

骨質疏鬆症是老人醫學與流行病學的重大議題，世界衛生組織認定骨質疏鬆症是全球僅次於冠狀動脈心臟病的重要疾病。在台灣，研究顯示髖骨骨折發生率是亞洲區第一，全世界第九；近來發現極高骨鬆性骨折風險病人之骨折最為嚴重，一旦骨折，部分病人引發急性疼痛、長期住院、臥床、無法完全康復、需長時間復健、行動受限，影響病人的生活品質，甚至增加死亡率。骨質疏鬆症的盛行率隨著人口老化逐日漸增，台灣老年人口（年齡大於 65 歲）自 2013 年底突破 12%，人口老化速度高居世界第二位，2020 及 2030 年將分別提升至 16.1% 和 24.5%，預估 2025 年將達到 500 萬人。

有鑑於骨質疏鬆症病人隨著人口老化而成為重大公共衛生議題且相關醫學日新月異，極需提升診斷標準及治療目標與國際規範接軌，因而本學會綜合最新的實證醫學，集眾專家之力，且參考先進國家及學術團體已出版的臨床指引，自 2002 年起首次出版《台灣婦女骨質疏鬆症防治指引》，2009 年版本正式稱為《台灣成人骨質疏鬆症防治之共識及指引》並定期更新。有鑑於骨質疏鬆症醫學的快速進展，本學會繼 2020 年增修版之後，再次增修此份 2021 年最新版防治指引並強化預防骨鬆症新觀念，以提供臨床診治骨質疏鬆症患者之重要參考。相信積極骨鬆防治必能降低骨折風險，減緩中老年失能，有效促進長照 2.0 政策的成功推展。

骨質疏鬆症是一個常見但容易被忽略的疾病，需要從基層醫療到醫學中心的各臨床專科醫師與醫療團隊的共同照護。本指引可做為臨床醫師治療時的參考，然臨床醫護人員於實際運用時，仍須依據個別病人之特性做適度的調整，選擇適合每位病人之有關骨質疏鬆症預防、診斷及治療的最佳策略。本新版指引編訂已徵詢中華民國口腔顎面外科學會、中華民國免疫學會、中華民國放射線醫學學會、中華民國風濕病醫學學會、中華民國核醫學學會、中華民國骨科醫學學會、中華民國糖尿病衛教學會、中華民國醫事放射師公會全國聯合會、中華民國關節重建醫學學會、台灣老年學暨老年醫學會、台灣更年期醫學會、台灣疼痛醫學會、台灣神經外科醫學會、台灣脊椎外科醫學會、台灣骨科足踝醫學會、台灣骨科研究學會、台灣婦產科醫學會、台灣復健醫學會、台灣腎臟醫學會、台灣整合照護學會、台灣護理學會、社團法人中華民國內分泌學會、臺灣醫學會等相關學會同意簽署。因此，本指引也代表上述所有學會對於骨質疏鬆症防治之基本共識。(黃兆山)

A New Era in Osteoporosis Treatment: Clinical Evidence for Romosozumab

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Romosozumab is a sclerostin inhibitor with dual effects. Its clinical evidence has been demonstrated in various Phase 3 studies.

In FRAME study, romosozumab significantly reduced new vertebral fracture at Month 12 versus placebo. Lumbar spine and total hip BMD continued to increase through Month 36 upon transitioning to denosumab after 12 months of romosozumab or placebo.

In ARCH study, romosozumab significantly reduced new vertebral fracture at Month 24 versus alendronate, as well as clinical fracture and nonvertebral fracture at primary analysis. A subgroup analysis in East Asian population showed similar trend in fracture reduction. Romosozumab was well tolerated in East Asian subjects and shown to be consistent with the safety profile demonstrated in the global population. The imbalance in positively adjudicated serious cardiovascular AEs seen in the overall ARCH population was not observed in the East Asian subgroup, although the sample size may be too small to draw meaningful conclusions.

Sequence of therapy including retreatment with romosozumab and transition to bisphosphates are discussed.

Topic 1: The Role of Anabolic Therapy in the Management of Osteoporosis and Fracture (Prof. Steve Cummings)

- 近年已有許多證據顯示，對於非常高風險(very high risk)的骨質疏鬆病人，相較抗骨吸收劑(anti-resorptive agent)，促骨生成劑(anabolic agent)在提昇骨密度及減少骨折風險的效果比較好。目前的國際治療指引也指出，若病人經評估為非常高風險之病人，應該先使用促骨生成劑，然而，指引沒有明確說明不同的促骨生成劑應該如何使用。因此 Prof. Cummings 將根據目前的資料，依不同的臨床情境，提供合理治療選擇之見解。

Topic 2: Beyond Freedom, How to Define Goal of Long-term Osteoporosis

Treatment? (Prof. Sakae Tanaka)

- 骨質疏鬆症常發生在 50 歲以上的族群，若以平均餘命 80 歲來看，骨質疏鬆症病人將長期與疾病共存，而且平均餘命隨著醫學進展愈來愈提昇，骨質疏鬆症肯定是不可輕忽治療的疾病。雖然目前已有許多藥品有 10 年的臨床研究資料，但在長期治療的策略上，仍有很多臨床需考量的因素，病人可能因不同階段的狀況而使用不同藥品，因此，訂定長期的治療目標以減少骨折風險是當前重要的議題。

Primary prevention of osteoporosis(黃駿豐)

- 1.State the projection of high medical burden of osteoporotic fracture in Taiwan
- 2.Highlight the 2021 TOA Guideline
- 3.Clinical scenario
- 4.Back to scenario-secondary prevention
5. Back to scenario-primary prevention
- 6.New data for primary prevention
- 7.Considering the real world in Taiwan
- 8.Legacy and long term effect
- 9.2021 Asia Pacific Consortium on Osteoporosis
- 10.Conclusion

Except fracture prevention, what we can expect from bisphosphonates?(吳至行)

The efficacy of bisphosphonates for osteoporotic fracture has been consistently reported in recent randomized controlled trials (RCTs) enrolling hundreds of patients. The objective of this study was to update knowledge on the efficacy of available bisphosphonates in the prevention of vertebral and non-vertebral fractures. An approach “using systematic reviews” on PubMed and Cochrane Library was taken. Twenty-four RCTs investigating the effects of bisphosphonates for the prevention of osteoporotic fracture were included in final analysis. A pairwise meta-analysis was conducted with a random effects model. Subgroup analysis was performed according to the type of bisphosphonate.

Guidance on COVID-19 Vaccination and Osteoporosis Management (戴大為)

Osteoporosis is a chronic condition that, if you are at high risk of fracture, requires treatment with an osteoporosis medication. There is currently no evidence that osteoporosis medications increase the risk or the severity of COVID-19 infections. With the exception of bisphosphonates, which stay in your bones for a longer time after you stop taking them, stopping osteoporosis drug therapy is associated with bone loss and an increased risk of fracture. This means it is important to not stop osteoporosis therapy or delay the dose of medication without consulting your physician.

The COVID-19 vaccine may result in a mild flu-like reaction as well as a reaction at the injection site. This is true of all the vaccines available at this time.

Association between tea and coffee consumption and osteoporosis(林松彥)

Previous reports have suggested a potential association of tea consumption with the risk of osteoporosis. As such association is controversial, we conducted a meta-analysis to assess the relationship between tea consumption and osteoporosis. We systematically searched PubMed, EMBASE and WanFang databases until March 30, 2016, using the keywords “tea and osteoporosis,” without limits of language. Odds ratios (ORs) with 95% confidence intervals (95% CIs) were derived by using random-effects models throughout the analyses. We conducted the analysis of the statistical heterogeneity using Cochrane I². The funnel plot was used to speculate the publication bias, while the subgroup analysis and multiround elimination method were employed.

Sarcopenia prevalence and treatment options in the elderly(韓德生)

to examine the clinical evidence reporting the prevalence of sarcopenia and the effect of nutrition and exercise interventions from studies using the consensus definition of sarcopenia proposed by the European Working Group on Sarcopenia in Older People (EWGSOP).

PubMed and Dialog databases were searched (January 2000-October 2013) using pre-defined search terms. Prevalence studies and intervention studies investigating muscle mass plus strength or function outcome measures using the EWGSOP

definition of sarcopenia, in well-defined populations of adults aged ≥ 50 years were selected.