## Appendices

### Appendix S1: Exposure and outcome variables

The interventions/exposures include:

* Diet
	+ food groups (starch, F&V, pulses, nuts and oils, meat poultry fish and eggs, milk and dairy products, sugary drinks, coffee, tea, alcoholic drinks)
	+ dietary patterns
	+ dietary constituents (carbohydrates, protein, fat, alcohol, vitamins, minerals, phytochemicals)
	+ Biomarkers of dietary intake67
* Energy Balance
	+ Energy Intake
	+ Energy Expenditure
* Body Composition
	+ BMI
	+ Weight
	+ Skinfold measurements
	+ DXA, BIA, CT scan, ultrasound
	+ Waist circumference and other body size measures
	+ Waist to hip ratio
* Physical Activity
	+ Total physical activity
	+ Type of activity
	+ Frequency, duration and intensity

The outcome variables included:

Primary

1. Overall health related QoL (HRQoL). While HRQoL does not have an agreed definition, it is used to describe an individual’s assessment of their own general well-being. Overall HRQoL generally tries to encapsulate many different domains of an individual’s well-being. Its assessment generally involves standardised, self-administered questionnaires.
2. HRQoL domains. The conceptual model of QoL in cancer survivors designed by Ferrell and Grant has been adopted to measure specific HRQoL domains [60](#_ENREF_60).
3. Physical well-being and symptoms
	* Functional activities
	* Fatigue
	* Sleep and rest
	* Overall physical health
	* Fertility
	* Pain
4. Psychological well-being
	* Control
	* Anxiety
	* Depression
	* Enjoyment/Leisure
	* Fear of recurrence
	* Cognition/Attention
	* Distress of diagnosis and control of treatment
5. Social well-being
	* Family distress
	* Roles and relationships
	* Affection/Sexual function
	* Appearance
	* Enjoyment
	* Isolation
	* Finances
	* Work
6. Spiritual well-being
	* Meaning of illness
	* Religiosity
	* Transcendence
	* Hope
	* Uncertainty
	* Inner strength

67. WCRF. 2010. *Continuous update literature review on diet and cancer Protocol for systematic review on nutrition, physical activity and health outcomes in breast cancer survivors – version 2.* [Online]. World Cancer Research Fund. Available: <http://www.dietandcancerreport.org/cancer_resource_center/downloads/cu/CUP_breast_cancer_survivors_protocol_version_2.pdf> [Accessed 06 November 2013.

### Appendix S2: Search strategy

#1 cancer OR oncology OR oncolog\* OR neoplasms OR neoplas\* OR carcinoma OR carcinom\* OR tumor OR tumour OR tumor\* OR tumour\* OR cancer\* OR malignan\*

#2 endometr\* OR uter\* OR womb

#3 post-treatment OR surviv\* OR post-surg\* OR patient\*

**#4 #1 AND #2 AND #3**

#5 exercise OR exercises OR exercis\* OR Exercise, Physical OR Exercises, Physical OR Physical Exercise OR Physical Exercises OR Exercise, Isometric OR Exercises, Isometric OR Isometric Exercises OR Isometric Exercise OR Warm-Up Exercise OR Exercise, Warm-Up OR Exercises, Warm-Up OR Warm Up Exercise OR Warm-Up Exercises OR Exercise, Aerobic OR Aerobic Exercises OR Exercises, Aerobic OR Aerobic Exercise OR endurance OR exercise therapy OR Therapy, Exercise OR Exercise Therapies OR Physiotherapy (Techniques) OR Physiotherapies (Techniques) OR Physical Therapy Techniques OR Physical Therapy Technique OR exercise test OR exercise tests OR muscle stretching exercise OR muscle stretching exercises OR physical therapy OR physical therapies OR strengthen\* OR stretch\* OR physiotherapy[text] OR physiotherap\*[text] OR stability training OR training\* OR exercise movement technique OR exercise movement techniques OR Movement Techniques, Exercise OR exercise movement technic OR Exercise Movement Technics OR physical exercise OR gymnastics OR gymnastic OR gymnastic\* OR swim\* OR treadmill OR walk\* OR run\* OR aerobic OR aerobics OR aerobic\* OR cycl\* OR jog\* OR Exertion OR training program OR physical education and training OR Physical Education, Training OR Physical Education OR ﬁtness OR cardio training OR weight lifting OR power training OR muscle training OR rowing OR sports OR jump\*

#6 nutrition\* OR diet\* OR dietary pattern OR dietary patterns OR diet composition OR nutrient\* OR macronutrient\* OR micronutrient\* OR food\* OR eat\* OR vitamin\* OR mineral\* OR dietary protein OR dietary fat OR dietary carbohydrate OR calorie OR alcohol OR energy

#7 cereal OR grain OR wholegrain OR wholewheat OR bread OR sugar OR vegetable OR fruit OR pulses OR beans OR lentils OR chickpeas OR legumes OR nut OR peanut OR seeds OR oils OR meat OR beef OR pork OR lamb OR poultry OR chicken OR turkey OR duck OR egg OR fish OR shellfish OR seafood OR dairy OR milk OR tea OR coffee OR beverages

#8 nutritional status OR nutritional assessment OR nutrition assessment OR weight OR obes\* OR overweight OR weight status OR weight change OR weight loss OR weight gain OR malnutrition OR malnourish\* OR sarcopenia OR sarcopenic OR body composition OR skinfold\* OR bioelectrical impedance OR BIA OR DXA OR DEXA OR double labeled water OR calorimetry OR BMI OR body mass index OR anthropometry OR waist circumference OR nutrition biomarkers

**#9 #5 OR #6 OR #7 OR #8**

#10 quality of life OR Qol OR condition\* OR physical ﬁtness OR health status OR health level OR well-being OR wellness OR fatigue OR lifestyle OR physical effort OR physical skill OR physical activity OR muscle strength OR muscular strength OR lung function OR pulmonary function OR vital capacity OR recovery of function OR functional ability physical endurance OR range of motion OR VO2 OR VO(2peak) OR ventilatory threshold OR heart rate OR endurance OR activity energy expenditure OR DEXA OR DXA OR activity participation OR mets score OR Wingate anaerobic test OR dynamometer OR Sit-to-Stand OR ten repetition maximum OR muscle power OR sit-and-reach OR surviv\* OR remission OR treatment outcome OR adverse effects OR comorbidities OR lymphedema OR osteoporosis OR cystitis OR proctitis OR hot flashes OR anaemia OR diabetes OR hypertension OR osteoarthritis OR cardiovascular disease OR Physical well-being OR Functional activities OR Fatigue OR Overall physical health OR fertility OR pain OR psychological well-being OR anxiety OR depression OR recurrence fear OR distress OR Social well-being OR appearance OR body image OR spiritual well-being

**#11 #4 AND #9 AND #10**

#12 transgenic OR mice OR hamster OR rat OR dog OR cat OR in vitro

**#13 #11 NOT #12**

*Retrieves 4316 results on PubMed*

Conference proceedings reviewed from the British Gynaecological Cancer Society, the International Gynaecological Cancer Society, the American Society of Gynaecologic Oncology, the European Society of Medical Oncology, the National Cancer Research Institute, the European Society of Gynaecologic Oncology, the American Society of Clinical Oncology, the Cancer Survivorship Research Conference, the American Institute for Cancer Research Conference, the and World Cancer Congress.

### Appendix S3: Data extraction form

**General information**

Researcher performing data extraction

Date of data extraction

Identification features of the study:

* Record number (to uniquely identify study)
* Author
* Article title
* Citation
* Type of publication (e.g. journal article, conference abstract)
* Country of origin
* Source of funding

**Study characteristics**

Aim/objectives of the study

Study design

Study inclusion and exclusion criteria

Recruitment procedures used (e.g. details of randomisation, blinding)

Unit of allocation (e.g. participant, GP practice, etc.)

**Participant characteristics**

Characteristics of participants at the beginning of the study e.g.

* Age
* Ethnicity
* Socio-economic status
* Disease characteristics
* Co-morbidities

Number of participants in each characteristic category for intervention and control group(s) or mean/median characteristic values (record whether it is the number eligible, enrolled, or randomised that is reported in the study)

**Intervention and setting**

Setting in which the intervention is delivered

Description of the intervention(s) and control(s) (e.g. duration, care provider, how the intervention was developed, theoretical basis (where relevant))

For each pre-specified nutritional factor and physical activity:

* Whether reported
* Definition used in study
* Measurement tool or method used
* Unit of measurement (if appropriate)
* Length of follow-up, number and/or times of follow-up measurements)

Description of co-interventions

**Outcome data/results**

Unit of assessment/analysis

Statistical techniques used

For each pre-specified outcome (HRQoL or HRQoL domain measures, or both)

* Whether reported
* Definition used in study
* Measurement tool or method used
* Unit of measurement (if appropriate)
* Length of follow-up, number and/or times of follow-up measurements

For all intervention group(s) and control group(s):

* Number of participants enrolled
* Number of participants included in analysis
* Number of withdrawals, exclusions, lost to follow-up
* Summary outcome data e.g.
* Dichotomous: number of events, number of participants
* Continuous: mean and standard deviation

Type of analysis used in study (e.g. intention to treat, per protocol)

Results of study analysis: e.g.

* Dichotomous: odds ratio, risk ratio and confidence intervals, p-value
* Continuous: mean difference, confidence intervals

Adjustment factors in the analysis. If a series of models is presented (e.g. unadjusted, age-adjusted or multi-adjusted), the fully adjusted model will be extracted. If the fully adjusted model is not provided, the most adjusted model will be extracted.

Additional outcomes

Record details of any additional relevant outcomes reported

**Appendix S4: Quality assessment.**

**Table S1** Methodological quality in cohorts and clinical trials

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | **Cohorts** | **Trials** |
|  | **SIGN Methodological Quality (Yes=1, No=0, Can’t say=3)** **High quality (++) Acceptable (+) Unacceptable (-)** | **Smits et al. (2013)29** | **Fader et al. (2011)31** | **Von Gruenigen et al. (2008, 2009)34, 45** | **McCarroll et al. (2013)32, Von Gruenigen et al. (2012)33** |
| 2.1 | How well was the study done to minimise the risk of bias or confounding?  | - | + | - | + |
| 2.2 | Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, do you think there is clear evidence of an association between exposure and outcome? | 0 | 0 | 0 | 0 |
| 2.3 | Are the results of this study directly applicable to the patient group targeted in this guideline? | 1 | 1 | 1 | 1 |

**References for Table S1**

29. Smits A, Lopes A, Das N, Bekkers R, Galaal K. The impact of BMI on quality of life in obese endometrial cancer survivors: Does size matter? *Gynecologic oncology.* 2013.

30. Basen-Engquist K, Scruggs S, Jhingran A, et al. Physical activity and obesity in endometrial cancer survivors: associations with pain, fatigue, and physical functioning. *American journal of obstetrics and gynecology.* 2009;200(3):288.e281-288.

32. McCarroll ML, Armbruster S, Frasure HE, et al. Self-efficacy, quality of life, and weight loss in overweight/obese endometrial cancer survivors (SUCCEED): A randomized controlled trial. *Gynecologic oncology.* 2013.

33. von Gruenigen V, Frasure H, Kavanagh MB, et al. Survivors of uterine cancer empowered by exercise and healthy diet (SUCCEED): a randomized controlled trial. *Gynecologic oncology.* 2012;125(3):699-704.

34. von Gruenigen VE, Courneya KS, Gibbons HE, Kavanagh MB, Waggoner SE, Lerner E. Feasibility and effectiveness of a lifestyle intervention program in obese endometrial cancer patients: a randomized trial. *Gynecologic oncology.* 2008;109(1):19-26.

35. von Gruenigen VE, Gibbons HE, Kavanagh MB, Janata JW, Lerner E, Courneya KS. A randomized trial of a lifestyle intervention in obese endometrial cancer survivors: quality of life outcomes and mediators of behavior change. *Health and quality of life outcomes.* 2009;7:17.