> 15 (1): 53-58.	Ex	Narrative review
	Ragupathi, M., D. V. Maele, et al. (2012). "Transanal endoscopic video-assisted (TEVA) excision." <u>Surg Endosc</u> 26 (12): 3528-3535.	Ex	Short follow-up
	Ramani, V. S., A. Sun Myint, et al. (2011). "Local excision and contact radiotherapy (CXR) for early rectal cancer: A single institution experience." <u>Radiotherapy and Oncology</u> 99 : S394.	Ex	Neoadjuvant therapy not mentioned
	Ramirez, J. M., V. Aguilera, et al. (2011). "Transanal endoscopic microsurgery for rectal cancer. Long-term oncologic results." <u>Int J Colorectal Dis</u> 26 (4): 437-443.	Ex	No neoadjuvant treatment
	Rizzuto, A., F. U. Zittel, et al. (2012). "Transanal Single-port Surgery (TAMIS) for the resection of small non advanced low rectal cancer (iT1-iT2, IN0)." <u>European Journal of Surgical Oncology</u> 38 (9): 791-792.		On request
	Rocha, J. J. and O. Feres (2008). "Transanal endoscopic operation: a new proposal." <u>Acta Cir Bras</u> 23 Suppl 1 : 93-104; discussion 104.	Ex	Neoadjuvant therapy not mentioned
	Rothenberger, D. A. and D. Christoforidis (2008). "Local excision of distal rectal cancer: An update of cancer and leukemia group B 8984 - Commentary." <u>Diseases of the Colon and Rectum</u> 51 (8): 1191-1193.		On request
	Ruiz-Tovar, J., J. Jimenez-Miramón, et al. (2010). "Endoscopic resection as unique treatment for early colorectal cancer." <u>Rev Esp Enferm Dig</u> 102 (7): 435-441.	Ex	Narrative review
160	Saito, N., Y. Nishizawa, et al. (2011). "Local therapy for high-risk T1 rectal cancer." <u>Colorectal Disease</u> 13 : 20.		On request
	Salama, M., D. Ormonde, et al. (2010). "Outcomes of endoscopic resection of large colorectal neoplasms: an Australian experience." <u>J Gastroenterol Hepatol</u> 25 (1): 84-89.	Ex	Endoscopic resection
	Seman, M., F. Bretagnol, et al. (2010). "Transanal endoscopic microsurgery (TEM) for rectal tumor: the first French single-center experience." <u>Gastroenterol Clin Biol</u> 34 (8-9): 488-493.		On request
	Serra-Aracil, X., H. Vallverdu, et al. (2008). "Long-term follow-up of local rectal cancer surgery by transanal endoscopic microsurgery." <u>World J Surg</u> 32 (6): 1162-1167.	Ex	No neoadjuvant therapy
	Sgurakis, G., S. Lanitis, et al. (2011). "Transanal endoscopic microsurgery for T1 and T2 rectal cancers: a meta-analysis and meta-regression analysis of outcomes." <u>Am Surg</u> 77 (6): 761-772.	Ex	Used for reference tracking
	Shelygin, Y., I. Peresada, et al. (2011). "Organ-saving treatment for early rectal carcinomas." <u>Colorectal Disease</u> 13 : 42.	Ex	Series of 23 T1-3 patients treated by TEM, unclear how many received neoadjuvant therapy as this is not described systematically. At least 1 patient did, as: 'The distant recurrence was in a patient with significant medical comorbidities who underwent neoadjuvant chemoradiation and TEM for a clinical T2 tumor'
	Slack, T., S. Wong, et al. (2012). "Transanal minimally invasive surgery: an initial experience." <u>ANZ J Surg</u> .		On request

	Reference	In- /Excluded	Reason(s)
	Speake, D., N. Lees, et al. (2008). "Who should be followed up after transanal endoscopic resection of rectal tumours?" <u>Colorectal Dis</u> 10 (4): 330-335.	Ex	Patients who had immediate salvage surgery were not followed
	Steinhagen, E., G. Chang, et al. (2011). "Initial experience with transanal endoscopic microsurgery: the need for understanding the limitations." <u>J Gastrointest Surg</u> 15 (6): 958-962.		On request
	Stipa, F., V. Giaccaglia, et al. (2012). "Management and outcome of local recurrence following transanal endoscopic microsurgery for rectal cancer." <u>Dis Colon Rectum</u> 55 (3): 262-269.	Ex	86 T1 patients without neoadjuvant chemotherapy. T2-3 patients: 'preoperative chemoradiation was administered to 37 patients (25.7%) with T2 or T3 tumors'
170	Stylinski, R., T. Pedowski, et al. (2011). "TEM (Transanal Endoscopic Microsurgery) in rectal cancer - Own experience." <u>European Surgery - Acta Chirurgica Austriaca</u> 43 : 12-13.		On request
	Suppiah, A., S. Maslekar, et al. (2008). "Transanal endoscopic microsurgery in early rectal cancer: time for a trial?" <u>Colorectal Dis</u> 10 (4): 314-327; discussion 327-319.	Ex	No quality appraisal (used for reference tracking)
	Tarantino, I., F. H. Hetzer, et al. (2008). "Local excision and endoscopic posterior mesorectal resection versus low anterior resection in T1 rectal cancer." <u>Br J Surg</u> 95 (3): 375-380.		On request
	Tarantino, I. and A. Zerz (2008). "Authors reply: Local excision and endoscopic posterior mesorectal resection versus low anterior resection in T1 rectal cancer (Br J Surg 2008; 95: 375-380)." <u>British Journal of Surgery</u> 95 (7): 931.		On request
	Tennyson, N., W. M. Mendenhall, et al. (2011). "Transanal excision combined with either preoperative or postoperative radiation therapy for rectal adenocarcinoma: The university of Florida experience." <u>International Journal of Radiation Oncology Biology Physics</u> 1 : S373.	Ex	Abstract of Tennyson 2012
	Tennyson, N., W. M. Mendenhall, et al. (2012). "Transanal excision with radiation therapy for rectal adenocarcinoma." <u>Clin Med Res</u> 10 (4): 224-229.	?	26/38 T1-3 patients were treated with preoperative radiotherapy
	Toyonaga, T., M. Man-i, et al. (2010). "Endoscopic treatment for early stage colorectal tumors: the comparison between EMR with small incision, simplified ESD, and ESD using the standard flush knife and the ball tipped flush knife." <u>Acta Chir lugosl</u> 57 (3): 41-46.		On request
	Trostchansky, I., A. Shalabi, et al. (2011). "Excision of rectal tumors using transanal endoscopic microsurgery." <u>Techniques in Coloproctology</u> 15 (1): 116.	Ex	Neoadjuvant therapy not mentioned
	Tsai, B., C. Finne, et al. (2009). "Transanal endoscopic microsurgery (TEM) resection of rectal tumors: Outcomes and recommendations." <u>Diseases of the Colon and Rectum</u> 52 (4): 775.	Ex	Neoadjuvant therapy not mentioned
	Tsai, B. M., C. O. Finne, et al. (2010). "Transanal endoscopic microsurgery resection of rectal tumors: outcomes and recommendations." <u>Dis Colon Rectum</u> 53 (1): 16-23.		On request
180	Tsai, B. M., C. O. Finne, et al. (2010). "Transanal endoscopic microsurgery resection of rectal tumors: Outcomes and recommendations." <u>Diseases of the Colon and Rectum</u> 53 (1): 16-23.		On request
	Tytherleigh, M. G., B. F. Warren, et al. (2008). "Management of early rectal cancer." <u>The British journal of surgery</u> 95 (4): 409-423.	Ex	Narrative review, no original observational data
	van den Broek, F. J., E. J. de Graaf, et al. (2009). "Transanal endoscopic microsurgery versus endoscopic mucosal resection for large rectal adenomas (TREND-study)." <u>BMC Surg</u> 9 : 4.	Ex	On adenomas
	Van Leerdam, M. E., T. C. Smyrk, et al. (2010). "Long term	Ex	Neoadjuvant therapy not mentioned

	Reference	In- /Excluded	Reason(s)
	outcome of early colorectal cancer treated with local excision or radical resection." <u>Gastroenterology</u> 1): S44		
	Walega, P., J. Kenig, et al. (2009). "Combination of TEM and EPMR in the treatment of patients with T1 rectal cancer." <u>Colorectal Disease</u> 11 : 56.		On request
	Walega, P., J. Kenig, et al. (2010). "Functional and clinical results of transanal endoscopic microsurgery combined with endoscopic posterior mesorectum resection for the treatment of patients with t1 rectal cancer." <u>World J Surg</u> 34 (7): 1604-1608.	Ex	6 T1 patients treated by TEM. Neoadjuvant therapy not mentioned
	Walega, P., J. Kenig, et al. (2010). "Transanal endoscopic microsurgery (TEM) combined with endoscopic posterior mesorectum excision in the treatment of patients with T1 rectal cancer: Own results." <u>Colorectal Disease</u> 12 : 14.	Ex	8 T1 patients treated by TEM. Neoadjuvant therapy not mentioned
	Walega, P., J. Kenig, et al. (2010). "Transanal endoscopic microsurgery combined with endoscopic posterior mesorectum excision in the treatment of patients with T1 rectal cancer: Own results." <u>Annals of Oncology</u> 21 : vi108-vi109.		On request
	Walega, P., J. Kenig, et al. (2012). "Functional and clinical results of T1 rectal cancer treatment using transanal endoscopic microsurgery combined with endoscopic posterior mesorectum resection." <u>Colorectal Disease</u> 14 : 61.		On request
	Whitehouse, P. A., J. N. Armitage, et al. (2008). "Transanal endoscopic microsurgery: local recurrence rate following resection of rectal cancer." <u>Colorectal Dis</u> 10 (2): 187-193.		On request
190	Wildbore, P. (2008). "Population-based study of local surgery for rectal cancer (Br J Surg 2007; 94: 1421-1426)." <u>Br J Surg</u> 95 (2): 262; author reply 262.	Ex	Letter with no additional information
	Wortham, A. H., D. Schreiber, et al. (2009). "Overall survival using local excision techniques with and without radiation compared with APR for stage I rectal cancer: A SEER based analysis." <u>Journal of Clinical Oncology</u> 1): 4032.		On request
	Wu, Y., Y. Y. Wu, et al. (2011). "TEM and conventional rectal surgery for T1 rectal cancer: A meta-analysis." <u>Hepato-Gastroenterology</u> 58 (106): 364-368.		On request
	Wu, Z. Y., G. Zhao, et al. (2012). "Oncological outcomes of transanal local excision for high risk T(1) rectal cancers." <u>World J Gastrointest Oncol</u> 4 (4): 84-88.	Ex	T1 patients without neoadjuvant treatment
	Yeh, Y. S., M. J. Chen, et al. (2012). "Transanal inside-out rectal resection for ultra-low rectal cancer." <u>J Invest Surg</u> 25 (6): 375-380.		On request
	Yeo, S. G., D. Y. Kim, et al. (2010). "Local excision following pre-operative chemoradiotherapy-induced downstaging for selected cT3 distal rectal cancer." <u>Jpn J Clin Oncol</u> 40 (8): 754-760.	In	11 T3 patients, local excision after neoadjuvant chemoradiotherapy
	Yi, H., H. Yong-Gang, et al. (2012). "Local Resection for Rectal Tumors: Comparative Study of Transanal Endoscopic Microsurgery versus Conventional Transanal Excision - The Experience in China." <u>Hepatogastroenterology</u> 59 (120).	Ex	17 T1 patients, neoadjuvant therapy not mentioned. 4 T2 patients, neoadjuvant therapy not mentioned
	Yin, L., Y. G. He, et al. (2011). "Local surgical treatment of rectal tumors." <u>Techniques in Coloproctology</u> 15 (1): 122.	Ex	Neoadjuvant therapy not mentioned
	Yoda, Y., H. Ikematsu, et al. (2010). "Long-term outcomes after endoscopic resection for submucosal invasive colorectal cancer." <u>Gastrointestinal Endoscopy</u> 71 (5): AB340.	Ex	On endoscopic resection
	Yoda, Y., H. Ikematsu, et al. (2011). "A large scale multi-center study of long-term outcomes after endoscopic resection for submucosal invasive colorectal cancer." <u>Gastrointestinal Endoscopy</u> 1): AB296-AB297.	Ex	On endoscopic resection
200	Yoon, Y. S., C. S. Yu, et al. (2011). "Long-term survival after	Ex	Patients with preoperative chemotherapy or

	Reference	In- /Excluded	Reason(s)
	transanal excision of T1 rectal cancer." <u>Journal of Gastroenterology and Hepatology</u> 26 : 132.		radiotherapy were excluded
	You, Y. N. (2011). "Local excision: is it an adequate substitute for radical resection in T1/T2 patients?" <u>Semin Radiat Oncol</u> 21 (3): 178-184.		On request
	Zhang, H., Y. S. Zhang, et al. (2012). "Transanal single-port laparoscopic total mesorectal excision in the treatment of rectal cancer." <u>Tech Coloproctol</u> .		On request
	Zhao, D. B., Y. K. Wu, et al. (2009). "Prognostic factors for 5-year survival after local excision of rectal cancer." <u>World J Gastroenterol</u> 15 (10): 1242-1245.	Ex	4/106 patients received preoperative radiotherapy
	Zhou, X., X. E. Huang, et al. (2011). "Extended full-thickness transanal local excision to treat ultra-low rectal cancer: an initial clinical exploration." <u>Asian Pac J Cancer Prev</u> 12 (4): 1045-1048.	Ex	Short follow-up
205	Ziogas, D., P. Tsekeris, et al. (2008). "Benefits, limitations, and harm of local excision for rectal cancer." <u>Ann Surg Oncol</u> 15 (9): 2628-2629; author reply 2630-2621	Ex	Letter without original observational data

Table 3. Studies identified through reference tracking and evaluated full text

	Reference	In- /Excluded	Reason(s)
1	Bonnen M, Crane C, Vauthey JN, et al. Long-term results using local excision after preoperative hemoradiation among selected T3 rectal cancer patients. <u>Int J Radiat Oncol Biol Phys</u> 2004; 60:1098–105	In	26 T3 patients after neoadjuvant therapy
	Borschitz, T., D. Wachtlin, et al. (2008). "Neoadjuvant chemoradiation and local excision for T2-3 rectal cancer." <u>Annals of surgical oncology</u> 15 (3): 712-720.	In	3 T3 patients after neoadjuvant therapy (table 2)
	Caricato M, Borzomati D, Ausania F, Tonini G, Rabitti C, Valeri S et al. Complementary use of local excision and transanal endoscopic microsurgery for rectal cancer after neoadjuvant chemoradiation. <u>Surg Endosc</u> 2006; 20: 1203–1207		On request
	Hershman MJ, Myint AS, Makin CA. Multi-modality approach in curative local treatment of early rectal carcinomas. <u>Colorectal Dis</u> 2003; 5:445–50	In	11 T1 and 4 T3 patients with neoadjuvant therapy
5	Kim CJ, Yeatman TJ, Coppola D, Trotti A, Williams B, Barthel JS, et al. Local excision of T2 and T3 rectal cancers after downstaging chemoradiation. <u>Ann Surg</u> 2001;234:352-358		On request
	Kim JC, Kim HC, Yu CS, et al. Efficacy of 3-dimensional endorectal ultrasonography compared with conventional ultrasonography and computed tomography in preoperative rectal cancer staging. <u>Am J Surg</u> 2006; 192:89–97	Ex	Outcomes not reported separately for T2 vs. T3 patients
	Lezoche E, Guerrieri M, Paganini AM, Feliciotti F. Long-term results of patients with pT2 rectal cancer treated with radiotherapy and transanal endoscopic microsurgical excision. <u>World J Surg</u> 2002; 26: 1170–1174.		On request
	Lezoche E, Guerrieri M, Paganini AM, et al. Long-term results in patients with T2–3 N0 distal rectal cancer undergoing radiotherapy before transanal endoscopic microsurgery. <u>Br J Surg</u> 2005; 92:1546–52	In?	Outcomes not reported separately for clinical staging, but reported separately for pathological staging
	Marks G, Mohiuddin MM, Masoni L, Pecchioli L. High-dose preoperative radiation and full-thickness local excision. A new option for patients with select cancers of the rectum. <u>Dis Colon Rectum</u> 1990; 33: 735–739.		On request
10	Meadows K, Morris CG, Rout WR, Zlotecki RA, Hochwald SN, Marsh RD, et al. Preoperative radiotherapy alone or		On request

	Reference	In- /Excluded	Reason(s)
	combined with chemotherapy followed by transanal excision for rectal adenocarcinoma. Am J Clin Oncol 2006;/29:/430_4		
	Mohiuddin M, Marks G, Bannon J. High-dose preoperative radiation and full thickness local excision: A new option for selected T3 distal rectal cancers. Int J Radiat Oncol Biol Phys 1994;30:845 – 9		On request
	Park C, LeeW, Han S, Yun S, Chun HK. Transanal local excision for preoperative concurrent chemoradiation therapy for distal rectal cancer in selected patients. Surg Today 2007; 37: 1068–1072.		On request
	Ruo L, Guillem JG, Minsky BD, et al. Preoperative radiation with or without chemotherapy and full-thickness transanal excision for selected T2 and T3 distal rectal cancers. Int J Colorectal Dis 2002; 17:54–8	In	4 T3 patients treated with neoadjuvant therapy
	Schell SR, Zlotecki RA, Mendenhall WM, et al. Transanal excision of locally advanced rectal cancers downstaged using neoadjuvant chemoradiotherapy. J Am Coll Surg 2002; 194:584–90	In	11 T3 patients treated neoadjuvantly
15	Stipa F, Lucandri G, Ferri M, Casula G, Ziparo V. Local excision of rectal cancer with transanal endoscopic microsurgery (TEM). Anticancer Res 2004;/24:/1167_72		On request

SEARCH STRINGS

All searches were limited to studies published in English, from 2008 onwards.

4. MEDLINE, MEDLINE IN PROGRESS (VIA PUBMED)

"Colorectal neoplasms" [majr] OR ((colorectal OR rectal OR rectum OR rectosigmoid) AND (cancer* OR carcinoma* OR adenocarcinoma* OR malignan* OR tumor* OR tumour* OR neoplasm*))

AND

((local[ti] OR transanal*[ti] OR rectoscop* OR endoscop*[ti] OR limited[ti]) AND (surgery OR surgical* OR resect* OR excision OR treatment OR therapy) OR microsurgery[ti] OR microsurgical* OR spts OR parks)

AND (for systematic reviews)

("meta-analysis" [pt] OR "meta-anal*" [tw] OR "metaanal*" [tw] OR ("quantitativ* review*" [tw] OR "quantitative* overview*" [tw]) OR ("systematic* review*" [tw] OR "systematic* overview*" [tw]) OR ("methodologic* review*" [tw] OR "methodologic* overview*" [tw]) OR ("review" [pt] AND "medline" [tw])

5. EMBASE (VIA OVID)

For systematic reviews:

- 1 exp rectum cancer/dm, su, th [Disease Management, Surgery, Therapy] (20811)
- 2 (colorectal or rectum or rectal).tw. (193202)
- 3 (cancer* or carcinoma* or adenocarcinoma* or malignan* or tumor* or tumour* or neoplasm*).tw. (2536234)
- 4 2 and 3 (134197)
- 5 1 or 4 (137765)

- 6 exp Meta Analysis/ (67825)
- 7 ((meta adj analy\$) or metaanalys\$).tw. (63259)
- 8 (systematic adj (review\$1 or overview\$1)).tw. (48931)
- 9 or/6-8 (125331)
- 10 cancerlit.ab. (667)
- 11 cochrane.ab. (28826)
- 12 embase.ab. (25782)
- 13 (psychlit or psyclit).ab. (957)
- 14 (psychinfo or psycinfo).ab. (6385)
- 15 (cinahl or cinhal).ab. (8749)
- 16 science citation index.ab. (1914)
- 17 bids.ab. (425)
- 18 or/10-17 (44008)
- 19 reference lists.ab. (8636)
- 20 bibliograph\$.ab. (13882)
- 21 hand-search\$.ab. (3979)
- 22 manual search\$.ab. (2282)
- 23 relevant journals.ab. (724)
- 24 or/19-23 (26625)
- 25 data extraction.ab. (10625)
- 26 selection criteria.ab. (19440)
- 27 25 or 26 (28708)
- 28 review.pt. (1919543)
- 29 27 and 28 (17086)
- 30 letter.pt. (807623)
- 31 editorial.pt. (421593)
- 32 animal/ (1810429)
- 33 human/ (13958281)
- 34 32 not (32 and 33) (1354958)
- 35 or/30-31,34 (2570545)
- 36 9 or 18 or 24 or 29 (156522)

- 37 36 not 35 (150695)
- 38 microsurgery.mp. or exp microsurgery/ (29837)
- 39 microsurgical*.mp. (15065)
- 40 spts.mp. (680)
- 41 parks.mp. (2680)
- 42 exp local therapy/ (1657)
- 43 exp endoscopic submucosal dissection/ or exp endoscopic therapy/ or exp endoscopic surgery/ (137736)
- 44 or/38-43 (176199)
- 45 (local* or transanal* or endoscop* or limited or rectoscopic*).mp. (1884390)
- 46 (surgery or surgical* or resect* or excision or treatment or therapy).mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword] (7009548)
- 47 45 and 46 (758460)
- 48 44 or 47 (868922)
- 49 5 and 37 and 48 (673)
- 50 limit 49 to (english language and yr="2008 -Current") (349)

For other studies:

- 1 microsurgery.ti. (4076)
- 2 exp microsurgery/ (26329)
- 3 microsurgical*.ti. (5274)
- 4 (spts or parks).ti. (590)
- 5 exp local therapy/ or exp endoscopic submucosal dissection/ or exp endoscopic therapy/ or exp endoscopic surgery/ (139361)
- 6 or/1-5 (166471)
- 7 (local* or transanal* or endoscop* or limited or rectoscopic*).ti. (283755)
- 8 (surgery or surgical* or resect* or excision or treatment or therapy).ti. (2004013)
- 9 7 and 8 (42007)
- 10 6 or 9 (197745)
- 11 exp rectum cancer/dm, su, th (20811)
- 12 (colorectal or rectum or rectal).ti. (103436)
- 13 (cancer* or carcinoma* or adenocarcinoma* or malignan* or tumor* or tumour* or neoplasm*).ti. (1560199)
- 14 12 and 13 (73425)

15 11 or 14 (80372)

16 10 and 15 (5593)

17 limit 16 to (english language and yr="2008 -Current") (2399)

6. CDSR (VIA THE COCHRANE LIBRARY)

The Cochrane Database of Systematic Reviews was browsed by topic:

- a. cancer -> colorectal -> surgery

REFERENCES