

WHO Collaborating Center for Frailty, Clinical Research and Geriatric Training Newsletter

N° 2018-01-A

Toulouse, September 10, 2018

The World Health Organization designates the G erontop ole of Toulouse as WHO Collaborating Centre



The World Health Organization (WHO) designates the G erontop ole of the Toulouse University Hospital, as WHO Collaborating Centre for Frailty, Clinical Research and Geriatric Training (<http://www.chu-toulouse.fr/-centre-collaborateur-oms-sur-la-fragilite-la->) as from 1st September 2017 and for a 4-year period, thus supporting WHO's global world strategy on «*Healthy Ageing*».

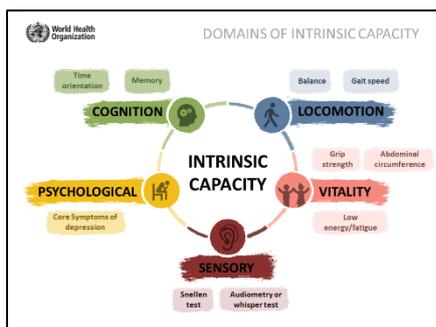
The G erontop ole's missions as WHO Collaborating Centre

As WHO Collaborating Centre, the missions of the G erontop ole, conducted by Professor Bruno Vellas, will be to:

- **contribute to research** on functional ability and intrinsic capacity of older people, in compliance with WHO criteria.
- **disseminate information** on WHO's new strategy on «*Healthy Ageing*», including the WHO's Integrated Care for Older People (ICOPE) approach. <http://www.who.int/ageing/health-systems/icope/en/>
- **develop promotion material** for professionals in primary care and referral care centres and contribute to implement good practice guides and learning tools.

WHO Collaborating Centres in the world

WHO Collaborating Centres (<http://www.who.int/collaboratingcentres/en/>) are institutions such as research institutes, parts of universities or academies, which are designated by WHO Director-General to carry out activities in support of the Organization's programs. Currently, there are over 800 WHO Collaborating Centres in over 80 Member States working with WHO on areas such as nursing, occupational health, communicable diseases, nutrition, mental health, chronic diseases and health technologies. To date, WHO has designated 9 centres worldwide that dedicate their work to ageing issues but the G erontop ole is the only one devoted to frailty and clinical research.



WHO's Healthy Ageing program

For WHO, «*Healthy Ageing* is the process of developing and maintaining the functional ability that enables wellbeing in older age.» However, our healthcare systems are not organized to maintain people's Intrinsic Capacity (IC) over their lifetime, but to identify and treat acute episodes of illness.

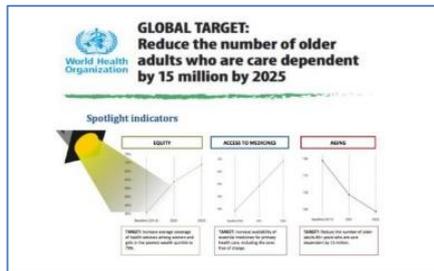
Changing the emphasis of healthcare systems from focusing on diseases to promoting integrated care that will foster in *Healthy Ageing* is urgently needed. WHO defines *Intrinsic Capacity (IC)* as the combination of the individual's physical and mental capacities, and *Functional*

Capacity (IC) as the combination of the individual's physical and mental capacities, and *Functional*

Ability (FA) is the combination and interaction of intrinsic capacity with the environment a person inhabits. The WHO has identified the five domains of intrinsic capacity: Locomotor, Cognition, Vitality, Psychological, Sensory (vision, hearing).

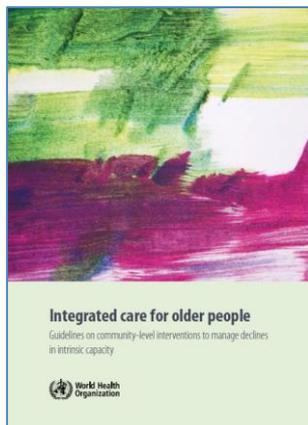
Because *Healthy Ageing* depends on an individual's Intrinsic Capacity (IC), on the environment, and the interactions between them, a focus on IC has the potential to design interventions for improving the health of individuals. Inability to undertake various ADLs without the assistance of others can happen as a result of a significant loss of intrinsic capacity. Taking a life course approach, the WHO model of *Healthy Ageing* points out that this period of significant loss of capacity in old age is most often preceded by some early decline.

With such a program, the WHO aims to decrease by 15 million the number of dependent older adults by 2025.



The WHO Integrated Care for Older People (ICOPE)

We would like to share with you a few products that have been developed to support the implementation of the WHO Integrated Care for Older People (ICOPE) approach. Please help us to disseminate them among your networks:



Web links to the latest ICOPE products:

- ICOPE brochure is available now in the six UN languages and in Japanese: <http://www.who.int/ageing/publications/guidelines-icope/en/>
- mAgeing handbook was launched and is available at: <http://www.who.int/ageing/health-systems/mAgeing/en/>
- WHO Clinical Consortium on Healthy Ageing (CCHA) presentation: <http://www.who.int/ageing/health-systems/clinical-consortium/meeting-2017/en/>
- Visit the ICOPE evidence resource center that includes the evidence profiles and recommendations used to develop the ICOPE guidelines: <http://www.who.int/ageing/health-systems/icope/evidence-centre/en/>

Latest scientific articles:

- Briggs AM, Valentijn PP, Thiyagarajan JA, et al. *Elements of integrated care approaches for older people: a review of reviews*. *BMJ Open* 2018;8:e021194. doi:10.1136/bmjopen-2017-021194. <http://bmjopen.bmj.com/content/8/4/e021194.full?ijkey=GokobxFr14b9hHb&keytype=ref>
This manuscript communicates the definition of the WHO approach to integrated care for older people and the use of key terminologies on this area.
- Cesari M, Araujo de Carvalho I, Thiyagarajan JA, et al. *Evidence of the domains supporting the construct of intrinsic capacity*. *J Gerontol A Biol Sci Med Sci*. 2018. doi:10.1093/gerona/gly011. <https://academic.oup.com/biomedgerontology/advance-article%20abstract/doi/10.1093/gerona/gly011/4834876?redirectedFrom=fulltext>



Photo credit: Markus MacGill/Green Ink

WHO's Clinical Consortium on *Healthy Ageing* (CCHA)

The WHO CCHA is a group of global experts that advances research and clinical practice by facilitating data sharing and analyses, supporting evaluation of clinical practice and building capacity of health professionals and clinicians on *Healthy Ageing*. The 2017 meeting of the WHO Clinical Consortium on *Healthy Ageing* (CCHA) took place on 21-22 November 2017 in Geneva, Switzerland with 50 experts. They discussed the development of a comprehensive assessment of an older person's health and social care needs within the "Integrated Care for Older People (ICOPE)" approach. The comprehensive assessment would form the backbone of a WHO framework for addressing the health and long-term care needs of older people, with a focus on intrinsic capacity and functional ability. See the meeting report <http://www.who.int/ageing/health-systems/clinical-consortium/CCHA2017-meetinghandbook.pdf?ua=1>



The WHO CCHA meeting is co-organized with the administrative support of the WHO CC for Frailty. The next annual meeting is planned on the 11 & 12 December 2018 in Geneva to discuss clinical care pathways for older people in primary care settings.

WHO CCHA workstream on Intrinsic Capacity (IC) assessment

The CCHA Group above was tasked to conceptualize and develop an Intrinsic Capacity (IC) clinical assessment tool of the five domains of Intrinsic Capacity: Locomotor, Vitality, Cognition, Psychological, Sensory (vision and hearing) in primary healthcare settings. A dedicated group was co-setup by the WHO CC for Frailty on March 3rd, 2018 during the ICSFR conference in Miami, USA. The aim is to present a fundamental proposal for IC assessment tool: aim, strategy, who and how to use this tool as well as to provide a concrete discussion of IC assessment tool items and methodology. The workstream group's next appointment is scheduled on 27 & 28 September 2018 in New York, USA, to further discuss on conceptualization and operationalization of "Vitality".

WHO updates on its Healthy Ageing framework during the International Conference on Frailty and Sarcopenia Research 2018, last March in Miami Beach, USA

Dr. Islene Araujo de Carvalho, Senior Policy and Strategy Adviser in WHO's Department of Ageing and Life Course, pleaded for a public health approach to reduce care dependency in older age. She invited all participants to implement globally a program dedicated to preventing decline in intrinsic capacity, including in low- and middle- income countries.

Intrinsic Capacity is defined as the combination of an individual's physical and mental capacities, which interact with environmental factors to determine that person's functional ability. Declines in intrinsic capacity may begin in mid-life, long before disorders such as frailty or sarcopenia (age-related muscle loss) set in, so it is important to begin intervening early in life.

Global strategy and action plan on ageing and health was adopted in May 2016 by the World Health Assembly to live not only longer but healthier lives (<http://www.who.int/ageing/global-strategy/en/>). Achieving the goal of reducing care dependency in older age will require the coordinated efforts not only of geriatricians and other specialists but of primary care providers. Read the full press release at: https://frailty-sarcopenia.com/docs/ICFSR%20Press%20release_WHO%20healthy%20ageing%20framework_draft.pdf

A Lifetime Achievement award for Dr Linda Fried at the International Conference on Frailty and Sarcopenia Research (ICFSR) 2018, last March in Miami Beach, FL, USA

Dr. Linda Fried, MD, MPH (Dean of Columbia University's Mailman School of Public Health, New York, USA) was awarded the ICFSR2018 Lifetime Achievement for the 12 major advances in the field of frailty. She is a public health leader in the fields of epidemiology and geriatrics. She has dedicated her career to the science of healthy aging and defining how to transition to a world where greater longevity benefits people of all ages. An internationally renowned scientist, she has done seminal work in defining frailty as a clinical syndrome and illuminating both its causes and the potential for prevention as keys to optimizing health for older adults. Her scientific discoveries have transformed medical care and public health globally, and our understanding of how to build successful societies of longer lives. Read the full press release at:

<http://www.aging-news.net/wp-content/uploads/2018/03/Press-release-ICFSR-2018-n°-2.pdf>

The International Conference on Frailty & Sarcopenia Research (ICFSR) brings together every year researchers from academy, agencies and industry to raise further awareness on new findings on Frailty and Sarcopenia, from research to clinical practice.



Save the date:

9th edition of the ICFSR on 20-22 February 2019, Miami Beach, FL, USA

Registration is now open: <https://frailty-sarcopenia.com/registration.php>

Abstract submission deadline: **November 5, 2018**

<https://frailty-sarcopenia.com/abstract.php>

WHO presents its program on maintaining dependency at the French-speaking Frailty Conference, April 5-6, 2018 in Paris, France



WHO's *Healthy Ageing* approach was also presented during the 6th French Frailty conference that took place on April 5-6 2018 in Paris. Anne Margriet POT, Senior Health Advisor at WHO's Department of Ageing and Life Course, Geneva, addressed a lecture on "WHO's program on maintaining dependency" to the French-speaking audience, coming mainly from Canada, Belgium, Switzerland, and Portugal.

Save the date:

7th edition of the French-speaking Frailty congress on April 4-5, 2019 in Paris, France.

Registration is now open: <https://fragilite.org/registration.php>

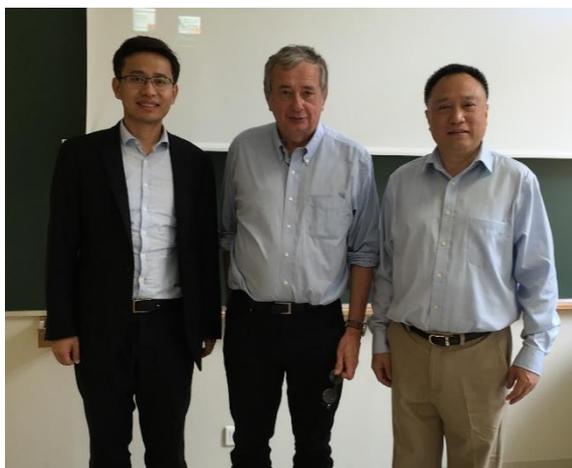
Abstract submission deadline: **December 4, 2018** <https://fragilite.org/abstract.php>

The Inaugural Conference of Gerontology and Aged Health Promotion Specialized Committee of Chinese Medical Education Association & the 2018 International Summit on Multidisciplinary Research of Geriatric Disease and Aged Health Care, 21-22 April 2018, in Beijing, China



As Director of the WHO Collaborating Center for Frailty (WHO CC for Frailty) and Head of the Toulouse Gerontopôle, Bruno VELLAS, MD, PhD, was invited to give a talk on "Aging of the population: what has been done, what we need to avoid and what we have to do?". Prof VELLAS addressed a lecture to an audience of 200 key Chinese specialists. He promoted the need to change our healthcare systems in order to maintain function with aging and avoid dependency.

Prof Piu CHAN, MD, PhD (Beijing, China) visits the Toulouse Gerontopôle on June 4th, 2018



Prof Piu CHAN (right), Director of the China National Clinical Research Center for Geriatric Disorders in Beijing, made a two-day visit to the CHU Toulouse and addressed a lecture on "Geriatric medicine in China". The conference was organized by Prof Bruno VELLAS (center) of the WHO Collaborating Centre for Frailty, Clinical Research and Geriatric Training and included guests such as Mr Zhitao RU (left) of the Chinese embassy in Paris and Ms Bénédicte MOTTE, Secretary General of the Toulouse University Hospital, and the Toulouse Gerontopôle research staff.

1st International China Conference on Frailty, September 3, 2018 in Shanghai, China



The WHO Collaborating Centre for Frailty, Clinical Research and Geriatric Training, Toulouse (France), the China National Clinical Research Center for Geriatric Disorders, Beijing (China) and the IAGG GARN, Beijing (China) organized the 1st International China Conference on Frailty ([www://frailty-china.com](http://www.frailty-china.com)) that addresses this important issue in order to develop programs to maintain function with aging and to avoid dependency. The following keynote speakers have accepted to make a presentation:

Dr John BEARD (WHO, Geneva) on "From frailty to intrinsic capacities and the WHO ICOPE program", Prof Piu CHAN (Beijing, China) on "Epidemiology of Frailty in China", Prof Peng DU (Beijing, China) topic to be determined, Prof Birong DONG (Chengdu, China) topic to be determined, Prof John MORLEY (St Louis, USA) on "Tool to assess frailty", Prof Leocadio

RODRIGUEZ MANAS (Madrid, Spain) on "Frailty definition, biological process and measurement", Prof Jacques TOUCHON (Montpellier, France) on "Cognitive Frailty", and Prof Bruno VELLAS (Toulouse, France) on "Prevention of Frailty", Prof Jean WOO (Hong Kong) on "Putting frailty as a cornerstone of health and social care systems". **Website:** <https://frailty-china.com/abstract.php>



FILMS TO SHARE

The films below can be distributed via any type of screen: social networks, websites, local TVs, or during events dedicated to old people. We invite you to target your scientific networks, colleagues, local authorities and all those whose work for the wellbeing of our eldest. We thank you for helping us raise awareness on frailty and its outcomes.

Frailty

We would like to share a video on “Beware of Frailty” edited by the Toulouse Gérontopôle and the IAGG GARN Network. You will find below the links to the eleven versions of the film:

French: <https://www.youtube.com/watch?v=YsmkRl0oCz0>

English: https://www.youtube.com/watch?v=T9-JPN_jY9I

Italian: <https://www.youtube.com/watch?v=aFImInydU80>

Spanish: <https://www.youtube.com/watch?v=NcBG7Lefa1A>

Portuguese: <https://www.youtube.com/watch?v=0oxn9IKRwmA>

German: <https://www.youtube.com/watch?v=5wYa6NlceKM>

Korean: <https://www.youtube.com/watch?v=7kbfVDrZrxI>

Chinese 1: <http://v.qq.com/page/e/b/h/e0175o8bmbh.html>

Chinese 2: <https://www.youtube.com/watch?v=zyydMw9uim8>

Japanese: https://www.youtube.com/watch?v=Z2_UGmg3ZGk

Persian: <https://www.youtube.com/watch?v=A3euyAg4zlw>

Memory disorders

The Gérontopôle of Toulouse, IAGG GARN and CTAD2016 conference organizers collaborated to realize a video on “Keep your memory is possible”. Addressed to a general audience of seniors, the film is dedicated to memory disorders and promotes five lifestyle rules to maintain memory and encourage old people to participate in research projects. This tool is available in seven languages:

English: <https://youtu.be/z6KlzvSwyy4>

German: <https://youtu.be/CbAlxgd7OsY>

French: <https://youtu.be/NjGKYCmVUAE>

Spanish: <https://youtu.be/WdZzluJneZc>

Japanese: <https://youtu.be/JkXpxeguT2k>

Italian: https://youtu.be/8x_FQEHVW9Q

Portuguese: <https://youtu.be/cJDqj9qmxRw>

Korean: <https://youtu.be/hFVkoAHOHvs>

Chinese: <https://youtu.be/ORh0XI56an0>

“Integrated Care for Older People” by WHO

With more people living longer there will be larger numbers of people experiencing declines in physical and mental capacity and who may also need care for day-to-day activities. These needs are not well met within existing models of health care. There is a pressing need to develop comprehensive community-based approaches to prevent declines in capacity and to provide support to family caregivers.

For these reasons, WHO edited a film on “How to adapt person-centered health services to ageing populations?”. Integrated care for older people means putting the comprehensive needs of older people, not only diseases, at the centre of the way we provide care. The WHO approach for Integrated Care for Older People (ICOPE) aims to support older people, primary care providers and the broader health systems to enable *Healthy Ageing*.

English: https://www.youtube.com/watch?v=Wp_SaMtMSZM (new version)

French: <https://www.youtube.com/watch?v=wb6GUTb6OM0> (original version)

Chinese: <https://youtu.be/iQI7GMO-KSU> (original version)

ARTICLE REVIEWS

Physical performance

In this study, Marsh et al. investigated some elements of validity of a new video-animated, self-reported measure of lower-body physical function that parallels the objective performance-based physical tests of the Short Physical Performance Battery (SPPB). Using data from 110 participants (30 men / 80 women; mean age of 80.6 ± 5.19 years (range: 65–94)), authors showed that participants scored similarly in both the virtual SPPB (new video-animated self-report measure) and the original SPPB (objective measurements): 7.3 and 7.5, respectively. Similar results have been obtained for each of the components of the SPPB, ie, usual gait speed, balance, and chair rise (for this latter, participants tended to overestimate their performance in the self-report). Moreover, self-report and objective performance measurements were significantly and moderately associated to each other, were associated with several measures (both objective and subjective) of mobility and function, and the virtual SPPB (as well as its components) was stable over a 1-week interval. These preliminary findings are important because it provides initial elements validating the virtual SPPB tool; this tool may be advantageous in some circumstances, since it may overcome potential issues related with both objective measures (eg, no need of trained staff and space to perform the tests; no physical risks) and self-reported scales (eg, variation in phrasing of questions and response items, assumption that participants understand the content of questions).

Because there is a difference between how older adults think they perform and how they perform in reality, the information obtained from the virtual SPPB should not be used as a mirror of the objectively measured SPPB. However, this tool may represent an interesting assessment tool that is alternative or complementary to objective measures and self-report scales of physical function, being, for example, probably useful for large-scale studies using Information and Communication Technology (ICT) solutions.

Reference: Marsh AP, Wrights AP, Haakonssen EH, Dobrosielski MA, Chmelo EA, Barnard RT, Pecorella A, Ip EH, Rejeski WJ. *The Virtual Short Physical Performance Battery*. J Gerontol A Biol Sci Med Sci. 2015 Oct;70(10):1233-41. doi: 10.1093/gerona/glv029. Epub 2015 Mar 31.

Reviewer: Philippe de Souto Barreto, PhD, Institute on Aging, Gérontopôle Toulouse University Hospital, 37 Allées Jules Guesde, 31000 Toulouse, France. E-mail: desouto-barreto.p@chu-toulouse.fr

The impact of frailty

There is a growing interest of the influence of frailty and its association with cognitive impairments. Many cross-sectional studies to date has demonstrated that frail elderly is more at risk of developing cognitive impairments than non-frail individuals. The main objective of this study was to explore whether frailty can predict the risk of conversion to dementia in a cohort of frail individuals with mild cognitive impairment (MCI). The study was performed in Italy and participants were followed up for 5 years for clinical and neuropsychological evaluations. Of the 91 participants who had a 5 year follow up, 58 participants converted from MCI to dementia. Regression analysis demonstrated that lower MMSE scores and higher frailty index (FI) scores (higher=worse) increased significantly the probability of having a MCI conversion. To conclude, the authors demonstrate that higher FI scores is related to a future development of AD dementia. From a clinical standpoint, this points out the importance of diagnosing frailty in regards to the development of dementia.

Reference: Alessandro Trebbastoni, Marco Canevelli, Fabrizia D'Antonio, Letizia Imbriano, Livia Podda, Lidia Rendace, Alessandra Campanelli, Valentia Celano, Giuseppe Bruno & Carlo de Lena. *The impact of frailty on the risk of conversion from mild cognitive impairment to Alzheimer's Disease: evidences from a 5-year observational study*. Front Med (Lausanne). 2017 Oct 23;4:178. doi: 10.3389/fmed.2017.00178. eCollection 2017.

Reviewer: Mathieu Maltais, PhD, Institute on Aging, Gérontopôle Toulouse University Hospital, 37 Allées Jules Guesde, 31000 Toulouse, France. E-mail: mathieu.maltais@usherbrooke.ca

Cognitive performance and frailty

Frailty is a strong predictor of adverse health events, but its impact on cognitive function is poorly understood. The objective of Rosado-Artalejo's study was to assess cognitive performance in frailty and to identify the frailty stage where cognitive impairment begins.

Data were taken from 2044 people (≥ 65 yo) without cognitive impairment selected from the Toledo Study for Healthy Aging. Frailty status was assessed by 3 different scales: Frailty Phenotype (FP), Frailty Trait Scale (FTS), and Frailty Index (FI). An exhaustive neuropsychological assessments evaluated global cognition and specific cognitive functions. The relationships between the score of the scales and frailty status (robust, prefrail, and frail for FP and quartiles for FTS and FI) were analyzed using multivariate linear regression models including age, sex, and educative level as possible confounders.

Participants classified as the worst degree of frailty (frail in FP and fourth quartile of FTS and FI) presented more cognitive domains affected and to a higher extent than moderate frail (prefrail and second quartile and third quartile of FTS and FI) and robust (and first quartile of FTS and FI) participants.

Cognitive performance progressively declined across the frailty state, regardless of the instrument used to assess frailty. In prefrail participants, cognitive impairment may be an early marker of frailty-dependent cerebral involvement and could be already subject to interventions aimed at reducing the transition to frailty.

Reference: Rosado-Artalejo, C., Carnicero, J. A., Losa-Reyna, J., Guadalupe-Grau, A., Castillo-Gallego, C., Gutierrez-Avila, G., & García-García, F. J. (2017). *Cognitive Performance across 3 Frailty Phenotypes: Toledo Study for Healthy Aging*. *Journal of the American Medical Directors Association*, 18(9), 785-790.

Reviewer: Kristell Pothier, PhD, Institute on Aging, Gérontopôle Toulouse University Hospital, 37 Allées Jules Guesde, 31000 Toulouse, France. E-mail: pothier.k@chu-toulouse.fr

Oxidative stress and frailty

This systematic review by Soysal et al., 2017 summarizes the current evidence regarding the relationship between frailty and parameters of oxidative stress. The review includes 8 studies and a total of 6349 participants. Overall the data suggests that in cross-sectional and case-control studies there is evidence of higher levels of peripheral oxidative stress biomarkers and lower anti-oxidants among frail older adults. It is plausible that oxidative stress could contribute to frailty through muscle damage hence reducing physical activity. Oxidative stress could also contribute to alter immunity a feature of frailty. Further research in the form of longitudinal studies are required to confirm or refute these findings.

Reference: Soysal P, Isik AT, Carvalho AF, Fernandes BS, Solmi M, Schofield P, et al. *Oxidative stress and frailty: A systematic review and synthesis of the best evidence*. *Maturitas*. 2017. 99: 66-72.

Reviewer: Claudie Hooper, PhD, Institute on Aging, Gérontopôle Toulouse University Hospital, 37 Allées Jules Guesde, 31000 Toulouse, France. E-mail: claudie28@yahoo.com

The definition of older people in Japan

Population aging is a global phenomenon and Japan is the world's most aged country. In many countries including Japan, older adults are defined as having a chronological age of 65 or older. However, the definition of older people has not been changed for more than 40 years even though the mean life expectancy has been greatly prolonged in the same period. Additionally, many of older people, especially the young old, are still young and active in Japan. Because of several reasons we thought that it is a good time to reconsider the definition of older people. But if we propose the new definition of older people, it should be evidence based. Therefore, in 2013, the Japan Gerontological Society and the Japan Geriatrics Society launched a joint committee to reconsider the definition of older people and then collected various data on the physical and psychological health of older people in recent years, and realized that it is a time to propose a new definition of older people in Japan. But we need to continue the discussion because the change of the definition could affect the social security policy in our society, so we need some time to get the consensus in our society.

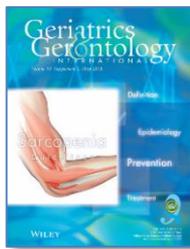
Reference: Yasuyoshi Ouchi, Hiromi Rakugi, Hidenori Arai, Masahiro Akishita, Hideki Ito, Kenji Toba, Ichiro Kai and on behalf of the Joint Committee of Japan Gerontological Society (JGLS) and Japan

Geriatrics Society (JGS). *Redefining the elderly as aged 75 years and older: Proposal from the Joint Committee of Japan Gerontological Society and the Japan Geriatrics Society* Geriatr Gerontol Int 2017; 17: 1045–1047

Reviewer: Hidenori Arai, MD, PhD, Director of the National Center for Geriatrics and Gerontology, Director of the Center for Gerontology and Social Science, Obu City, Aichi Prefecture, Japan. E-mail: harai@ncgg.go.jp

OTHER READING

Clinical Guidelines on Sarcopenia 2017



The Japanese Association on Sarcopenia and Frailty organized the Committee for Clinical Sarcopenia Guidelines in 2017, which was endorsed by the Japan Geriatrics Society and National Center for Geriatrics and Gerontology. All the papers related to the clinical questions on the definition, epidemiology, prevention and intervention of sarcopenia were reviewed and provided the evidence level and recommendations. This is the first clinical guidelines for sarcopenia and can be used in the rest of the world.

<https://onlinelibrary.wiley.com/toc/14470594/18/S1>

Information forwarded by Prof Hidenori Arai, MD, PhD (Chairman, Guideline Committee, Director of the National Center for Geriatrics and Gerontology, Director, Center for Gerontology and Social Science, Obu City, Aichi Prefecture, Japan).

The Journal of Frailty & Aging (JFA)



The JFA is a peer-reviewed international journal listed in Medline and Pubmed. It presents articles that are related to research in the area of aging and age-related (sub) clinical conditions. In particular, the journal publishes high-quality papers describing and discussing social, biological, and clinical features underlying the onset and development of frailty in older persons.

Website: <http://www.jfrailtyaging.com/about-the-journal.html>

Issue n°02-2018 is now published and includes papers on

- Seasonal variation in vitamin D status among frail older hospitalized patients. M. Pourhassan, R. Wirth. J Frailty Aging 2018;7(2):95-99
- Identifying exosome-derived micrnas as candidate biomarkers of frailty. B.R. Ipson, M.B. Fletcher, S.E. Espinoza, A.L. Fisher. J Frailty Aging 2018;7(2):100-103
- Accuracy of body mass index versus lean mass index for prediction of sarcopenia in older women. M.J. Benton, A.L. Silva-Smith. J Frailty Aging 2018;7(2):104-107
- Polypharmacy but not potential inappropriate prescription was associated with frailty in older adults from middle-income country outpatient clinic. I. Aprahamian, M.M. Biella, G. Vano Aricó de Almeida, F. Pegoraro, A.V. Alves Pedrini, B. Cestari, L.H. Bignotto, B. Alvarez Ribeiro de Melo, J.E. Martinelli. J Frailty Aging 2018;7(2):108-112
- Educating medical students in counselling older adults about exercise: the impact of a physical activity module. A.D. Jadczyk, K.L. Tam, R. Visvanathan. J Frailty Aging 2018;7(2):113-119
- How to manage frail older adults in the community? Proposal of a health promotion program experienced in a city of 16,638 inhabitants in France. J. de Kerimel, N. Tavassoli, C. Lafont, M. Soto, M. Pedra, F. Nourhashemi, C. Lagourdette, L. Bouchon, A. Chaléon, S. Sourdet, Y. Rolland, M. Cesari, B. Vellas. J Frailty Aging 2018;7(2):120-126

- The use of figurative language to describe frailty in older adults. B. Buta, D. Leder, R. Miller, N.L. Schoenborn, A.R. Green, R. Varadhan. *J Frailty Aging* 2018;7(2):127-133
- Quality of life in older adults attending a university family practice centre in Sri Lanka. R.E. Ediriweera de Silva, M.S.A. Perera. *J Frailty Aging* 2018;7(2):134-137
- The utility of the frailty index in clinical decision making. K. Khatry, N.M. Peel, L.C. Gray, R.E. Hubbard. *J Frailty Aging* 2018;7(2):138-141
- Effects of fermented papaya preparation (FPP) on safety outcomes in older adults - a short report of a placebo-controlled clinical trial. R.T. Mankowski, C. Leeuwenburgh, T.M. Manini, A.J. Woods, S.D. Anton. *J Frailty Aging* 2018;7(2):142-146

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