

HOVON 143 IMWG frailty score calculation version 3 (05-MAR-2018)

This instruction form can be used as a manual for the inclusion of patients in the HOVON 143 study (ixazomib, daratumumab and low dose dexamethasone). It contains the definitions of the items CCI, ADL and iADL that are used for calculation of the IMWG frailty score. The calculation of the frailty score is found on the last page of this instruction form. It is really important to fill out the separate items and calculate the frailty score, because study eligibility depends on the frailty score. If you have any questions, contact Claudia Stege, coordinating investigator VUmc by e-mail (c.stege@vumc.nl) or phone (06-11539606).

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Charlson Comorbidity index (CCI)

Clinical condition	score
Myocardial infarction	1
Congestive heart failure	1
Peripheral vascular disease	1
Dementia	1
Cerebrovascular disease / TIA	1
Chronic pulmonary disease	1
Connective tissue disease	1
Ulcer disease	1
Mild liver disease	1
DM uncomplicated	1
Hemiplegia	2
Moderate/severe renal disease	2
DM with end-organ damage	2
Tumor / malignancy	2
Leukemia	2
Lymphoma	2
Moderate/severe liver disease	3
Metastatic malignancy	6
Acquired immunodeficiency	6
Total score:	

Definitions of clinical conditions:

1. Myocardial infarction: history of proven/probable infarction (chest pain with ECG abnormalities or increased heart enzymes)
- NO points when ECG abnormalities only, without clinical myocardial infarction
2. Congestive heart failure: complaints (eg. orthopnoea) that requires medication
3. Peripheral vascular disease: intermittent claudication, bypass graft, gangrene, acute arterial insufficiency, AAA ≥ 6 cm
4. Dementia: chronic cognitive dysfunction, irrespective of etiology
5. CVA/TIA: without or with minimal symptoms only (off note: when hemiplegia (see 11), only score hemiplegia)
6. Chronic pulmonary disease: asthma, chronic lung disease (chronic bronchitis, emphysema) that requires medication
7. Connective tissue disease: eg. rheumatoid arthritis, systemic lupus erythematosus, vasculitis, that requires medication
8. Ulcer disease: current (bleeding) ulcer
- NO points when treated for previous ulcer, or when on proton pump inhibition
9. Mild liver disease: chronic hepatitis (B or C) or cirrhosis without portal hypertension
10. Diabetes mellitus without complications (see also 13) but does require (oral/subcutaneous) anti-diabetic medication
11. Hemiplegia: or paraplegia, irrespective of etiology
12. Moderate to severe renal disease: defined as a creatinine clearance of < 30 ml/min
13. Diabetes mellitus with end organ damage: retinopathy, nephropathy, neuropathy
14. Tumors/malignancies: all, but:
- NO points in case of more than 5 years previously and in case of basal- or squamous cell skin cancer, or carcinoma in situ
15. Leukemia: all acute or chronic leukemias (NO points when occurrence > 5 years and cured)
16. Lymphoma: all, eg. Hodgkin, lymphosarcoma, Waldenstrom (NO points when occurrence > 5 years and cured)
17. Moderate to severe liver disease: cirrhosis with portal hypertension, ascites, jaundice, or variceal bleeding
18. Metastatic malignancy/tumor: eg. breast, lung, colon, or other tumors
19. Acquired immunodeficiency syndrome: aids(not just HIV positive)

Source: Charlson M, Pompei P, Ales K and MacKenzie R; A new method of classifying prognostic comorbidity in longitudinal studies: development and validation. J Chron Dis 1987; 40:373-383

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ADL (Katz)

Item	score*
Bathing	
Dressing	
Toileting	
Transfer	
Continence	
Feeding	
Total score (0-6):	

* 1 point when completely ADL-independent, 0 points when (partial) dependent (see also 'definition of items' below)

Definition of items:

1. Bathing:

Independent: assistance only in bathing a single part (as back or disabled extremity) or bathes self completely

Dependent: assistance in bathing more than one part of body; assistance in getting in or out of tub or does not bathe self².

2. Dressing:

Independent: gets clothes from closets and drawers; puts on clothes, outer garments, braces, manages fasteners, act of tying shoes is excluded

Dependent: does not dress self or remains partly undressed

3. Toileting:

Independent: gets to toilet; gets on and off toilet; arranges clothes; cleans or gans of excretion; (may manage own bedpan used at night only and may or may not be using mechanical supports)

Dependent: uses bedpan or commode or receives assistance in getting to and using toilet

4. Transfer:

Independent: moves in and out of bed independently and moves in and out of chair independently (may or may not be using mechanical supports).

Dependent: assistance in moving in or out of bed and/or chair; does not perform one or more transfers.

5. Continence:

Independent: urination and defecation entirely self-controlled

Dependent: partial or total incontinence in urination or defecation; partial or total control enemas, catheters, or regulated use of urinals and/or bedpans

6. Feeding:

Independent: gets food from plate or its equivalent into mouth; (precutting of meat and preparation of food, as buttering bread, are excluded from evaluation)

Dependent: needs assistance in act of feeding or is fed (also artificial)

Source: Katz S., Ford A.B., Moskowitz R.W., Jackson B.A., Jaffe M.W., Cleveland M.A. Studies of Illness in the Aged. The Index of ADL: A Standardized Measure of Biological and Psychosocial Function. JAMA, Sept 21, 1963.

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iADL (Lawton)

Item	Degree of (in)dependence	score Per item score the definition that fits most
Telephone use	Operates telephone on own initiative; looks up and dials	1
	Dials a few well-known numbers	1
	Answers telephone but does not dial	1
	Does not use phone at all	0
Shopping	Takes care of all shopping needs independently	1
	Shops independently for small purchases	0
	Needs to be accompanied on any shopping trip	0
	Completely unable to shop	0
Food preparation	Plans, prepares and serves adequate meals independently	1
	Prepares adequate meals if supplied with ingredients	0
	Eats and serves prepared meals, or prepares meals but does not maintain adequate diet	0
	Needs to have meals prepared and served	0
Housekeeping	Maintains house alone or with occasional assistance (e.g. "heavy work domestic help")	1
	Performs light daily tasks such as dishwashing, bed making	1
	Performs light daily tasks but cannot maintain acceptable level of cleanliness	1
	Needs help with all home maintenance tasks	1
	Does not participate in any housekeeping tasks	0
Laundry	Does personal laundry completely	1
	Launders small items; rinses stockings etc	1
	All laundry must be done by others	0
Transportation	Travels independently on public transportation or drives own car	1
	Arranges own travel via taxi, but does not otherwise use public transport	1
	Travels on public transportation when assisted or accompanied by another	1
	Travel limited to taxi or automobile with assistance of another	0
	Does not travel at all	0
Responsibility own medication	Is responsible for taking medication in correct dosages at correct times	1
	Takes responsibility if medication is prepared in advance in separate dosages	0
	Is not capable of dispensing own medication	0
Handling finance	Manages financial matters independently (writes checks, pays rent and bills), collects and keeps track of income	1
	Manages day-to-day purchases, but needs help with banking, major purchases, etc	1
	Incapable of handling money	0
Total score (0-8):		

Sources:

- Cromwell DA, Eagar K, Poulos RG. The performance of instrumental activities of daily living scale in screening for cognitive impairment in elderly community residents. J Clin Epidemiol. 2003;56(2):131-137.
- Lawton MP. The functional assessment of elderly people. J Am Geriatr Soc. 1971;19(6):465-481.
- Lawton MP, Brody EM. Assessment of older people: self-maintaining and instrumental activities of daily living Gerontologist. 1969;9(3):179-186.
- Polisher Research Institute. Instrumental Activities of Daily Living Scale (IADL). Available at: <http://www.abramsoncenter.org/PRI/documents/IADL.pdf>. Accessed February 15, 2005.

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IMWG frailty score calculation

Category		points	score
Age	≤ 75 years	0	
	76-80 years	1	
	> 80 years (81 and older)	2	
Charlson Comorbidity Index	≤ 1	0	
	≥ 2	1	
ADL Katz (6-item)	> 4	0	
	≤ 4	1	
iADL Lawton (8-item)	> 5	0	
	≤ 5	1	
Total score			

↓

Frailty score	
0	fit
1	unfit
≥ 2	frail

It is possible to calculate the IMWG frailty score manually by using the scores of the frailty determinants, but it is also possible to use the "IMWG frailty score calculator" via the following link:

<http://www.myelomafraailtyscorecalculator.net/Geriatric.aspx>.

Source: Palumbo A, Brinchen S, Mateos MV et al. Geriatric assessments predicts survival and toxicities in elderly myeloma patients: an International Myeloma Working Group report. Blood.2015;125(13):2068-2074