

Exploring Orthopedics Trends in the APAC Region

Poised for Growth



Authors:

Melisa Junata, Vikki Leung,
Masha Dumanis,
Gary Cheng, and
Susan A. Posner

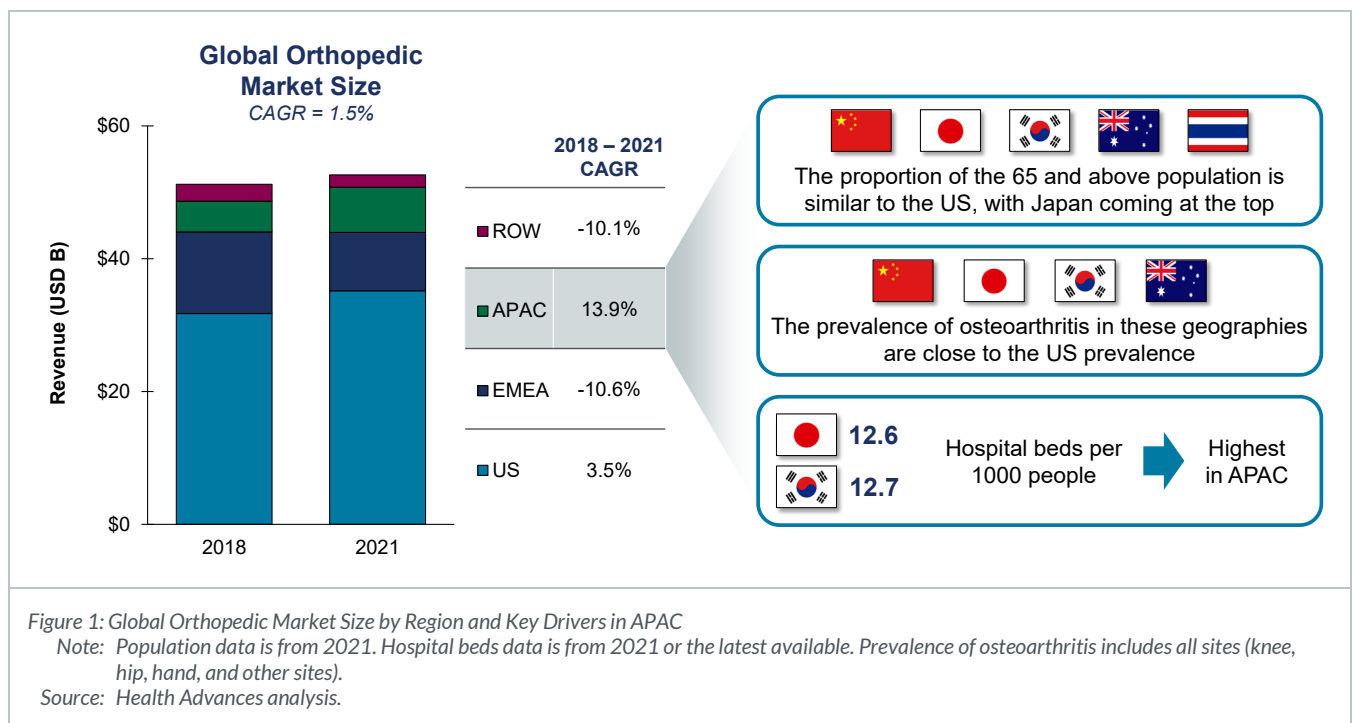
Health 
Advances™

Introduction: APAC, A Thriving Orthopedic Market

Markets outside the US account for nearly one-third of the global orthopedics market. In particular, the APAC region is thriving, driven by the region's improved healthcare infrastructure, a growing elderly population, and a high prevalence of osteoarthritis.

Infrastructure plays a critical role in improving standards of care and enabling orthopedic MNC (multinational) companies (like [DePuy Synthes](#), [Stryker](#), [Smith+Nephew](#), [Medtronic](#), and [Zimmer Biomet](#)) to access the market. For instance, Japan and Korea have the highest number of hospital beds per 1000 people in APAC and worldwide, at 12.6 and 12.7 respectively.

China, Japan, Korea, Australia, and Thailand are expected to see a rise in osteoarthritis prevalence due to their proportion of 65+ population, a trend that is also observed in the US (Figure 1). We could expect to see joint replacement procedures grow in the region.



China Leads Procedure Volume in APAC

Hip and knee replacement procedures, the biggest market segment in orthopedics, are seeing a significant increase in China. Additionally, after a prolonged period of COVID lockdown, elective procedures are seeing a return in China.

Overall, knee replacement remains the most attractive market segment, with higher growth in all regions compared to hip replacement (Figure 2).

While procedures growth presents a promising opportunity for the future, multinational corporations should take note of the rising presence of domestic manufacturers gaining market share, namely [AK Medical](#), [Chunli Medical](#), and [Weigao Orthopaedic](#).

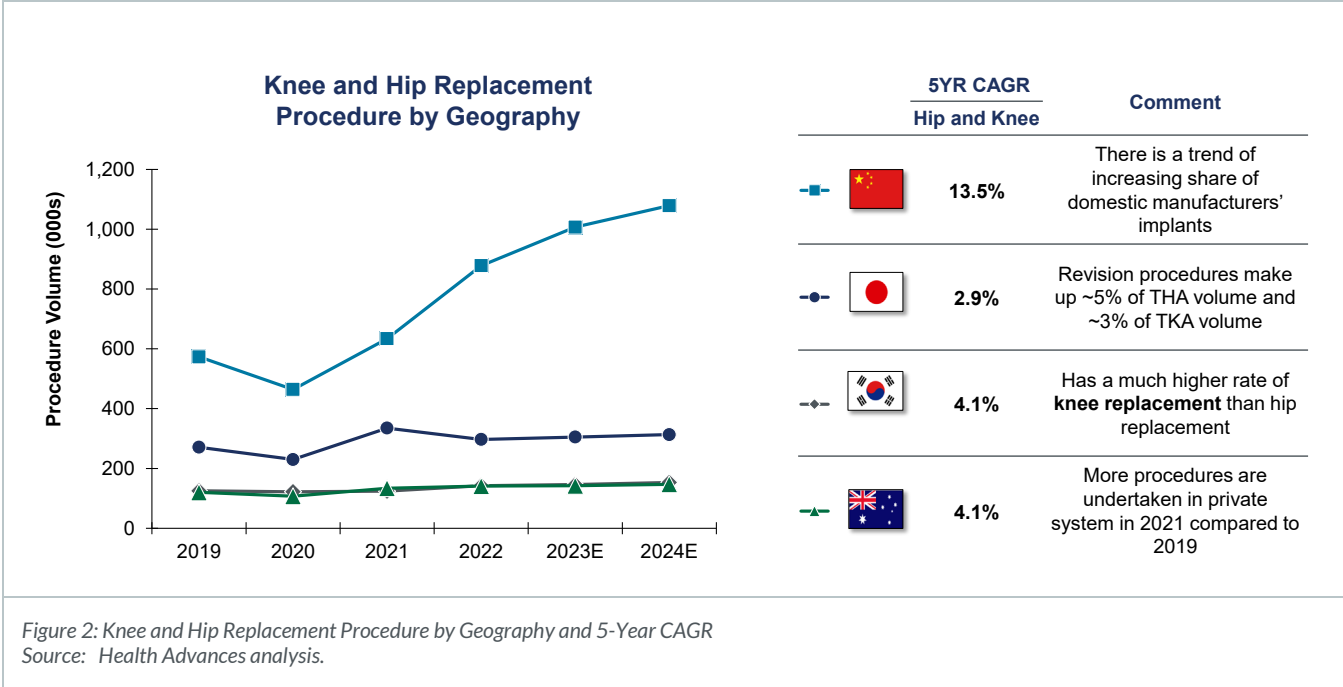
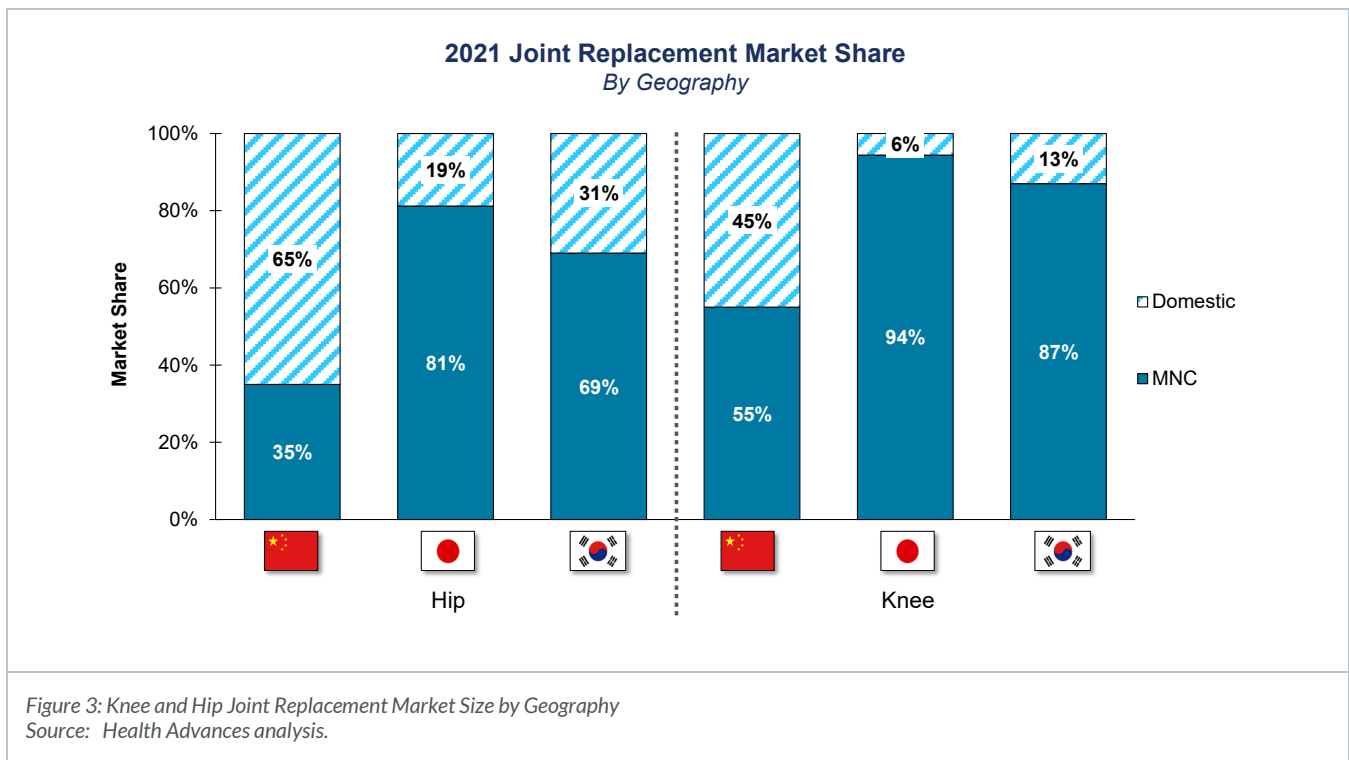


Figure 2: Knee and Hip Replacement Procedure by Geography and 5-Year CAGR
Source: Health Advances analysis.

Multinational and Domestic Companies Evolving Dynamics

Multinational companies such as [Zimmer Biomet](#), [Stryker](#), [DePuy Synthes](#) (Johnson and Johnson), and [Smith+Nephew](#) all have a strong presence in the APAC markets. However, in recent years, they face tough domestic competition in China, Japan, and Korea. Our research shows that domestic players in all three geographies have experienced more success penetrating the hip implants market when compared to the knee implants segment, where MNCs retain dominance (Figure 3). In Japan and Korea, [Kyocera](#) and [Corentec](#) both have a higher market share in hip replacement than knee replacement. In China, government initiatives have accelerated domestic players such as [AK Medical](#) and [Weigao Orthopaedic](#) to capture significant market share in both the hip and knee replacement markets. In more commoditized markets, such as trauma, domestic players command the vast majority of share.

The market dynamics between MNC and domestic orthopedic companies will evolve as the market continues to recover post-COVID. How will MNCs pivot to protect market share in these geographies? Will domestic players look to expand their presence beyond their local market? With favorable demographics and a persisting demand for technologies that provide better patient outcomes, this market is sure to be an interesting one to watch.

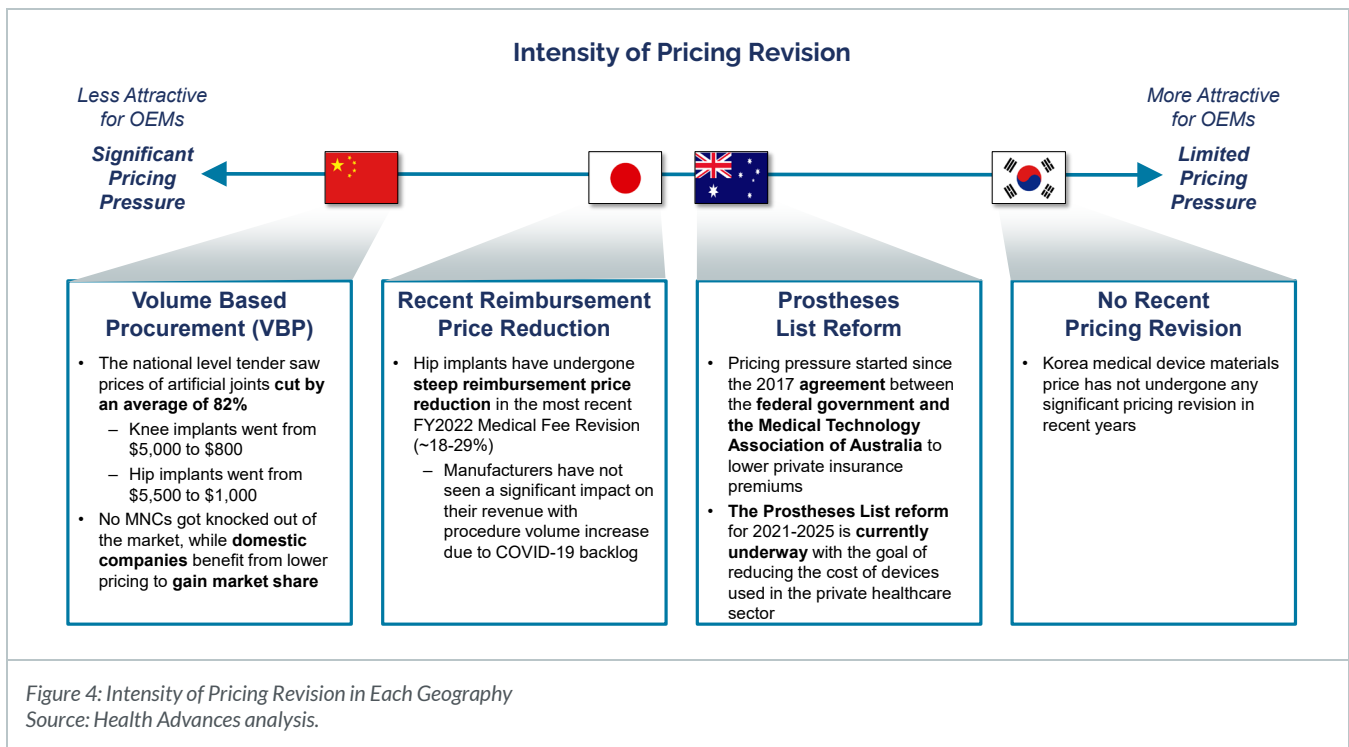


Growing Pricing Pressure

Orthopedic players in APAC are facing pricing pressure due to the region’s rapidly aging population and growing healthcare budget constraints. In China, volume-based procurement (VBP) programs are implemented to reduce the price of medical devices and lower healthcare costs for the government. The VBP program tenders the national market volume and awards manufacturers offering low prices. In 2021, the national VBP program targeted at orthopedic products led to a steep (we are talking about 80%!) price reduction for spinal, hip, and knee implants. This has significantly shaken up the market dynamics, requiring both MNCs and domestic players to change their strategies to remain competitive. This includes both product offerings and manufacturing locations.

In Japan, the 2022 Medical Fees Revision affected hip replacement implants. Despite the decrease in reimbursement prices, companies have reported increased sales due to the backlog of procedures caused by COVID-19. Whether steep pricing revisions will continue as the healthcare burden grows for Asia’s fastest-aging society remains uncertain. Meanwhile, Australia’s implants and prostheses market will face further pricing pressure following an agreement between the federal government and the Medical Technology Association of Australia in October 2017 to help lower private health insurance premiums (Figure 4).

As other APAC countries closely monitor the rollout of China’s VBP program, similar budgetary and pricing controls could be considered across the region to alleviate rising pressure on healthcare costs. Companies must remain vigilant and continuously adapt their market and localization strategies in APAC to stay competitive in the face of these headwinds.



Latest Developments of MSK in APAC: Companies Lapping the VBP Impact in 2023Q2

In Q2 of 2023, orthopedic companies reported robust financial results, including growth on an international scale. Although there is a positive outlook on the Asia-Pacific region, some companies are still facing challenges with VBP in China, despite seeing less pressure compared to the first quarter of the year.

[Smith+Nephew](#) saw China's procedure volume recovery after COVID-19 restrictions as a factor in the emerging markets revenue growth, which is growing by 11%. While growth in China has not met expectations, the company does anticipate the headwind of VBP to dissipate by the end of 2023. [Stryker's](#) Orthopedics and Spine has experienced strong growth in international markets with 12.1% growth despite China being a slight drag. Their Mako product is gaining momentum in APAC, particularly in Japan, India, and China. [Zimmer Biomet](#) also has a positive outlook despite VBP and does not see it as a significant headwind in 2023. They recorded 7.2% international growth driven by EMEA and APAC.

Orthopedic companies are starting to look beyond China's VBP and as the number of procedures in the APAC region recovers, we predict that the region will experience further growth in the upcoming quarters.

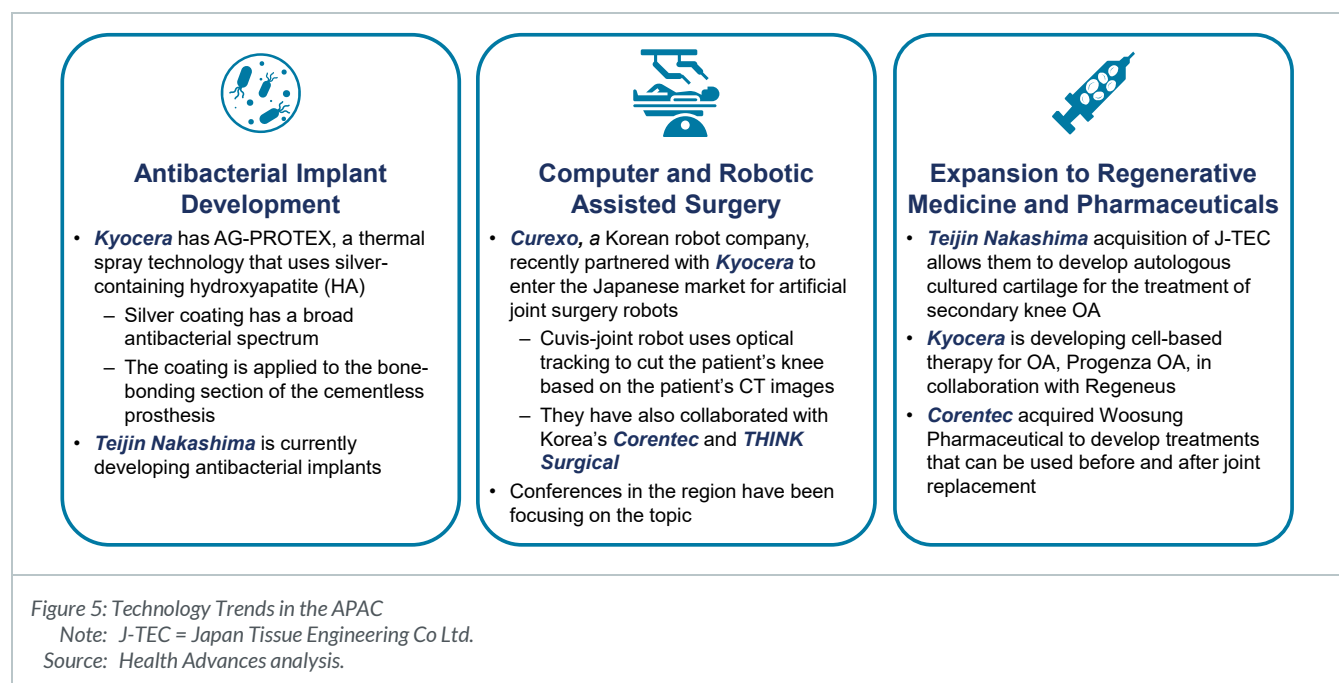
While a rising tide lifts all boats, the domestic players have particularly benefited from both the region's policies and demographic changes this year. [AK Medical](#) reports that its 1H23 sales grew nearly 22% compared with the previous year.

Technology Innovations: Antibacterial Implant, Robotic Assisted Surgery and Regenerative Medicine

Innovative technologies continue to open new possibilities in transforming the way musculoskeletal conditions are treated. Orthopedic players in the APAC region are investing heavily in new technologies and solutions to improve surgical outcomes and enhance patient experiences. We'd like to highlight a few notable technology trends below:

- The increase in implant-associated infections has led a few regional companies ([Kyocera](#), [Teijin Nakashima](#)) to focus on the development of joint prostheses with antibacterial properties.
- Regional orthopedic companies are all looking to get involved in the rapidly growing field of robot-assisted surgery. Korea-based [Curexo](#), developer of the CUVIS-joint system looks to establish itself as a frontrunner after signing multiple partnership agreements, like with [Corentec](#) and [THINK Surgical](#).
- Given Japan's strength in regenerative medicine R&D, domestic players, [Teijin Nakashima](#) and [Kyocera](#), have both struck partnership deals to develop cell-based solutions such as autologous cultured cartilage for the treatment of OA.

These latest advancements represent just a glimpse into the technology emerging from the APAC region (Figure 5). It will be interesting to see how these key regional players continue to drive innovation forward.



What's Next for Orthopedic Companies?











In the previous sections, we've explored the potential and dynamics of the orthopedic market in China, Japan, Korea, and Australia:

- Key drivers for market expansion, such as an aging population, OA prevalence, and healthcare infrastructure
- Outsize growth in knee and hip replacement procedures in China
- Rise of domestic companies, whilst MNC continue to control market share
- Growing pricing pressure in China, Japan, and Australia
- Technology trends including antibacterial implants, computer-assisted surgery, and regenerative medicine.

Looking beyond these countries, we believe that orthopedic companies should keep a close eye on emerging markets (Figure 6), such as Thailand, Vietnam, India, Indonesia, and the Philippines, due to their large populations, growing 65+ age groups in the next 5-10 years, and positive socio-economics trends (e.g. universal coverage, increasing spend on healthcare, lower pricing pressure than major APAC markets).

Several APAC companies have already recognized this potential and are making moves. For example, [Corentec](#) has entered Thailand and Indonesia markets and expects significant sales growth in the coming years. [Teijin Nakashima](#) is targeting Thailand as the first country outside of Japan to market their guides and plates used in orthopedic surgery. We've also observed reinvigorated commitments from MNC companies to the APAC region, with [Zimmer Biomet](#) and [Smith+Nephew](#) opening new facilities in Malaysia and [Exactech](#) expanding its Newton Knee product line in the region.

As we've spotlighted throughout this series, the APAC region presents a significant growth opportunity for orthopedic companies. With governments promoting universal health coverage and creating an open environment welcoming both domestic and MNC companies, the region offers positive conditions for businesses to flourish. We look forward to seeing what the next move for orthopedic companies in the region will be in the coming years.

| Country | Population | Population Ages 65+ | Hospital beds (per 1000 people) | Prevalence of Osteoarthritis |
|---|------------|---------------------|---------------------------------|------------------------------|
| US  | 332MM | 16.7% | 2.9 | 10% |
| China  | 1.4B | 13.1% | 4.3 | 6.3% |
| Japan  | 126MM | 29.8% | 12.6 | 8.0% |
| South Korea  | 52MM | 16.7% | 12.7 | 9.3% |
| Australia  | 26MM | 16.6% | 3.8 | 8.2% |
| India  | 1.4B | 6.8% | 0.5 | |
| Indonesia  | 274MM | 6.8% | 1.0 | |
| Philippines  | 114MM | 5.3% | 1.0 | |
| Vietnam  | 98MM | 8.8% | 2.6 | |
| Thailand  | 72MM | 14.5% | 2.1 | |

Other geographies outside China, Japan, Korea, and Australia also have large populations with a growing 65 and above age group and attractive socio-economic trends

Figure 6: APAC Countries with Positive Outlook for Orthopedic Companies
 Note: US is added for comparison purposes. Population data is from 2021. Hospital beds data is from 2021 or the latest available. Prevalence of osteoarthritis includes all sites (knee, hip, hand, and other sites).
 Source: Health Advances analysis.

Whitepaper Contributors



Susan Posner
Partner

- Leads Health Advances MedTech Practice Group
- 20+ years healthcare experience; 350+ client projects
- Extensive experience in the device sector, including minimally invasive and interventional products
- Expertise includes women's health and urology, critical care, surgical, and other physician office and hospital products
- Previous MassMEDIC Director
- Indevus (formerly Interneuron) Pharmaceuticals, Marketing, Business Development and Product Management
- Molten Metal Technology, Market Research/Competitive Assessment Coordinator
- Brandeis University, BA, General Science



Masha Dumanis
Vice President

- Co-Leader of Health Advances MSK Practice and Leader in Digital Health and HIT
- Over 100 client engagements in opportunity assessment, new product commercialization, corporate strategy, cost-effectiveness evaluation, competitive assessment, business model assessment, due diligence, and growth strategy
- Extensive content area experience in orthopedics (tools, instruments, implants, HIT, DME, pain management), MedTech market access, pharmacy software, women's digital health, molecular diagnostics, and hospital products
- Adnexus, a BMS R&D Co., Protein Sciences Intern
- Harvard University, AB, Human Evolutionary Biology, cum laude



Gary Cheng
Vice President

- Extensive experience in life sciences and healthcare across Asia Pacific (pharma/biotech/diagnostics/medtech)
- Key areas of expertise in general management, mergers and acquisitions, target identification, valuation, cross border transactions, licensing and partnering
- Stout Bluepeak Asia Ltd, Partner and Managing Director
- Becton Dickinson, Vice President, Business Development
- Alere, Director Mergers & Acquisitions and Marketing
- Novartis, Global Marketing
- Harvard University, MS, Health Policy and Management
- Brown University, BA, Psychology (Honors) and Biology
- Has worked in Japan, Switzerland, Singapore, and Hong Kong



Vikki Leung
Engagement Manager

- Experience in commercialization strategy, market assessment, and due diligence in medtech, biopharma, and diagnostic sector in APAC markets
- Medtronic, Therapy Development Manager, Coronary and Structural Heart
- GE Healthcare, Sales Executive, Life Sciences
- Imperial College London, MBA
- The University of Hong Kong, MPH, Health Economics & Policy
- University of Michigan, BS, Dual Degree in Movement Science and Economics



Melisa Junata
Senior Analyst

- Experience in market landscape assessment, competitive analysis, due diligence, and portfolio strategy
- The Chinese University of Hong Kong, Neurorehabilitation and Robotics Laboratory, Research Assistant
- Rehabilitation Institute of Chicago (now: ShirleyRyan Ability Lab), Research Intern
- The Chinese University of Hong Kong, MPhil and BEng, Biomedical Engineering and Business Minor, First-class Honors

About Health Advances

When you're on a fast track to commercialize your innovation, you need a focused partner from day one. A partner who understands the intricacies of your market and product, brings fluency with end stakeholders, quickly grasps evolving healthcare business models, and is dedicated to delivering greater value.

Our consultants' unique depth of experience spans the clinical and market intersections of biopharma, medtech, diagnostics, and digital health. From this strategic vantage point, we can identify the best opportunities and decisions for you to enter new markets as a leader and translate nuanced differences in scientific innovation into commercial advantage.

Our senior leaders stay with your project from conception through completion, while our highly-skilled teams of PhDs, MBAs, and experienced technologists bring a high degree of scientific rigor and business insights. Together, we work as an agile, adaptable extension of your team.

With a 30-year track record of successful engagements, Health Advances treats your growth strategy and challenges as our own.

And with one-call integration to 19,000 Parexel subject matter experts in 100 global offices, we're built to help you deliver healthcare's next big idea anywhere in the world.

For more information about Health Advance's MSK and Medtech in APAC contact [Masha Dumanis](mailto:mdumanis@healthadvances.com) at mdumanis@healthadvances.com or [Gary Cheng](mailto:gcheng@healthadvances.com) at gcheng@healthadvances.com and follow #MSKMonday on LinkedIn for the latest insights!

www.healthadvances.com