**Supplementary Table 1**

| Search No | Search strategy* |
|-----------|------------------|
| **#1** | MeSH descriptor: [total mesorectal excision] explode all trees |
| **#2** | total mesorectal excision : TI,AB,KW |
| **#3** | MeSH descriptor: [transanal] explode all trees |
| **#4** | transanal: TI,AB,KW |
| **#5** | MeSH descriptor: [trans-anal] explode all trees |
| **#6** | trans-anal : TI,AB,KW |
| **#7** | MeSH descriptor: [laparoscopic] explode all trees |
| **#8** | laparoscopic: TI,AB,KW |
| **#9** | MeSH descriptor: [TME] explode all trees |
| **#10** | TME: TI,AB,KW |
| **#11** | #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8  OR #9 OR #10 |
| **#12** | MeSH descriptor: [rectal cancer] explode all trees |
| **#13** | rectal cancer: TI,AB,KW |
| **#14** | low rectal : TI,AB,KW |
| **#15** | rectum: TI,AB,KW |
| **#16** | #12 OR #13 OR #14 OR #15 |
| **#17** | #11 AND #16 |

* This search strategy was adopted for following databases:  MEDLINE, EMBASE, CINAHL and the Cochrane Central Register of Controlled Trials (CENTRAL)