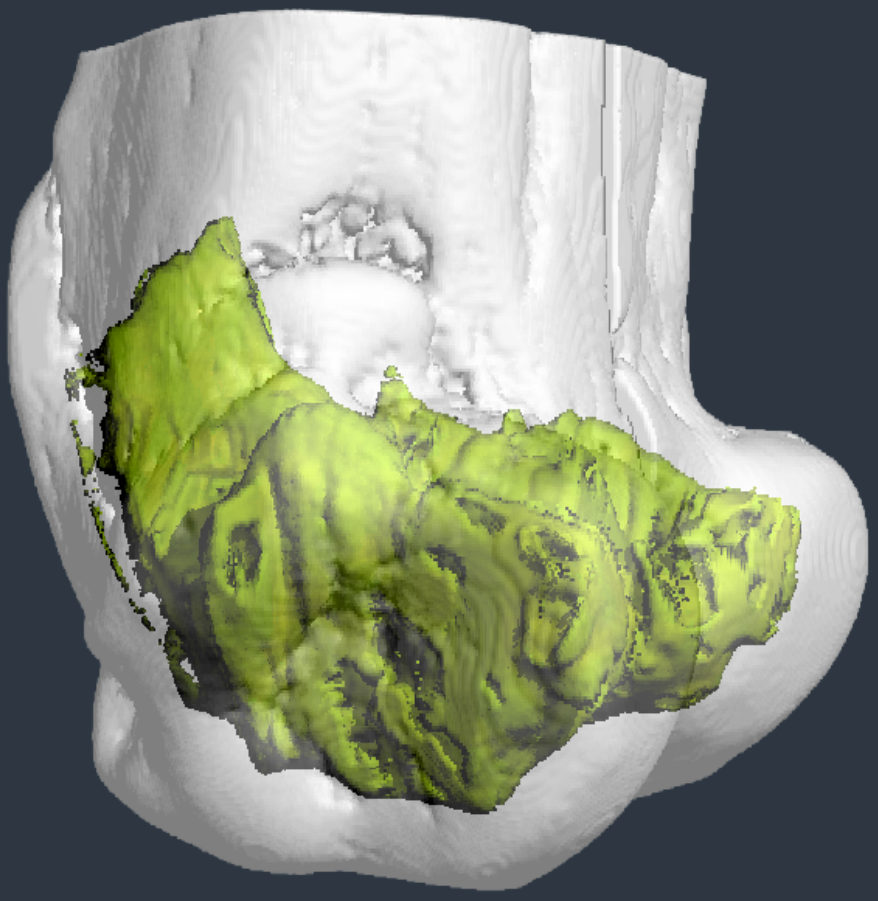
Issue 1, March 2026

ANZBMS Newsletter



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Cover image from work by Dr Han Liu and Professor Kathryn Stok et al., whose recent publication is featured in this issue, showing a segmented microCT image of cortical and epiphyseal bone of a distal mouse femur with early-stage osteoarthritis.

Welcome to the ANZBMS Newsletter

In this issue

Welcome to the first ANZBMS Newsletter of 2026!

It is shaping up to be a landmark year for the Society. Inside, Associate Professor Michelle McDonald shares her presidential outlook for the year ahead — and there is a great deal to be excited about. Chief among these is the 36th Annual Scientific Meeting, coming to Auckland, New Zealand this September (6–9). This will mark the first time the meeting has been held in New Zealand, and the Scientific Program Committee is already promising a bold program with fresh themes, new formats, and distinguished international speakers. Abstract submissions close 17 April, so now is the time to start thinking about what you would like to present.

The ECIC also has an action-packed year in store. The B.O.N.E Exchange with ASBMR and ECTS continues to open remarkable doors for our early career investigators, and this year sees the launch of the brand-new ECIC Career Development Award — a fantastic opportunity for ECIs to access funding, mentorship, and a platform at the ASM. Applications open in April, so keep an eye out for details.

Lastly, we are **recruiting new editorial board members!** If you're interested in joining our fantastic team, we'd love to hear from you. Please send a short biography to **newsletter@anzbms.org.au**.

Happy reading!

ANZBMS Newsletter Editorial Board

Dr Pholpat Durongbhan

Dr Haniyeh Hemmatian

Dr Mawson Wang

Dr Kai Chen

Dr Kaitlyn Flynn

Mackenzie Skinner

Tony Huang

Cecily Chen

Next Issue: March 2026

newsletter@anzbms.org.au
ANZBMS Early Career Investigators
@ANZBMSoc

From the President

It is with great pleasure that I provide an overview of our plans for the ANZBMS Community in 2026 as President on behalf of the Council.

Following a very successful ASM in Cairns in November, our newly appointed Scientific Program Committee, led by President-Elect Christian Girgis and co-chaired by Dr Melissa Cantley and Dr Michael Bennet, has already begun developing the program for Auckland this September (6-9th). You can expect a meeting filled with fresh themes, new speakers, and dynamic formats as the SPC, in collaboration with our ECIC, drives exciting new directions for our community. This will be the first time ANZBMS has held its annual scientific meeting in Auckland, and we look forward to showcasing our long-standing and highly influential local scientists, while also embracing everything Auckland and its surrounding regions and local communities have to offer.

In the 2026 program we will welcome highly ranked EMCRs from both ASBMR and ECTS through our Bridging Overseas Network Exchange (B.O.N.E) program. In exchange ANZBMS will support highly ranked EMCRs to attend and present at each of these partner meetings. We will also continue to offer our usual ECR, student, and travel awards to support attendance at our local meeting. Keep an eye on the website for program updates and award deadlines in the coming weeks. Abstract submissions close 17th of April, so don't miss your opportunity to share your work!

ANZBMS will partner with the Bone Health Foundation to launch our Inaugural Consumer Inclusion Program, led by Cassandra Smith and our newly formed Engagement and Advocacy Committee. This program aims to support our members as we navigate a new era of NHMRC grant applications requiring impactful consumer engagement. Stay tuned for announcements and opportunities to engage with this program. We will also continue our strong commitment to supporting members through our Grant-in-Aid and Health Innovation Awards, offered in partnership with the Bone Health Foundation. Further details on application processes and deadlines will be released soon.

In partnership with Healthy Bones Australia, President Elect Christian Grigis has curated a writing committee which is working to develop national guidelines 'on the prevention and management of medication related osteonecrosis of the jaw in patients with osteoporosis' in collaboration with dental and oral medicine specialist groups.

Our Clinical Practice Committee, chaired by Dr Jasna Aleksova, has also been highly active in recent months, providing consultation on behalf of ANZBMS to the Australian Commission on Safety and Quality in Health Care as they develop updated national standards for osteoporosis.

So much activity and it's only February! Watch this space for further updates throughout the year.

Associate Professor Michelle McDonald

ANZBMS President

Group Leader, Bone Microenvironment Group,
Research Education Academic Director
School of Medical Sciences
Faculty of Medicine and Health
The University of Sydney

Scientific Program Committee

We are looking forward to welcoming everyone to the next ANZBMS Annual Scientific Meeting to be held in Auckland, New Zealand from the 6 to 9 of September 2026.

The Scientific Program Committee (SPC) are working to create an impactful and engaging program for both clinical and basic/fundamental science attendees.

The SPC is in the process of finalising conference themes and inviting international and national speakers. The two confirmed international speakers are:

Prof Christopher Hernandez (USA)- Basic Science- "*Beyond the Skeleton: The Body-Wide Network Influencing Bone Health*".

Prof Bente Langdahl (Denmark)- Clinical- "*The New Anabolic Era: Optimising Sequencing, Cycling and Exit Strategies*"

The debate topic will be: "*Menopause Hormone Therapy is superior to antiresorptive therapy for fracture prevention in women*".

Abstract Submissions will be opening soon, please check the conference website for details. Key dates to keep in mind:

Early Bird Registration deadline: Friday 5 June 2026

Abstract Submission deadline: Friday 17 April 2026

Clinical Cases Submission deadline: Friday 17 April 2026

A Program at a Glance is now available on the website with more details to be added soon.

We are grateful to all SPC members for their support and guidance:

Michael Bennett and Melissa Cantley (Co-Chairs), Christian Girgis, Kaitlyn Flynn, Amy Harding, Dougall Norris, Paul Mitchell, Jack Dalla Via, Micaela Quinn, Matthew Ting, Marni Nenke, Agnes Arthur (past POC Co-Chair) and Kirtan Ganda (Past POC Co-Chair),

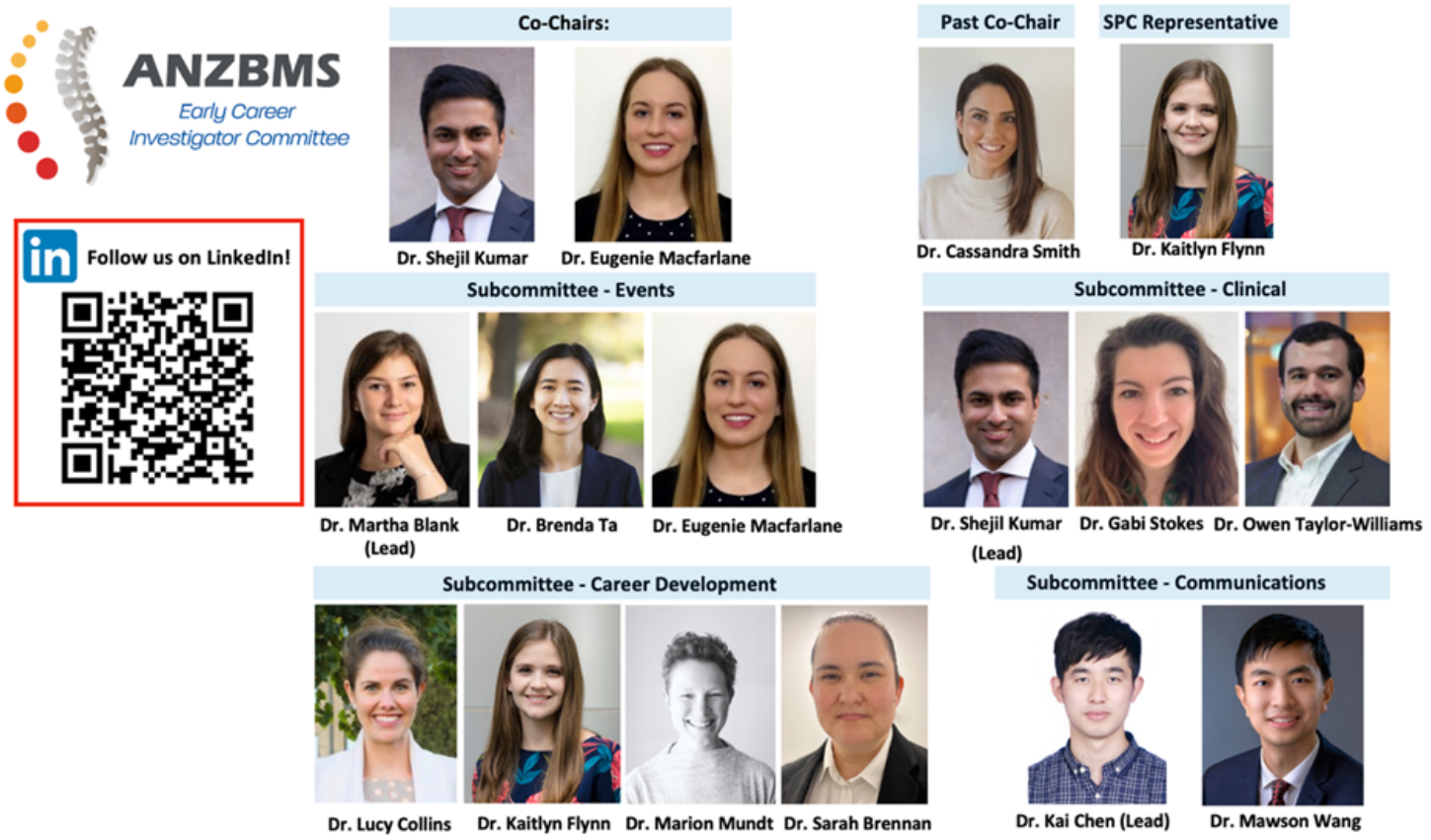
Check out the website to see SPC member bios.

We look forward to seeing you in September in Auckland.

Michael Bennett and Melissa Cantley

Scientific Program Committee (SPC) Co-Chairs

ECIC Co-Chairs Report



This year, we are building on successful initiatives and introducing exciting new opportunities to continue to best serve our thriving ECI community.

The **B.O.N.E Exchange** in 2026 will take place between ANZBMS and partnering societies ASBMR and ECTS. Applications for the ECTS exchange have closed and the awardee will be given an incredible opportunity to present a plenary talk at the ECTS conference in Girona, Spain (April). ASBMR will also select an Australian/New Zealand recipient of their Young Investigator Award for an oral presentation at the ASBMR conference in Boston, USA (October). The B.O.N.E awardees are not only invited to deliver a presentation, but also co-moderate an oral session, are hosted by the respective society's early career committee and receive an honorarium towards flights & accommodation. Reciprocally, we will also welcome ECTS and ASBMR awardees to present at our conference in Auckland (September). We look forward to strengthening these inter-society collaborations this year and continuing to promote invited speaker opportunities for our ECIs.

ECR Connect will be back again this year! This is an online interactive webinar-based educational event focusing on various topics for early career researchers. ECR Connect is led by the ANZBMS ECIC in collaboration with partnering societies (Endocrine Society

ECIC Co-Chairs Report

of Australia, Australian Diabetes Congress). We are busy planning for another informative event and will send details and registration links soon!

In this same collaborative theme, the inaugural **ESA-ANZBMS-ADS Endocrine Emergency Workshop** will be held online on March 14th, targeted at early Endocrine advanced trainees to develop key skills in managing common Endocrine emergencies. Registrations close very soon (midnight, February 28th) so don't miss out! Please register via this link or this QR code.

The **ECIC Career Development Award** is an exciting new award launching this year! The successful ECI applicant will receive $1,000 honorarium towards career development opportunities, 1-year free ANZBMS membership, free registration to the 2026 ANZBMS ASM, and an invitation to co-chair a session. A mentorship component will also be embedded into this award program. We are opening applications this April, so stay tuned!

Abstracts will open soon for the **Clinical Cases Seminar** at ANZBMS ASM welcoming bone/calcium case submissions by advanced trainees and registrars, so make sure to start considering interesting cases you might like to submit.

The ANZBMS ECIC is run by ECIs, for ECIs! We would love to hear from you if you have any suggestions for how we can better support you. We would also love to share your news and successes through our various communication channels on LinkedIn page, Facebook Group or contact us at ecic@anzbms.org.au.

See you soon!

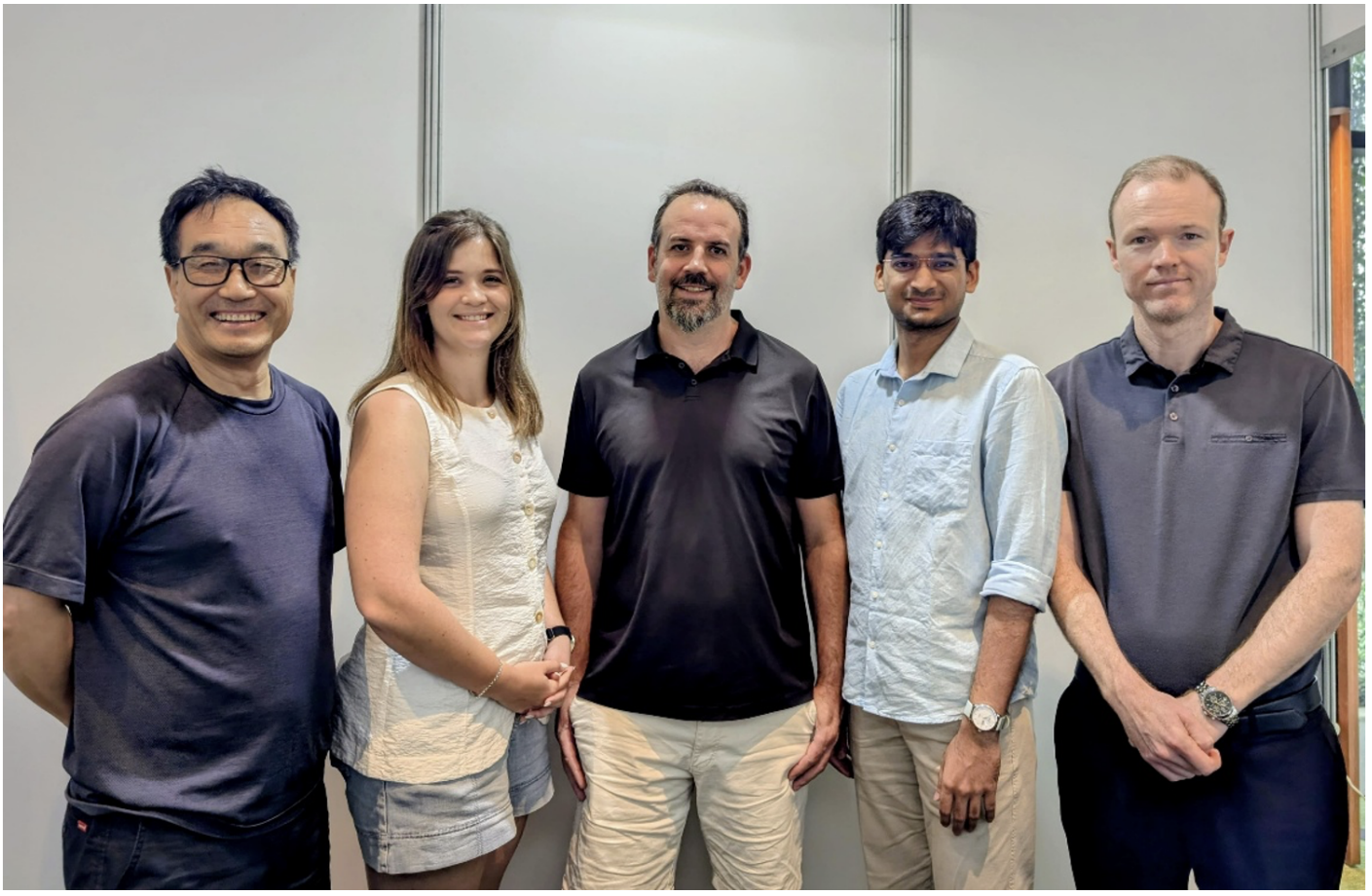
Yours Sincerely,
Dr Shejil Kumar
ANZBMS ECIC Co-Chair 2026

Yours Sincerely,
Dr Eugenie Macfarlane
ANZBMS ECIC Co-Chairs 2026

ECIC Funding Opportunities

Grant/Fellowship Scheme*	Application Period
NHMRC Ideas Grants	Applications now open, closing 6 May 2026
Children's Research Foundation (Channel 7) Annual Research Grants	Expressions of interest now open, closing 6 April 2026
Australian Museum Eureka Prizes	Entries now open, closing 16 April 2026
Al & Val Rosenstrauss Fellowships	Applications open 1 April 2026, closing 30 April 2026
NHMRC Investigator Grants	Applications open 3 June 2026, closing 29 July 2026
Rebecca Cooper Fellowships	Applications open 3 August 2026, closing 31 August 2026
MRFF – Clinical Trials Activity Initiative	Applications open, minimum data due 19 August 2026, closing 16 September 2026
Christine and T.Jack Martin Research Travel Grant	TBC
ANZBMS Bone Health Foundation Grants	TBC

Clicking on the scheme name will redirect you to the grant/fellowship website.



Musculoskeletal Genomics Group (left to right) Yuandan Zhang (Postdoctoral researcher), Kaitlyn Flynn (Postdoctoral Researcher), John Kemp (Group Leader), Nilabhra Das (PhD Student), Ben Mullins (Postdoctoral researcher)

Musculoskeletal Genomics Group, Mater Research

Featuring: Dr John Kemp (Lab Head), Dr Kaitlyn Flynn (Postdoctoral Researcher)

Dr John Kemp, Group Leader

How long have you been in this lab/group? Almost three years!I joined Mater Research as a new group leader and established the Musculoskeletal Genomics Group (MSKG) in June 2023.

What topics are researched in your lab? The overarching aim of our group is to identify genes that regulate skeletal health, determine the specific cell in which they function, and develop strategies to target them therapeutically. Our team has recently identified hundreds of genomic regions associated with skeletal disease. However, these regions are often large and encompass many genes, making it challenging to pinpoint those that directly regulate bone biology. To address this, we are developing systematic approaches to prioritise causal genes by integrating genetic association data with single-cell transcriptomic profiles of bone tissue. In addition, we lead two strategic research programs. The first seeks to define the cellular and genetic mechanisms that govern bone regeneration in zebrafish. The second focuses on identifying the genetic determinants of vascular calcification, with the goal of uncovering pathways that link skeletal and cardiovascular health.

What was your career trajectory leading to this moment? Complicated! When I was young, I was not sure if I wanted to be a musician, mechanic or a scientist. Fast forward 25 years and I ended up with 5 science degrees,

a half-restored car in my workshop, and a drum kit that I recently purchased for my daughter.

My career began in South Africa, where I completed a Bachelor of Science in biochemistry and genetics. During a third-year immunology practical, I was bitten by a mouse and promptly decided that animal work was not for me. I subsequently completed an Honours degree in cancer genetics and a Master's degree in forestry genetics, both focusing on candidate gene association studies. By the end of my master's degree, genome-wide association studies (GWAS) were beginning to show promise. The approach immediately appealed to me. While my research had focused on one or two candidate genes, GWAS offered the potential to identify all relevant genes across the genome. I later received a scholarship from the University of Newcastle, and it enabled me to move to the UK and complete a taught master's degree in human medical genetics and GWAS. After working for a year as a research assistant, I was awarded a Wellcome Trust scholarship to undertake a PhD at the University of Bristol under the supervision of Professor David Evans and Jonathan Tobias. Together, we conducted some of the first GWAS of bone mineral density. I later relocated to Australia with David and worked in his laboratory for several years as a postdoctoral researcher before establishing my own research group at Mater Research.

Reflecting on this journey, I recognise that none of it would have been possible without the countless hours my supervisors, mentors and collaborators spent teaching me to think critically and write clearly. I am also deeply grateful for the financial support provided by national and international funding bodies, as well as the countless opportunities provided by professional organisations and societies such as ASBMR and ANZBMS.

What's your mentorship style? I have an open-door policy, in which I actively encourage students and staff to approach me with questions, concerns, or suggestions at any time. Teamwork is vital to the success of the lab, and I hope to create a culture in which members support each other and work towards realising our research vision.

What's a fun fact about your lab? My lab bench was stolen by a post-doc, and I've been benchless ever since.

Dr Kaitlyn Flynn, Postdoctoral Researcher

How long have you been in this lab? I started my PhD under the supervision of John when he was a postdoc in David's lab in 2021, so 5 years now.

What inspired you to choose the lab? I had a background in rare genetic disease and was slowly exploring the realms of big data and statistical genetics analyses. Our lab works on using statistical and genetics approaches to determine the cellular and genetic determinants of musculoskeletal disease, which was the best of both worlds to me.

What are you excited to do? Apply our methods to new and exciting datasets in the pursuit of understanding the mechanisms of disease and identifying targets to treat them.

What's a fun fact about your lab? We love a cheeky trip to the pub to celebrate any and all good news!

Grant Recipients

NHMRC Ideas Grants

Professor Scott Wilson

"Revolutionising discovery and characterisation of genomic elements underlying osteoporosis."

The University of Western Australia

Dr Kai Chen

"Targeting glucose-driven adiposity in bone marrow to ameliorate bone loss."

The University of Western Australia

Quinn MJ, Williams B, Crotti TN, Bowen JM. Effectiveness and safety of bone protective interventions to mitigate bone loss and skeletal fractures experienced by patients with non-metastatic breast cancer: a systematic review and meta-analysis. Osteoporos Int. 2026 Feb 16. DOI: 10.1007/s00198-025-07786-6.

Featured author:

Dr Micaela J. Quinn
School of Biomedicine, The University of Adelaide, Adelaide, SA, Australia
E: micaela.quinn@adelaide.edu.au

What is the background of the study?

Bone loss and skeletal fractures are well-known consequences of breast cancer treatments. As breast cancer survival rates improve, effectively managing the long-term skeletal effects of these therapies is increasingly important. This systematic review and meta-analysis evaluated the effectiveness and safety of bone protective interventions for the management of bone health in patients with non-metastatic breast cancer.

What did you find?

Systematic searching of databases, clinical trial registries and grey literature identified 8,869 studies, with 88 studies meeting the eligibility criteria. Meta-analyses demonstrated that bisphosphonates significantly reduce bone mineral density (BMD) loss and skeletal fracture incidence. In terms of safety, meta-analyses revealed an increased incidence of osteonecrosis of the jaw, influenza-like illness and bone pain with bisphosphonates. Meta-analysis could not be performed for denosumab, calcium supplementation or vitamin D supplementation outcomes for various reasons outlined in the systematic review. Therefore, bisphosphonates were the preferred bone protective intervention based on their effectiveness, safety, and the level of evidence available, in the non-metastatic breast cancer setting. Subgroup analysis revealed no significant difference in skeletal fracture incidence between upfront and delayed zoledronate administration. The effect of timing of administration on BMD changes could not be assessed.

What is the application of these findings?

We present a comprehensive synthesis of available data on the effectiveness and safety of bone protective interventions used in the management of bone health for patients with non-metastatic breast cancer. Our findings support existing clinical guideline recommendations and position statements regarding bisphosphonate use in the broader breast cancer setting. In contrast, the level of evidence for denosumab remains limited in this setting, highlighting the need for more clinical studies assessing its impact on BMD loss and skeletal fracture incidence in non-metastatic breast cancer. This will be of particular importance given the rebound bone loss and vertebral fractures reported following denosumab discontinuation in the osteoporosis setting.

Qianjun Ding, Lunjian Li, Saeed Miramini, Shuangmin Shi, Peter Ebeling, Yongping Wei, Lihai Zhang. Effects of Tibial Fracture-Induced Gait Alterations on Healing Outcomes: Implications for Patient-Specific Rehabilitation Strategies. Comput Methods Programs Biomed. 2026 May 1:278:109281. doi: 10.1016/j.cmpb.2026.109281..

Featured author:

Prof Lihai Zhang
Professor - Infrastructure Protection & MGMT. Department of Infrastructure Engineering, The University of Melbourne, Parkville, VIC, 3010, Australia.
E: lihzhang@unimelb.edu.au.

What is the background of the study?

The study is motivated by a clinical reality in tibial fracture rehabilitation: partial weight-bearing walking is commonly prescribed, yet patients rarely walk in a mechanically "normal" way. Instead, fracture-induced gait alterations such as limb asymmetry, compensatory joint strategies, and shifted muscle recruitment can substantially change joint reaction forces and tissue-level mechanical stimulation at the fracture site. Because fracture healing is sensitive to the magnitude and rate of loading, simplified rehabilitation rules based only on an assigned partial weight-bearing percentage may misrepresent what the healing bone and callus experience. To address this gap, the paper links fracture-related gait mechanics with a mechanobiological healing model, using gait alterations to estimate how changes in walking speed and body weight propagate through muscle forces and joint loading and then influence tissue differentiation outcomes.

What did you find?

The main finding is that fracture-induced gait can increase peak loading rates at the knee and ankle as walking speed rises, and it can also amplify the loading rate of specific muscles that are influential for tibial loading. These changes are not trivial because they can elevate mechanical stimulation within the callus compared with estimates that assume uninjured gait under reduced weight-bearing. The modeling results suggest that ignoring fracture-related gait effects may lead to an underestimation of mechanical stimulation and the risk of fracture non-union.

What is the application of these findings?

These findings support a patient-specific rehabilitation approach. Rather than prescribing partial weight-bearing alone, the results can be used to identify combinations of walking speed, body weight, and gait pattern that are more likely to promote favorable endochondral ossification while reducing conditions that bias tissue outcomes toward fibrous formation. In practice, this provides a rational basis for tailoring early gait training targets and progression rules to individual biomechanics, improving safety and effectiveness in post-fracture rehabilitation planning.

Liu, H., Li, Z., Davey, C.E., Stok, K.S. Revealing early subchondral bone structural changes in osteoarthritis progression in a collagenase-induced mouse model using microCT. Bone. 2026 Jan:202:117687. doi: 10.1016/j.bone.2025.117687.

Featured authors:

Dr Han Liu
Department of Biomedical Engineering, Melbourne University
hanna.liu@unimelb.edu.au.

Prof Kathryn Stok
Department of Biomedical Engineering, Melbourne University
kathryn.stok@unimelb.edu.au

What is the background of the study?

Osteoarthritis (OA) remains a leading cause of disability worldwide. A major challenge is that important pathological changes can begin before clear clinical symptoms appear. Subchondral bone changes are a recognised feature of OA, but the earliest structural changes are difficult to characterise in humans because disease progression is slow and variable. In this study, we used a collagenase-induced mouse OA model and high-resolution microCT with quantitative morphometric analysis (QMA) to examine subchondral bone structure at high imaging frequency and determine how early these changes can be detected in 3D.

What did you find?

Combining high imaging frequency and a large cross-sectional study design, we found that subchondral bone structural differences in OA joints were detectable as early as one week after collagenase induction. Within the first week post-injection, OA samples had detectable lower bone volume fraction, thinner trabeculae, and larger trabecular spacing. We also observed that the pattern of structural change across sampled time points was not linear, with a marked shift in the early phase (within the first few weeks after induction).

What is the application of these findings?

These findings help refine how early OA can be studied in preclinical models. Firstly, they show that measurable subchondral bone microstructural changes can be detected earlier than is often captured in lower-frequency study designs, supporting the use of QMA and more frequent microCT imaging for early-stage structural assessment. Secondly, the non-linear pattern observed across time points suggests that sampling frequency and timing matter: studies using wider intervals may miss important early changes. More broadly, this work provides a temporal framework to inform the design of future OA experiments (including intervention studies), while also highlighting the need for longitudinal in vivo imaging to directly track remodelling within the same animals and better link structural changes to underlying biological mechanisms.

ANZBMS Researchers: We want to share & celebrate your wins!

We are on the lookout for members who have celebrated success (awards and publications) to be highlighted in the Spotlight or Publication sections for the upcoming editions of the newsletter. If you know of someone or want to self-nominate, please email us at **newsletter@anzbms.org.au**

The ANZBMS Newsletter Editorial Board is searching for new members!

Open to all ANZBMS members at any stage in their career. For more information and to apply, please e-mail newsletter@anzbms.org.au with up to 150 words explaining why you would be a good addition to the newsletter team.

Calendar of Events


BHQF
Bone Health & Osteoporosis FOUNDATION
ISO 2026
INTERDISCIPLINARY SYMPOSIUM ON OSTEOPOROSIS
SAVE THE DATE
MAY 28-30, 2026
CAPITAL HILTON • WASHINGTON, D.C.
AMERICA'S LEADING CLINICAL CONFERENCE ON BONE HEALTH
WWW.INTERDISCIPLINARYSYMPOSIUMOSTEOPOROSIS.ORG


ISBM 2026
Queen Mary University of London
United Kingdom
July 4-7, 2026
Saravana Ramasamy, PhD
Local Organizing Chair
Aline Bozec, PhD
Program Organizing Chair
Stefaan Verbruggen, PhD
Fundraising Chair
Michelle McDonald, PhD
ISBM President

Calendar of Events