

APPENDIX 3

Proposition-specific searches

Literature searches for evidence supporting the 10 recommendations.
Date of search: 16-05-2012.

Recommendation 1

Pubmed, 1666 hits

((“adrenal cortex hormone”[Tiab] OR “adrenal cortical hormone”[Tiab] OR “adrenal cortex steroid”[Tiab] OR “adrenal cortical steroid”[Tiab] OR “adrenal steroid hormone”[Tiab] OR “adrenocortical hormone”[Tiab] OR “adrenocortical steroid”[Tiab] OR corticosteroid*[Tiab] OR corticoid*[Tiab] OR cortison*[Tiab] OR cortisol*[Tiab] OR hydrocortison*[Tiab] OR dexamethason*[Tiab] OR methylpredniso*[Tiab] OR deflazacort*[Tiab] OR glucocort*[Tiab] OR predniso*[Tiab] OR “Glucocorticoids”[MESH]) AND (“drug information”[Tiab] OR “patient information”[Tiab] OR “counseling”[Tiab] OR “counselling”[Tiab] OR “information session”[Tiab] OR “information leaflet”[Tiab] OR “information booklet”[Tiab] OR “information brochure”[Tiab] OR “information folder”[Tiab] OR “information pamphlet”[Tiab] OR “written information”[Tiab] OR “spoken information”[Tiab] OR “oral information”[Tiab] OR educat*[Tiab] OR “patient education”[Tiab] OR “patient instruction”[Tiab] OR “patient perspective”[Tiab] OR “patient perspectives”[Tiab] OR “patients perspective”[Tiab] OR “patients perspectives”[Tiab] OR “rheumatologist perspective”[Tiab] OR “rheumatologist perspectives”[Tiab] OR “rheumatologists perspective”[Tiab] OR “rheumatologists perspectives”[Tiab] OR “doctor perspective”[Tiab] OR “doctor perspectives”[Tiab] OR “doctors perspective”[Tiab] OR “doctors perspectives”[Tiab] OR “physician perspective”[Tiab] OR “physician perspectives”[Tiab] OR “physicians perspective”[Tiab] OR “physicians perspectives”[Tiab] OR “patient viewpoint”[Tiab] OR “patient viewpoints”[Tiab] OR “patients viewpoint”[Tiab] OR “patients viewpoints”[Tiab]))

Embase, 1988 hits

((‘adrenal cortex hormone’ OR ‘adrenal cortical hormone’ OR ‘adrenal cortex steroid’ OR ‘adrenal cortical steroid’ OR ‘adrenal steroid hormone’ OR ‘adrenocortical hormone’ OR ‘adrenocortical steroid’ OR corticosteroid* OR corticoid* OR cortison* OR cortisol* OR hydrocortison* OR dexamethason* OR methylpredniso* OR deflazacort* OR glucocort* OR predniso*) AND (‘drug information’ OR ‘patient information’ OR ‘counseling’ OR ‘counselling’ OR ‘information session’ OR ‘information leaflet’ OR ‘information booklet’ OR ‘information brochure’ OR ‘information folder’ OR ‘information pamphlet’ OR ‘written information’ OR ‘spoken information’ OR ‘oral information’ OR educat* OR ‘patient education’ OR ‘patient instruction’ OR ‘patient perspective’ OR ‘patient perspectives’ OR ‘patients perspective’ OR ‘patients perspectives’ OR ‘rheumatologist perspective’ OR ‘rheumatologist perspectives’ OR ‘rheumatologists perspective’ OR ‘rheumatologists perspectives’ OR ‘doctor perspective’ OR ‘doctor perspectives’ OR ‘doctors perspective’ OR ‘doctors perspectives’ OR ‘physician perspective’ OR ‘physician perspectives’ OR ‘physicians perspective’ OR ‘physicians perspectives’ OR ‘patient viewpoint’ OR ‘patient viewpoints’ OR ‘patients viewpoint’ OR ‘patients viewpoints’)):ti:ab

Cochrane Library, 290 hits

((“adrenal cortex hormone” OR “adrenal cortical hormone” OR “adrenal cortex steroid” OR “adrenal cortical steroid” OR “adrenal steroid hormone” OR “adrenocortical hormone” OR “adrenocortical steroid” OR corticosteroid* OR corticoid* OR cortison* OR cortisol* OR hydrocortison* OR dexamethason* OR methylpredniso* OR deflazacort* OR glucocort* OR predniso* OR “Glucocorticoids”[MESH]) AND (“drug information” OR “patient information” OR “counseling” OR “counselling” OR “information session” OR “information leaflet” OR “information booklet” OR “information brochure” OR “information folder” OR “information

pamphlet" OR "written information" OR "spoken information" OR "oral information" OR educat* OR "patient education" OR "patient instruction" OR "patient perspective" OR "patient perspectives" OR "patients perspective" OR "patients perspectives" OR "rheumatologist perspective" OR "rheumatologist perspectives" OR "rheumatologists perspective" OR "rheumatologists perspectives" OR "doctor perspective" OR "doctor perspectives" OR "doctors perspective" OR "doctors perspectives" OR "physician perspective" OR "physician perspectives" OR "physicians perspective" OR "physicians perspectives" OR "patient viewpoint" OR "patient viewpoints" OR "patients viewpoint" OR "patients viewpoints")):ti,ab,kw

Inclusion criteria:

- Patients (or family/carers/physicians) on/starting GC therapy
- Informing on GC therapy

Exclusion criteria:

- Animal studies
- Studies in children (<18 years)
- Language other than English, German or Dutch
- Case series or case reports
- Letters, editorials
- Congress abstracts
- Reviews

Search result: 2549 articles retrieved (duplicates excluded)

Best level of evidence supporting the recommendation in asthma or COPD: I-B

Best level of evidence supporting the recommendation in rheumatic diseases: 3

Van der Goes: patients underline their wish for more information regarding GC therapy; information about GC therapy should be given over time, in small steps

Helliwell: lack of effective communication could be a reason for termination of DMARD therapy (among which GCs) in South Asian people in UK

Recommendation 2

Pubmed, 2767 hits

((“adrenal cortex hormone”[Tiab] OR “adrenal cortical hormone”[Tiab] OR “adrenal cortex steroid”[Tiab] OR “adrenal cortical steroid”[Tiab] OR “adrenal steroid hormone”[Tiab] OR “adrenocortical hormone”[Tiab] OR “adrenocortical steroid”[Tiab] OR corticosteroid*[Tiab] OR corticoid*[Tiab] OR cortison*[Tiab] OR hydrocortison*[Tiab] OR dexamethason*[Tiab] OR methylpredniso*[Tiab] OR deflazacort*[Tiab] OR glucocort*[Tiab] OR predniso*[Tiab] OR “Glucocorticoids”[MESH]) AND (nutrition[Tiab] OR diet[Tiab] OR food*[Tiab] OR weight[Tiab] OR appetite[Tiab] OR sport*[Tiab] OR training*[Tiab] OR exercise*[Tiab] OR “physical activity”[Tiab] OR “weight bearing activity”[Tiab] OR “weight-bearing activity”[Tiab] OR osteoporosis[Tiab] OR wound*[Tiab]) AND (prevent*[Tiab] OR mitigat*[Tiab] OR counterbalance*[Tiab] OR “risk reduction”[Tiab] OR “risk decrease”[Tiab]))

Embase, 3028 hits

((‘adrenal cortex hormone’ OR ‘adrenal cortical hormone’ OR ‘adrenal cortex steroid’ OR ‘adrenal cortical steroid’ OR ‘adrenal steroid hormone’ OR ‘adrenocortical hormone’ OR ‘adrenocortical steroid’ OR corticosteroid* OR corticoid* OR cortison* OR hydrocortison* OR dexamethason* OR methylpredniso* OR deflazacort* OR glucocort* OR predniso*) AND (nutrition OR diet OR food* OR weight OR appetite OR sport* OR training* OR exercise* OR ‘physical activity’ OR ‘weight bearing activity’ OR ‘weight-bearing activity’ OR osteoporosis OR wound*) AND (prevent* OR mitigat* OR counterbalance* OR ‘risk reduction’ OR ‘risk decrease’)):ti:ab

Cochrane Library, 434 hits

((“adrenal cortex hormone” OR “adrenal cortical hormone” OR “adrenal cortex steroid” OR “adrenal cortical steroid” OR “adrenal steroid hormone” OR “adrenocortical hormone” OR “adrenocortical steroid” OR corticosteroid* OR corticoid* OR cortison* OR hydrocortison* OR dexamethason* OR methylpredniso* OR deflazacort* OR glucocort* OR predniso* OR “Glucocorticoids”[MESH]) AND (nutrition OR diet OR food* OR weight OR appetite OR sport* OR training* OR exercise* OR “physical activity” OR “weight bearing activity” OR “weight-bearing activity” OR osteoporosis OR wound*) AND (prevent* OR mitigat* OR counterbalance* OR “risk reduction” OR “risk decrease”)):ti,ab,kw

Inclusion criteria:

- Patients on/starting GC therapy
- Studies focused on diet, exercise or wound care (as preventive or therapeutic measure for GC induced adverse effects)

Exclusion criteria:

- Animal studies
- Studies in children (<18 years)
- Language other than English, German or Dutch
- Case series or case reports
- Letters, editorials
- Congress abstracts
- Reviews
- Studies on topical, intranasal, inhaled or enema GCs

Search result: 3906 articles retrieved (duplicates excluded)

Best level of evidence supporting the recommendation in transplants and chronic obstructive pulmonary disease patients: I-B

Beneficial effects of exercise on muscle strength and BMD.

Best level of evidence supporting the recommendation in rheumatic diseases: III-IV
Tourinho (72% of patients on GCs, mean 7.3 mg): moderate physical activity reduced the risk of osteopenia by 50%; sedentarism and low weight are the main factors associated with bone loss.

Madsen (most patients are/were on GCs): quadriceps strenght is associated with BMD.

NB: No evidence on diet and wound care available to support the recommendation.

Recommendation 3

Pubmed, 927 hits

((“steroid induced osteoporosis”[Tiab] OR “steroid-induced osteoporosis”[Tiab] OR “corticosteroid induced osteoporosis”[Tiab] OR “corticosteroid-induced osteoporosis”[Tiab] OR “glucocorticosteroid induced osteoporosis”[Tiab] OR “glucocorticosteroid-induced osteoporosis”[Tiab] OR “glucocorticoid induced osteoporosis”[Tiab] OR “glucocorticoid-induced osteoporosis”[Tiab] OR “steroid induced bone loss”[Tiab] OR “steroid-induced bone loss”[Tiab] OR “corticosteroid induced bone loss”[Tiab] OR “corticosteroid-induced bone loss”[Tiab] OR “glucocorticosteroid induced bone loss”[Tiab] OR “glucocorticosteroid-induced bone loss”[Tiab] OR “glucocorticoid induced bone loss”[Tiab] OR “glucocorticoid-induced bone loss”[Tiab] OR GIOP[Tiab] OR (Glucocorticoids[Mesh] AND osteoporosis[Mesh])) AND (prophylaxis[Tiab] OR prevention[Tiab] OR preventive[Tiab] OR bisphosphonate*[Tiab] OR alendronate[Tiab] OR zoledron*[Tiab] OR ibandronate[Tiab] OR neridronate[Tiab] OR etidronate[Tiab] OR risedronate[Tiab] OR teriparatide[Tiab] OR PTH[Tiab] OR raloxi*[Tiab] OR calcitonin*[Tiab] OR calcium[Tiab] OR “vitamin D”[Tiab] OR “vitamin D3”[Tiab] OR hydroxycholecalciferol[Tiab] OR alphacalcidol[Tiab]))

Embase, 827 hits

((‘steroid induced osteoporosis’ OR ‘steroid-induced osteoporosis’ OR ‘corticosteroid induced osteoporosis’ OR ‘corticosteroid-induced osteoporosis’ OR ‘glucocorticosteroid induced osteoporosis’ OR ‘glucocorticosteroid-induced osteoporosis’ OR ‘glucocorticoid induced osteoporosis’ OR ‘glucocorticoid-induced osteoporosis’ OR ‘steroid induced bone loss’ OR ‘steroid-induced bone loss’ OR ‘corticosteroid induced bone loss’ OR ‘corticosteroid-induced bone loss’ OR ‘glucocorticosteroid induced bone loss’ OR ‘glucocorticosteroid-induced bone loss’ OR ‘glucocorticoid induced bone loss’ OR ‘glucocorticoid-induced bone loss’ OR GIOP) AND (prophylaxis OR prevention OR preventive OR bisphosphonate* OR alendronate OR zoledron* OR ibandronate OR neridronate OR etidronate OR risedronate OR teriparatide OR PTH OR raloxi* OR calcitonin* OR calcium OR ‘vitamin D’ OR ‘vitamin D3’ OR hydroxycholecalciferol OR alphacalcidol)):ti:ab

Cochrane Library, 186 hits

((“steroid induced osteoporosis” OR “steroid-induced osteoporosis” OR “corticosteroid induced osteoporosis” OR “corticosteroid-induced osteoporosis” OR “glucocorticosteroid induced osteoporosis” OR “glucocorticosteroid-induced osteoporosis” OR “glucocorticoid induced osteoporosis” OR “glucocorticoid-induced osteoporosis” OR “steroid induced bone loss” OR “steroid-induced bone loss” OR “corticosteroid induced bone loss” OR “corticosteroid-induced bone loss” OR “glucocorticosteroid induced bone loss” OR “glucocorticosteroid-induced bone loss” OR “glucocorticoid induced bone loss” OR “glucocorticoid-induced bone loss” OR GIOP OR (Glucocorticoids[Mesh] AND osteoporosis[Mesh])) AND (prophylaxis OR prevention OR preventive OR bisphosphonate* OR alendronate OR zoledron* OR ibandronate OR neridronate OR etidronate OR risedronate OR teriparatide OR PTH OR raloxi* OR calcitonin* OR calcium OR “vitamin D” OR “vitamin D3” OR hydroxycholecalciferol OR alphacalcidol)):ti,ab,kw

Inclusion criteria:

- Patients on/starting oral GC therapy
- Studies focused on prevention or therapy of osteoporosis with medication, reporting BMD measurements

Exclusion criteria:

- Animal studies
- Studies in children (<18 years)
- Language other than English, German or Dutch
- Case series or case reports

- Letters, editorials, comments, erratum
- Congress abstracts
- Reviews
- Studies on inhaled GCs or very short treatment duration (i.e. less than 1 month)

Search result: 1248 articles retrieved (duplicates excluded)

Best level of evidence supporting the recommendation: I-A

Homik: bisphosphonates are effective in preventing and treating GC-induced osteoporosis.

Amin: bisphosphonates most effective, efficacy enhanced by combination with vitamin D.

De Nijs: active vitamin D analogues are more effective in preserving bone compared to plain vitamin D and/or calcium; bisphosphonates are more effective.

Richy: vitamin D analogues seem to prevent spinal fractures to a greater extent than do native vitamin D.

Homik (calcium and vitamin D): prevention of bone loss with vitamin D and calcium

Recommendation 4

Pubmed, 2005 hits

((“adrenal cortex hormone”[Tiab] OR “adrenal cortical hormone”[Tiab] OR “adrenal cortex steroid”[Tiab] OR “adrenal cortical steroid”[Tiab] OR “adrenal steroid hormone”[Tiab] OR “adrenocortical hormone”[Tiab] OR “adrenocortical steroid”[Tiab] OR corticosteroid*[Tiab] OR corticoid*[Tiab] OR cortison*[Tiab] OR hydrocortison*[Tiab] OR dexamethason*[Tiab] OR methylpredniso*[Tiab] OR deflazacort*[Tiab] OR glucocort*[Tiab] OR predniso*[Tiab] OR “Glucocorticoids”[MESH]) AND (“hypothalamic-pituitary-adrenal axis”[Tiab] OR “pituitary-adrenal system”[Tiab] OR “pituitary-adrenal response”[Tiab] OR “adrenal insufficiency”[Tiab] OR “adrenal deficiency”[Tiab] OR “adrenal crisis”[Tiab] OR “adrenocortical insufficiency”[Tiab] OR “adrenocortical deficiency”[Tiab]) AND (advice*[Tiab] OR recommendation*[Tiab] OR inform*[Tiab] OR educat*[Tiab] OR scheme[Tiab] OR substitute*[Tiab] OR supplem*[Tiab] OR supplet*[Tiab] OR replace*[Tiab] OR “stress dose”[Tiab] OR “stress doses”[Tiab] OR surgery[Tiab] OR surgical[Tiab] OR safe*[Tiab] OR regulat*[Tiab] OR perioperative[Tiab] OR preoperative[Tiab] OR postoperative[Tiab] OR peri-operative[Tiab] OR pre-operative[Tiab] OR post-operative[Tiab] OR “peri operative”[Tiab] OR “pre operative”[Tiab] OR “post operative”[Tiab] OR measure*[Tiab] OR prevent*[Tiab] OR mitigat*[Tiab]))

Embase, 2098 hits

((‘adrenal cortex hormone’ OR ‘adrenal cortical hormone’ OR ‘adrenal cortex steroid’ OR ‘adrenal cortical steroid’ OR ‘adrenal steroid hormone’ OR ‘adrenocortical hormone’ OR ‘adrenocortical steroid’ OR corticosteroid* OR corticoid* OR cortison* OR hydrocortison* OR dexamethason* OR methylpredniso* OR deflazacort* OR glucocort* OR predniso*) AND (‘hypothalamic-pituitary-adrenal axis’ OR ‘pituitary-adrenal system’ OR ‘pituitary-adrenal response’ OR ‘adrenal insufficiency’ OR ‘adrenal deficiency’ OR ‘adrenal crisis’ OR ‘adrenocortical insufficiency’ OR ‘adrenocortical deficiency’) AND (advice* OR recommendation* OR inform* OR educat* OR scheme OR substitute* OR supplem* OR supplet* OR replace* OR ‘stress dose’ OR ‘stress doses’ OR surgery OR surgical OR safe* OR regulat* OR perioperative OR preoperative OR postoperative OR peri-operative OR pre-operative OR post-operative OR ‘peri operative’ OR ‘pre operative’ OR ‘post operative’ OR measure* OR prevent* OR mitigat*)):ti:ab

Cochrane Library, 240 hits

((“adrenal cortex hormone” OR “adrenal cortical hormone” OR “adrenal cortex steroid” OR “adrenal cortical steroid” OR “adrenal steroid hormone” OR “adrenocortical hormone” OR “adrenocortical steroid” OR corticosteroid* OR corticoid* OR cortison* OR hydrocortison* OR dexamethason* OR methylpredniso* OR deflazacort* OR glucocort* OR predniso* OR “Glucocorticoids”[MESH]) AND (“hypothalamic-pituitary-adrenal axis” OR “pituitary-adrenal system” OR “pituitary-adrenal response” OR “adrenal insufficiency” OR “adrenal deficiency” OR “adrenal crisis” OR “adrenocortical insufficiency” OR “adrenocortical deficiency”) AND (advice* OR recommendation* OR inform* OR educat* OR scheme OR substitute* OR supplem* OR supplet* OR replace* OR “stress dose” OR “stress doses” OR surgery OR surgical OR safe* OR regulat* OR perioperative OR preoperative OR postoperative OR peri-operative OR pre-operative OR post-operative OR “peri operative” OR “pre operative” OR “post operative” OR measure* OR prevent* OR mitigat*)):ti,ab,kw

Inclusion criteria:

- Patients on/starting oral GC therapy (or their general practitioners, family or carers involved in this treatment)
- Studies focused on informing on HPA effects of GC therapy or applying preventive schemes

Exclusion criteria:

- Animal studies
- Studies in children (<18 years)
- Language other than English, German or Dutch
- Case series or case reports
- Letters, editorials, comments, erratum
- Congress abstracts
- Reviews
- Studies on topical, nasal or inhaled GCs

Search result: 2592 articles retrieved (duplicates excluded)

Best level of evidence supporting the recommendation: IV

Yong (Cochrane review): limited data, unable to support or refute use of supplemental perioperative GCs for patients with risk of adrenal insufficiency

Marik: patients on GC do not require perioperative stress doses if they continue their daily dose (disagreement with recommendation)

Recommendation 5

Pubmed, 146 hits

((“adrenal cortex hormone”[Tiab] OR “adrenal cortical hormone”[Tiab] OR “adrenal cortex steroid”[Tiab] OR “adrenal cortical steroid”[Tiab] OR “adrenal steroid hormone”[Tiab] OR “adrenocortical hormone”[Tiab] OR “adrenocortical steroid”[Tiab] OR corticosteroid*[Tiab] OR corticoid*[Tiab] OR cortison*[Tiab] OR hydrocortison*[Tiab] OR dexamethason*[Tiab] OR methylpredniso*[Tiab] OR deflazacort*[Tiab] OR glucocort*[Tiab] OR predniso*[Tiab] OR “Glucocorticoids”[MESH]) AND (GP[Tiab] OR “general practitioner”[Tiab] OR doctor*[Tiab] OR prescriber*[Tiab] OR “prescribing doctor” [Tiab] OR “prescribing physician”[Tiab]) AND (resource[Tiab] OR forum[Tiab] OR website[Tiab] OR webpage[Tiab] OR online[Tiab] OR internet[Tiab] OR “information page”[Tiab] OR “best practice”[Tiab] OR guideline*[Tiab] OR “health service”[Tiab] OR “health services”[Tiab] OR NIH[Tiab] OR NHG[Tiab]))

Embase, 197 hits

((‘adrenal cortex hormone’ OR ‘adrenal cortical hormone’ OR ‘adrenal cortex steroid’ OR ‘adrenal cortical steroid’ OR ‘adrenal steroid hormone’ OR ‘adrenocortical hormone’ OR ‘adrenocortical steroid’ OR corticosteroid* OR corticoid* OR cortison* OR hydrocortison* OR dexamethason* OR methylpredniso* OR deflazacort* OR glucocort* OR predniso*) AND (GP OR ‘general practitioner’ OR doctor* OR prescriber* OR ‘prescribing doctor’ OR ‘prescribing physician’) AND (resource OR forum OR website OR webpage OR online OR internet OR ‘information page’ OR ‘best practice’ OR guideline* OR ‘health service’ OR ‘health services’ OR NIH OR NHG)):ti:ab

Cochrane Library, 26 hits

((“adrenal cortex hormone” OR “adrenal cortical hormone” OR “adrenal cortex steroid” OR “adrenal cortical steroid” OR “adrenal steroid hormone” OR “adrenocortical hormone” OR “adrenocortical steroid” OR corticosteroid* OR corticoid* OR cortison* OR hydrocortison* OR dexamethason* OR methylpredniso* OR deflazacort* OR glucocort* OR predniso* OR “Glucocorticoids”[MESH]) AND (GP OR “general practitioner” OR doctor* OR prescriber* OR “prescribing doctor” OR “prescribing physician”) AND (resource OR forum OR website OR webpage OR online OR internet OR “information page” OR “best practice” OR guideline* OR “health service” OR “health services” OR NIH OR NHG)):ti,ab,kw

Inclusion criteria:

- articles about information resources for GPs about GC therapy and management

Exclusion criteria:

- Animal studies
- Studies in children (<18 years)
- Language other than English, German or Dutch
- Case series or case reports
- Letters, editorials, comments, erratum
- Congress abstracts
- Reviews
- Studies on inhaled GCs or very short treatment duration (<1 month)

Search result: 235 articles retrieved (duplicates excluded)

Best level of evidence supporting the recommendation: IV

Recommendation 6

Pubmed, 432 hits

((“adrenal cortex hormone”(Tiab) OR “adrenal cortical hormone”(Tiab) OR “adrenal cortex steroid”(Tiab) OR “adrenal cortical steroid”(Tiab) OR “adrenal steroid hormone”(Tiab) OR “adrenocortical hormone”(Tiab) OR “adrenocortical steroid”(Tiab) OR corticosteroid*(Tiab) OR corticoid*(Tiab) OR cortison*(Tiab) OR hydrocortison*(Tiab) OR dexamethason*(Tiab) OR methylpredniso*(Tiab) OR deflazacort*(Tiab) OR glucocort*(Tiab) OR predniso*(Tiab) OR “Glucocorticoids”(MESH)) AND (“rheumatoid arthritis”(Tiab) OR “arthritis, rheumatoid”(MESH) OR “polymyalgia”(Tiab) OR “polymyalgia rheumatica”(MESH) OR “giant cell arteritis”(Tiab) OR “giant cell arteritis”(MESH) OR vasculit*(Tiab) OR “vasculitis”(MESH) OR lupus(Tiab) OR “lupus erythematosus, systemic”(MESH) OR “polymyositis”(Tiab) OR “polymyositis”(MESH) OR “dermatomyositis”(Tiab) OR “dermatomyositis”(MESH) OR “rheumatic diseases”(Tiab) OR “Rheumatic Diseases”(MESH)) AND (“co morbidity”(Tiab) OR comorbidity(Tiab) OR “co morbidity”(Tiab) OR “risk factor”(Tiab) OR “risk factors”(Tiab) OR “contra indication”(Tiab) OR “contra-indication”(Tiab) OR contraindication(Tiab) OR diabetes(Tiab) OR glucose(Tiab) OR glycosuria(Tiab) OR hyperglycaemia(Tiab) OR lipids(Tiab) OR dyslipid*(Tiab) OR hyperlipid*(Tiab) OR hypercholest*(Tiab) OR atherosclerosis(Tiab) OR “coronary artery disease”(Tiab) OR “coronary heart disease”(Tiab) OR “myocardial infarction”(Tiab) OR “heart infarction”(Tiab) OR hypertension(Tiab) OR “blood pressure”(Tiab) OR “cardiac insufficiency”(Tiab) OR “heart failure”(Tiab) OR infection*(Tiab) OR immunosuppr*(Tiab) OR glaucoma(Tiab) OR “ocular pressure”(Tiab) OR “intraocular pressure”(Tiab) OR osteoporosis(Tiab) OR “bone loss”(Tiab) OR fracture*(Tiab) OR “bone mineral density”(Tiab) OR “bone density”(Tiab)) AND (before(Tiab) OR begin(Tiab) OR start(Tiab) OR baseline(Tiab) OR “prior to”(Tiab)) AND (treatment(Tiab) OR therapy(Tiab)))

Embase, 1033 hits

((‘adrenal cortex hormone’ OR ‘adrenal cortical hormone’ OR ‘adrenal cortex steroid’ OR ‘adrenal cortical steroid’ OR ‘adrenal steroid hormone’ OR ‘adrenocortical hormone’ OR ‘adrenocortical steroid’ OR corticosteroid* OR corticoid* OR cortison* OR hydrocortison* OR dexamethason* OR methylpredniso* OR deflazacort* OR glucocort* OR predniso*) AND (‘rheumatoid arthritis’ OR ‘polymyalgia’ OR ‘giant cell arteritis’ OR vasculit* OR lupus OR ‘polymyositis’ OR ‘dermatomyositis’ OR ‘rheumatic diseases’) AND (‘co morbidity’ OR comorbidity OR ‘co morbidity’ OR ‘risk factor’ OR ‘risk factors’ OR ‘contra indication’ OR ‘contra-indication’ OR contraindication OR diabetes OR glucose OR glycosuria OR hyperglycaemia OR lipids OR dyslipid* OR hyperlipid* OR hypercholest* OR atherosclerosis OR ‘coronary artery disease’ OR ‘coronary heart disease’ OR ‘myocardial infarction’ OR ‘heart infarction’ OR hypertension OR ‘blood pressure’ OR ‘cardiac insufficiency’ OR ‘heart failure’ OR infection* OR immunosuppr* OR glaucoma OR ‘ocular pressure’ OR ‘intraocular pressure’ OR osteoporosis OR ‘bone loss’ OR fracture* OR ‘bone mineral density’ OR ‘bone density’) AND ((before OR begin OR start OR baseline OR ‘prior to’) AND (treatment OR therapy OR glucocorticoid*)):ti:ab

Cochrane Library, 138 hits

((“adrenal cortex hormone” OR “adrenal cortical hormone” OR “adrenal cortex steroid” OR “adrenal cortical steroid” OR “adrenal steroid hormone” OR “adrenocortical hormone” OR “adrenocortical steroid” OR corticosteroid* OR corticoid* OR cortison* OR hydrocortison* OR dexamethason* OR methylpredniso* OR deflazacort* OR glucocort* OR predniso* OR “Glucocorticoids”(MESH)) AND (“rheumatoid arthritis” OR “arthritis, rheumatoid”(MESH) OR “polymyalgia” OR “polymyalgia rheumatica”(MESH) OR “giant cell arteritis” OR “giant cell arteritis”(MESH) OR vasculit* OR “vasculitis”(MESH) OR lupus OR “lupus erythematosus, systemic”(MESH) OR “polymyositis” OR “polymyositis”(MESH) OR “dermatomyositis” OR “dermatomyositis”(MESH) OR “rheumatic diseases” OR “Rheumatic Diseases”(MESH)) AND (“co morbidity” OR comorbidity OR “co morbidity” OR “risk factor” OR “risk factors” OR

“contra indication” OR “contra-indication” OR contraindication OR diabetes OR glucose OR glycosuria OR hyperglycaemia OR lipids OR dyslipid* OR hyperlipid* OR hypercholest* OR atherosclerosis OR “coronary artery disease” OR “coronary heart disease” OR “myocardial infarction” OR “heart infarction” OR hypertension OR “blood pressure” OR “cardiac insufficiency” OR “heart failure” OR infection* OR immunosuppr* OR glaucoma OR “ocular pressure” OR “intraocular pressure” OR osteoporosis OR “bone loss” OR fracture* OR “bone mineral density” OR “bone density”) AND (before OR begin OR start OR baseline OR “prior to”) AND (treatment OR therapy OR glucocorticoid*):ti,ab,kw

Inclusion criteria:

- Patients with rheumatic disease starting oral GC therapy
- Reporting on effect of screening for co morbidity/AEs before start of therapy

Exclusion criteria:

- Animal studies
- Studies in children (<18 years)
- Language other than English, German or Dutch
- Case series or case reports
- Letters, editorials, comments, erratum
- Congress abstracts
- Reviews
- Studies on topical, nasal or inhaled GCs

Search result: 1603 articles retrieved (duplicates excluded)

Best level of evidence supporting the recommendation: IV
No evidence retrieved.

Recommendation 7

Pubmed, 1380 hits

((“adrenal cortex hormone”[Tiab] OR “adrenal cortical hormone”[Tiab] OR “adrenal cortex steroid”[Tiab] OR “adrenal cortical steroid”[Tiab] OR “adrenal steroid hormone”[Tiab] OR “adrenocortical hormone”[Tiab] OR “adrenocortical steroid”[Tiab] OR corticosteroid*[Tiab] OR corticoid*[Tiab] OR cortison*[Tiab] OR hydrocortison*[Tiab] OR dexamethason*[Tiab] OR methylpredniso*[Tiab] OR deflazacort*[Tiab] OR glucocort*[Tiab] OR predniso*[Tiab] OR “Glucocorticoids”[MESH]) AND (“polymyalgia”[Tiab] OR “polymyalgia rheumatica”[MESH] OR “giant cell arteritis”[Tiab] OR “giant cell arteritis”[MESH]))

Embase, 1148 hits

((‘adrenal cortex hormone’ OR ‘adrenal cortical hormone’ OR ‘adrenal cortex steroid’ OR ‘adrenal cortical steroid’ OR ‘adrenal steroid hormone’ OR ‘adrenocortical hormone’ OR ‘adrenocortical steroid’ OR corticosteroid* OR corticoid* OR cortison* OR hydrocortison* OR dexamethason* OR methylpredniso* OR deflazacort* OR glucocort* OR predniso* OR ‘Glucocorticoids’) AND (‘polymyalgia’ OR ‘polymyalgia rheumatica’ OR ‘giant cell arteritis’ OR ‘giant cell arteritis’)):ti:ab

Cochrane Library, 73 hits

((“adrenal cortex hormone” OR “adrenal cortical hormone” OR “adrenal cortex steroid” OR “adrenal cortical steroid” OR “adrenal steroid hormone” OR “adrenocortical hormone” OR “adrenocortical steroid” OR corticosteroid* OR corticoid* OR cortison* OR hydrocortison* OR dexamethason* OR methylpredniso* OR deflazacort* OR glucocort* OR predniso* OR “Glucocorticoids”[MESH]) AND (“polymyalgia” OR “polymyalgia rheumatica”[MESH] OR “giant cell arteritis” OR “giant cell arteritis”[MESH])):ti,ab,kw

Inclusion criteria:

- Patients on/starting oral GC therapy for giant cell arteritis or polymyalgia rheumatica
- Studies comparing different starting dosages

Exclusion criteria:

- Animal studies
- Studies in children (<18 years)
- Language other than English, German or Dutch
- Case series or case reports
- Letters, editorials, comments, erratum
- Congress abstracts
- Reviews

Search result: 1688 articles retrieved (duplicates excluded)

Best level of evidence supporting the recommendation: I-A

Hernandez-Rodriguez: scarcity of RCTs and heterogeneity of studies on PMR therapy do not allow firm conclusions. PMR remission seems to be achieved with prednisone treatment at a dose of 15 mg/d in most patients.

Recommendation 8

Pubmed, 137 hits

((“adrenal cortex hormone”[Tiab] OR “adrenal cortical hormone”[Tiab] OR “adrenal cortex steroid”[Tiab] OR “adrenal cortical steroid”[Tiab] OR “adrenal steroid hormone”[Tiab] OR “adrenocortical hormone”[Tiab] OR “adrenocortical steroid”[Tiab] OR corticosteroid*[Tiab] OR corticoid*[Tiab] OR cortison*[Tiab] OR hydrocortison*[Tiab] OR dexamethason*[Tiab] OR methylpredniso*[Tiab] OR deflazacort*[Tiab] OR glucocort*[Tiab] OR predniso*[Tiab] OR “Glucocorticoids”[MESH]) AND (“rheumatoid arthritis”[Tiab] OR “arthritis, rheumatoid”[MESH] OR “polymyalgia”[Tiab] OR “polymyalgia rheumatica”[MESH] OR “giant cell arteritis”[Tiab] OR “giant cell arteritis”[MESH] OR vasculit*[Tiab] OR “vasculitis”[MESH] OR lupus[Tiab] OR “lupus erythematosus, systemic”[MESH] OR “polymyositis”[Tiab] OR “polymyositis”[MESH] OR “dermatomyositis”[Tiab] OR “dermatomyositis”[MESH] OR “rheumatic diseases”[Tiab] OR “Rheumatic Diseases”[MESH]) AND (“therapeutic dose” [Tiab] OR “maintenance dose”[Tiab] OR “dose adaptation”[Tiab] OR “dose adjustment”[Tiab] OR “dose reduction”[Tiab] OR “dose-ranging”[Tiab] OR “dose ranging”[Tiab] OR “dose-finding”[Tiab] OR “dose finding”[Tiab] OR “dose-titration”[Tiab] OR “dose titration”[Tiab] OR “initial dosage”[Tiab] OR “starting dosage”[Tiab] OR “expected dosage”[Tiab] OR “maintenance dosage”[Tiab] OR “dosage adaptation”[Tiab] OR “dosage adjustment”[Tiab] OR “dosage reduction”[Tiab] OR “dosage-ranging”[Tiab] OR “dosage ranging”[Tiab] OR “dosage-finding”[Tiab] OR “dosage-titration”[Tiab] OR “dosage titration”[Tiab] OR “dosage titration”[Tiab]) AND (“adverse events”[Tiab] OR “adverse effects”[Tiab] OR “side events”[Tiab] OR “side effects”[Tiab] OR “unwanted events”[Tiab] OR “unwanted effects”[Tiab] OR toxicity[Tiab] OR risk[Tiab] OR “risk-benefit”[Tiab] OR benefit[Tiab] OR efficacy[Tiab] OR outcome*[Tiab] OR effect*[Tiab]))

Embase, 144 hits

((‘adrenal cortex hormone’ OR ‘adrenal cortical hormone’ OR ‘adrenal cortex steroid’ OR ‘adrenal cortical steroid’ OR ‘adrenal steroid hormone’ OR ‘adrenocortical hormone’ OR ‘adrenocortical steroid’ OR corticosteroid* OR corticoid* OR cortison* OR hydrocortison* OR dexamethason* OR methylpredniso* OR deflazacort* OR glucocort* OR predniso*) AND (‘rheumatoid arthritis’ OR ‘polymyalgia’ OR ‘giant cell arteritis’ OR vasculit* OR lupus OR ‘polymyositis’ OR ‘dermatomyositis’ OR ‘rheumatic diseases’) AND (‘therapeutic dose’ OR ‘maintenance dose’ OR ‘dose adaptation’ OR ‘dose adjustment’ OR ‘dose reduction’ OR ‘dose-ranging’ OR ‘dose ranging’ OR ‘dose-finding’ OR ‘dose finding’ OR ‘dose-titration’ OR ‘dose titration’ OR ‘initial dosage’ OR ‘starting dosage’ OR ‘expected dosage’ OR ‘maintenance dosage’ OR ‘dosage adaptation’ OR ‘dosage adjustment’ OR ‘dosage reduction’ OR ‘dosage-ranging’ OR ‘dosage ranging’ OR ‘dosage-finding’ OR ‘dosage finding’ OR ‘dosage-titration’ OR ‘dosage titration’) AND (‘adverse events’ OR ‘adverse effects’ OR ‘side events’ OR ‘side effects’ OR ‘unwanted events’ OR ‘unwanted effects’ OR toxicity OR risk OR ‘risk-benefit’ OR benefit OR efficacy OR outcome* OR effect*)):ti:ab

Cochrane Library, 34 hits

((“adrenal cortex hormone” OR “adrenal cortical hormone” OR “adrenal cortex steroid” OR “adrenal cortical steroid” OR “adrenal steroid hormone” OR “adrenocortical hormone” OR “adrenocortical steroid” OR corticosteroid* OR corticoid* OR cortison* OR hydrocortison* OR dexamethason* OR methylpredniso* OR deflazacort* OR glucocort* OR predniso* OR “Glucocorticoids”[MESH]) AND (“rheumatoid arthritis” OR “arthritis, rheumatoid”[MESH] OR “polymyalgia” OR “polymyalgia rheumatica”[MESH] OR “giant cell arteritis” OR “giant cell arteritis”[MESH] OR vasculit* OR “vasculitis”[MESH] OR lupus OR “lupus erythematosus, systemic”[MESH] OR “polymyositis” OR “polymyositis”[MESH] OR “dermatomyositis” OR “dermatomyositis”[MESH] OR “rheumatic diseases” OR “Rheumatic Diseases”[MESH]) AND (“therapeutic dose” OR “maintenance dose” OR “dose adaptation” OR “dose adjustment” OR “dose reduction” OR “dose-ranging” OR “dose ranging” OR “dose-finding” OR “dose finding” OR “dose-titration” OR “dose titration” OR “initial dosage” OR “starting dosage” OR

“expected dosage” OR “maintenance dosage” OR “dosage adaptation” OR “dosage adjustment” OR “dosage reduction” OR “dosage-ranging” OR “dosage ranging” OR “dosage-finding” OR “dosage finding” OR “dosage-titration” OR “dosage titration”) AND (“adverse events” OR “adverse effects” OR “side events” OR “side effects” OR “unwanted events” OR “unwanted effects” OR toxicity OR risk OR “risk-benefit” OR benefit OR efficacy OR outcome* OR effect*):ti,ab,kw

Inclusion criteria:

- Patients with rheumatic disease starting/on oral GC therapy
- Information on dose titration

Exclusion criteria:

- Animal studies
- Studies in children (<18 years)
- Language other than English, German or Dutch
- Case series or case reports
- Letters, editorials, comments, erratum
- Congress abstracts
- Reviews
- Studies on topical, nasal or inhaled GCs

Search result: 162 articles retrieved (duplicates excluded)

Best level of evidence supporting the recommendation: IV
No evidence retrieved.

Recommendation 9

Pubmed, 277 hits

((“adrenal cortex hormone”[Tiab] OR “adrenal cortical hormone”[Tiab] OR “adrenal cortex steroid”[Tiab] OR “adrenal cortical steroid”[Tiab] OR “adrenal steroid hormone”[Tiab] OR “adrenocortical hormone”[Tiab] OR “adrenocortical steroid”[Tiab] OR corticosteroid*[Tiab] OR corticoid*[Tiab] OR cortison*[Tiab] OR hydrocortison*[Tiab] OR dexamethason*[Tiab] OR methylpredniso*[Tiab] OR deflazacort*[Tiab] OR glucocort*[Tiab] OR predniso*[Tiab] OR “Glucocorticoids”[MESH]) AND (“rheumatoid arthritis”[Tiab] OR “arthritis, rheumatoid”[MESH] OR “polymyalgia”[Tiab] OR “polymyalgia rheumatica”[MESH] OR “giant cell arteritis”[Tiab] OR “giant cell arteritis”[MESH] OR vasculit*[Tiab] OR “vasculitis”[MESH] OR lupus[Tiab] OR “lupus erythematosus, systemic”[MESH] OR “polymyositis”[Tiab] OR “polymyositis”[MESH] OR “dermatomyositis”[Tiab] OR “dermatomyositis”[MESH] OR “rheumatic diseases”[Tiab] OR “Rheumatic Diseases”[MESH]) AND (“steroid sparing”[Tiab] OR “steroid-sparing”[Tiab] OR “glucocorticoid sparing”[Tiab] OR “glucocorticoid-sparing”[Tiab] OR “corticosteroid sparing”[Tiab] OR “corticosteroid-sparing”[Tiab] OR “prednisone sparing”[Tiab] OR “prednisone-sparing”[Tiab] OR “prednisolone sparing”[Tiab] OR “prednisolone-sparing”[Tiab] OR sparing[Tiab]))

Embase, 305 hits

((‘adrenal cortex hormone’ OR ‘adrenal cortical hormone’ OR ‘adrenal cortex steroid’ OR ‘adrenal cortical steroid’ OR ‘adrenal steroid hormone’ OR ‘adrenocortical hormone’ OR ‘adrenocortical steroid’ OR corticosteroid* OR corticoid* OR cortison* OR hydrocortison* OR dexamethason* OR methylpredniso* OR deflazacort* OR glucocort* OR predniso*) AND (‘rheumatoid arthritis’ OR ‘polymyalgia’ OR ‘giant cell arteritis’ OR vasculit* OR lupus OR ‘polymyositis’ OR ‘dermatomyositis’ OR ‘rheumatic diseases’) AND (‘steroid sparing’ OR ‘steroid-sparing’ OR ‘glucocorticoid sparing’ OR ‘glucocorticoid-sparing’ OR ‘corticosteroid sparing’ OR ‘corticosteroid-sparing’ OR ‘prednisone sparing’ OR ‘prednisone-sparing’ OR ‘prednisolone sparing’ OR ‘prednisolone-sparing’ OR sparing)):ti:ab

Cochrane Library, 36 hits

((“adrenal cortex hormone” OR “adrenal cortical hormone” OR “adrenal cortex steroid” OR “adrenal cortical steroid” OR “adrenal steroid hormone” OR “adrenocortical hormone” OR “adrenocortical steroid” OR corticosteroid* OR corticoid* OR cortison* OR hydrocortison* OR dexamethason* OR methylpredniso* OR deflazacort* OR glucocort* OR predniso* OR “Glucocorticoids”[MESH]) AND (“rheumatoid arthritis” OR “arthritis, rheumatoid”[MESH] OR “polymyalgia” OR “polymyalgia rheumatica”[MESH] OR “giant cell arteritis” OR “giant cell arteritis”[MESH] OR vasculit* OR “vasculitis”[MESH] OR lupus OR “lupus erythematosus, systemic”[MESH] OR “polymyositis” OR “polymyositis”[MESH] OR “dermatomyositis” OR “dermatomyositis”[MESH] OR “rheumatic diseases” OR “Rheumatic Diseases”[MESH]) AND (“steroid sparing” OR “steroid-sparing” OR “glucocorticoid sparing” OR “glucocorticoid-sparing” OR “corticosteroid sparing” OR “corticosteroid-sparing” OR “prednisone sparing” OR “prednisone-sparing” OR “prednisolone sparing” OR “prednisolone-sparing” OR sparing)):ti,ab,kw

Inclusion criteria:

- Patients on/starting oral GC therapy for rheumatic disease
- Studies assessing the efficacy of sparing regimens

Exclusion criteria:

- Animal studies
- Studies in children (<18 years)
- Language other than English, German or Dutch
- Case series or case reports
- Letters, editorials, comments, erratum

- Congress abstracts
- Reviews

Search result: 382 articles retrieved (duplicates excluded)

Recommendation rejected: IV

Hernandez-Rodriguez (level I-A): uncertainty about sparing effects of methotrexate, azathioprine and etanercept.

Mahr (level I-A): methotrexate lowers the risk of relapse and reduces exposure to GCs in giant cell arteritis in the meta-analysis, but individual studies are conflicting.

Recommendation 10

See appendix 1.