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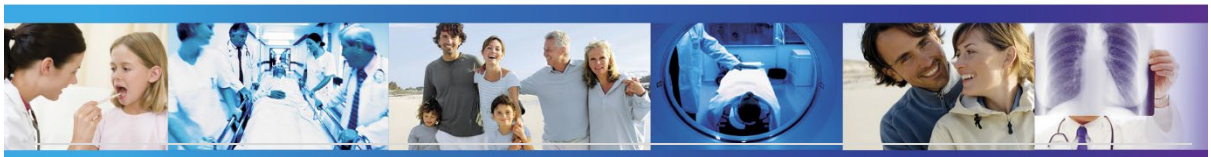

Spinal fusion cages Prescribed List review

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About Private Healthcare Australia

Private Healthcare Australia (PHA) is the Australian private health insurance industry's peak representative body. We have 24 registered health funds throughout Australia as members and collectively represent 98% of people covered by private health insurance. PHA member funds provide healthcare benefits for over 15 million Australians.

Introduction

PHA welcomes the post-listing review of spinal fusion cages and plates on the Prescribed List of Medical Devices and Human Tissue Products (PL). This review provides an important opportunity to ensure benefit settings appropriately reflect comparative clinical effectiveness, cost effectiveness and efficient market pricing.

The high prices of spinal cages in Australia have seen the market flooded with dozens of generic models, including cages from large companies, small operators and a number that appear to be simple rebranding of generic devices. For a small market such as Australia, it seems odd there are more than 400 spinal cages available – until the high fixed prices are taken into account. As the Nous Evaluation Report #2[1] notes, spinal cages cost six times more in Australia than in France. With such extraordinary profits available, the market is full of opportunistic suppliers wanting their slice of the overpriced pie.

Insurers support clinically appropriate access to spinal fusion cages where medically indicated. However, current PL benefits for devices with integral fixation and without integral fixation appear to exceed the level justified by available evidence and observed market pricing.

The overpricing is likely to be distorting the market in some areas. Data show the rates of spinal fusions has grown rapidly in Australia and is significantly higher than in many other countries.[2] [3] [4] The Australian Commission on Safety and Quality in Health Care also notes there are very high variation rates for the procedure.[5] It is possible the high pricing of these devices, combined with generous medical and hospital rebates, is contributing to overservicing in the private sector in some areas.

[1] Nous, *"Interim Evaluation #2 of the Prescribed List Reforms*" September 2025, available at https://www.health.gov.au/resources/publications/interim-evaluation-2-of-the-prescribed-list-reforms?language=en

[2] Sam Hunt "*Increase in privately funded spinal surgeries prompts questions*" 14/08/23 InSight+.

[3] Gustavo Machado, Christine Lin and Ian Harris "*Needless treatments: spinal fusion surgery for lower back pain is costly and there's little evidence it'll work"* 20/02/218 The Conversation.

[4] Duong Thuy Tran, Adriane M Lewin et al "*Elective spinal surgery in New South Wales adults, 2001–20, by procedure funding type: a cross-sectional study*" 14/08/23 The Medical Journal of Australia.

[5] Australian Commission on Safety and Quality in Health Care "*4.1 Lumbar spinal fusion, 18 years and over*" 28/04/21 Fourth Australian Atlas of Healthcare Variation 2021.

Response

Does integral fixation, compared to no integral fixation, impact clinical outcomes?

Fusion rates and patient-reported outcomes

According to available published[6][7][8][9][10][11] literature, there is limited high-quality evidence demonstrating that cages with integral fixation (e.g. screws or blades incorporated into the cage) provide superior long-term clinical outcomes compared to cages without integral fixation used in conjunction with supplemental fixation (e.g. pedicle screw systems).

Systematic reviews and comparative studies have generally found:

- comparable fusion rates across major cage materials at 12–24 months
- no consistent superiority or clinically meaningful differences in patient-reported outcome measures (e.g. pain, ODI scores), and
- similar complication and revision rates.

While integral fixation may reduce micromotion at the interbody level in certain procedural contexts (e.g. stand-alone anterior lumbar interbody fusion), this theoretical biomechanical advantage has not translated into consistently superior patient-level outcomes in robust comparative studies.

Health funds have been observing for some time the increased use of integral fixation cages being used in conjunction with supplementary fixation via pedicle screws (i.e. a front and back fixation with additional graft being used both anteriorly and posteriorly, especially in older patients). This may suggest surgeons are not satisfied with the amount of stability from a stand-alone integral fixation cage, thus reducing the justifications for increased rebates for integral fixation cages based on clinical outcomes.

[6] Adnan Shaikh, Laasya V Dwarakanath et al "*Comparative review of anchored cage devices and standalone cages in multilevel anterior cervical discectomy and fusion surgeries*" Volume 17 Jan 2026 Journal of Craniovertebral Junction & Spine.
[7] Chiduziem Onyedimma, Ousman Jallow et al "*Comparison of Outcomes Between Cage Materials Used for Patients Undergoing Anterior Cervical Discectomy and Fusion with Standalone Cages: A Systematic Review and Meta-Analysis*" Volume 158, February 2022 World Neurosurgery.
[8] Enliang Chen, Junjie Xu et al "*Cage Subsidence and Fusion Rate in Extreme Lateral Interbody Fusion with and without Fixation*" Volume 122, February 2019 World Neurosurgery.
[9] Jin Tang, Jianing Wang et al "Analysis of Factors Influencing the Fusion Rate in Lumbar Interbody Fusion Surgery: A Systematic Review" Volume 202, October 2025 World Neurosurgery.
[10] Binoy K Singh, Bineta Singh et al "*Reducing the Cost of Spinal Fixation Surgeries to Fit the Budgets of Patients From the Low- and Middle-Income Categories to Ensure Affordable and Effective Outcomes*" 22/03/25 Cureus Journal of Medical Science.
[11] Kevin Phan, Ralph J Mobbs "*Evolution of Design of Interbody Cages for Anterior Lumbar Interbody Fusion*" 14/09/16 Orthopaedic Surgery.

Furthermore, the rebates for both types of plates are the same regardless of the description. As with the cages, there is little to no evidence suggesting there any significant difference in patient outcomes from the different plate designs.

Surgical Workflow and Operating Time

Some studies[12][13] suggest potential reductions in operative time or hardware utilisation when integral fixation devices are used in specific indications. PHA notes:

- time savings are variable and procedure / surgeon dependent.
- There is no consistent evidence that such efficiencies translate into measurable system-level cost savings. The reduced operative time and potential improvement in surgical outflow mostly benefits the surgeon and hospital. Given hospitals are paid a DRG fee for a procedure, any reduction in theatre time improves the profit for the hospital and potentially allows for additional cases to be added to a list. This is the same for the surgeon, as they also charge a set fee for a procedure.
- Any marginal efficiency benefit does not justify materially higher device reimbursement absent demonstrated outcome improvement.

Clinical conclusion

While spinal fusion cages vary in material composition (e.g. PEEK, titanium, porous titanium) and surface technologies, there is limited high-quality evidence demonstrating clinically meaningful differences in patient outcomes that justify significant price differentials between devices.

In the absence of robust evidence demonstrating superior long-term clinical outcomes, premium PL pricing cannot be justified on clinical value grounds.

The PL pricing should reflect demonstrated benefit to the patient, not characteristics of the device or theoretical design enhancements.

What mix of individual devices/components are used for integral fixation versus no integral fixation?

Component utilisation patterns

In practice, procedures involving cages without integral fixation commonly include:

- interbody cage or cages (PLIF),
- supplemental plate and screw or pedicle screw and rod system, depending on the procedure type and surgeon preference, and

[12] Elias Elias, Ali Daoud et al "*Assessing Surgical Outcomes for Cage Plate System versus Stand-Alone Cage in Anterior Cervical Discectomy and Fusion: A Systematic Review and Meta-Analysis*" Volume 185, May 2024 World Neurosurgery.

[13] Mobbs RJ, Phan K et al "*Lumbar interbody fusion: techniques, indications and comparison of interbody fusion options including PLIF, TLIF, MI-TLIF, OLIF/ATP, LLIF and ALIF*" Vol 1, No 1 (December 21, 2015): Journal of Spine Surgery.

- ancillary components (set screws, connectors).

Integral fixation devices may:

- be used as stand-alone constructs in selected cases in both the cervical and lumbar spine with occasion use seen in the thoracic spine for scoliosis / kyphosis procedures via a lateral approach; or,
- be supplemented with posterior fixation, depending on surgeon preference and patient pathology. Health funds are reporting an increase of this, especially in older patients undergoing lumbar fusion.
- Typically, an integral fixation cage consists of 2 – 4 components, i.e. the cage, screws that are placed through the cage or a connected plate, a metal plate that allows for either locking or non-locking screws, and a locking or blocking plate / screw, to prevent the screw coming back out. Consequently, the cost comparison should consider total episode prostheses utilisation, rather than cage price in isolation.

For plates, the same components are used regardless of the plate being integral fixation or not. The main difference will be for plates that accept a locking screw (or dual thread screw as per the spinal groupings suffix). There is a biomechanical argument that this creates slightly more stability in the construct and reduces the incidence of screw backout. However, this technology has been in place for more than 20 years and is now the standard for other orthopaedic plating systems used throughout the body.

Implications for Benefit Setting

Where integral fixation cage devices are still supplemented with posterior fixation, the total prostheses cost usually exceeds that of non-integral constructs.

Where they are used as true stand-alone devices, any avoided hardware cost must be quantified and demonstrated to generate net savings.

At present, available utilisation data does not consistently demonstrate that integral fixation reduces overall prosthesis expenditure at the episode level.

Based on published cost-effectiveness studies, what is the comparative cost effectiveness of integral fixation compared to no integral fixation?

Limited robust economic evaluations

There is a scarcity of high-quality, independent cost-effectiveness analyses directly comparing integral fixation to non-integral fixation cages or plates.

Existing economic analyses are often:

- industry-sponsored,
- based on short-term modelling assumptions, and

- sensitive to small changes in revision rates or operative time.

Absence of demonstrated incremental cost-effectiveness

To justify a higher PL benefit, integral fixation would need to demonstrate:

- superior clinical outcomes (e.g. lower revision rates, better functional recovery), and
- acceptable incremental cost-effectiveness ratios relative to non-integral devices.

Current published evidence does not demonstrate a consistent reduction in revision surgery or downstream healthcare utilisation sufficient to offset higher device costs.

In the absence of robust incremental cost-effectiveness evidence, higher reimbursement cannot be justified on economic grounds.

Are the benefits and/or groupings of the devices appropriate?

Benefits disconnected from market pricing

There is clear and sustained evidence that the PL benefit for spinal fusion cages, plates and screws exceeds the actual supply price of these devices in both domestic public hospital procurement and comparable international markets.

Public hospitals in Australia procure equivalent spinal fusion cages, plates and screws through competitive tendering processes at prices substantially lower than the current PL benefit. International comparator jurisdictions including New Zealand, European markets and North America also have considerably lower prices for equivalent devices.

These are generic devices that are cheap and easy to produce. The manufacturing cost of a PEEK (polyetheretherketone) spinal cage is generally between $80 and $300 per unit, while the manufacturing cost of a titanium spinal cage varies significantly, depending on the production method – traditional machining versus 3D printing (additive manufacturing). It typically ranges from $25 to $350 per unit for factory-direct wholesale, with 3D-printed, custom or specialised implants costing more.[14][15][16][17][18][19] Many of the 400 units available for sale in Australia appear to have been sourced from generic resale sites and rebranded for the Australian market.

These designs are now quite old, and the costs of intellectual property have long been recouped. The most recent significant innovation in spinal cages was the introduction of integrated cages when the Synfix LR implant came out. It has been in use clinically since 2004. Non integral PLIF, TLIF, ALIF and cervical cages were all introduced in the last century, whilst the LLIF and XLIF cages' core design

[14] https://www.made-in-china.com/manufacturers/lumbar-cage-price.html
[15] https://www.alibaba.com/showroom/peek-fusion-cage.html
[16] https://www.alibaba.com/showroom/titanium-cage-spine.html
[17] https://www.alibaba.com/price-comparison/peek-cage-manufacturer
[18] "*Amnovis Marks Milestone of 50,000 Implants Delivered with Game-Changing Titanium 3D Printing Process*" September 19, 2024 Press Release.
[19] RMIT University "*Researchers at RMIT University collaborated with a medical device company and a neurosurgeon to successfully deliver a 3D printed vertebral cage to a patient with severe back pain,*" 2015 University News site.

is around 20 years old. This is generic technology, which is why so many copies are available on the Australian market to take advantage of such high prices.

On a cost-plus basis, the prices are incredibly high, delivering supernormal profits for suppliers in Australia.

The current PL structure effectively removes competitive pricing pressure by guaranteeing a fixed reimbursement amount. This creates a structural distortion whereby prices remain artificially elevated compared to markets operating under competitive procurement frameworks.

Reducing the PL benefit would more accurately reflect the true acquisition cost of spinal fusion cages, plates and screws and restore appropriate price tension.

Further, on a value-based pricing model, there is poor quality evidence these devices provide value for a number of clinical indications.

No justification for differences in rebates

Where two device categories (integral versus non-integral) demonstrate similar clinical outcomes, maintaining materially different benefit levels is inconsistent with value-based reimbursement principles.

Conditions on usage

Another issue that needs to be addressed on the PL is the lack of conditions for fusion cages. This is evident when the focus is drawn to cages that can be used in PLIF or TLIF procedures. According to the Spinal Grouping Scheme, suffix paired is for smaller cages that occupy only a small portion of the endplate and are intended to be inserted in pairs, related to cages 27mm in length or less.

However, this does not prevent surgeons from inserting two of the longer cages during a PLIF procedure, nor does it prevent the device companies from promoting the use of longer devices in such a way. In fact, several devices are promoted as being capable of being inserted as a single unit for a TLIF or in pairs for a PLIF, which effectively doubles the cost for the cages for the patient.

A simple condition should be placed on all cages that sit in the group 13.10.02.02 – Interbody, No Integral Fixation, ThoracoLumbar / Lumbar that states only a single fusion cage per motion section can be billed.

Screws

The rebate amounts for screws within the spinal group is out of alignment with substantially equivalent screws in other specialty groupings on the PL. This is especially evident in the standard bone screw groups and their suffixes. A good example of this is the rebate amount that a locking screw attracts in the Specialist Orthopaedic Group compared to the Spinal Group for what is essentially the same screw, often from the same manufacturer. For the group 13.01.03 – Standard with a suffix of Dual Thread, the rebate is $401, whereas for the group 06.03.04.01 - Standard (≥4.5mm) with a suffix of LK, the rebate is $123, which is the highest rebate for a locking screw with the Specialist Orthopaedic Group (the lowest rebate for a locking screw is $98). The rebate difference for non-locking screws is similarly large and unjustified.

Aligning rebates for screws of substantial equivalence across the PL would result in significant reductions in the cost of spinal constructs without any changes to the clinical outcomes for patients. Nor would it affect the insertion of spinal devices for the surgeons and hospitals.

Grouping based on design rather than outcomes

PHA commends the excellent work done by HERECO[20] as part of the proposed reforms of the PL, prior to it being halted by the Memorandum of Understanding MOU signed between the then Minister for Health and the MTAA.[21] The HERECO recommendations were to simplify the PL and remove all suffixes to bring groupings and rebates back to alignment with clinical outcomes.

Current groupings appear to reflect product design characteristics such as the presence of integral fixation, or the length of the cage or plate, rather than demonstrated differences in patient outcomes or cost-effectiveness.

PHA recommend grouping and benefit differentiation be:

- evidence-driven
- linked to demonstrated incremental clinical value
- regularly benchmarked against public sector procurement pricing, and
- regularly benchmarked against comparative global markets.

Impact on premiums

Prostheses benefits represent a significant proportion of hospital claim costs for spinal procedures. Artificially inflated device benefits flow directly into:

- higher total procedure costs
- increased insurer payouts, and
- ongoing premium escalation for consumers.

Reducing PL benefits for spinal fusion cages, plates and screws would:

- lower overall episode costs
- reduce cross-subsidisation by policyholders, and
- improve the long-term affordability of private health insurance.

Adjusting PL benefits to reflect efficient market pricing is a necessary step to reduce costs for consumers.

International benchmarking

Comparable OECD health systems do not maintain device reimbursement frameworks with fixed benefits materially above market price.

Aligning Australian PL benefits for spinal fusion cages, plates and screws with international benchmarks would:

[20] HERECO Prostheses List Reforms "*Guide to the proposed structure for Part - 2.13 Spinal Category A*" December 2021.
[21] Available at https://www.health.gov.au/resources/publications/memorandum-of-understanding-for-the-policy-parameters-of-the-prostheses-list-reforms?language=en

- promote global pricing parity
- reduce incentives for price inflation specific to the Australian private sector, and
- ensure consistency with broader prostheses reform objectives, such as moving to a Private National Efficient Price (PNEP).

The Government's prostheses reforms have already recognised that historical PL benefits were significantly above efficient price levels. Spinal fusion cages, plates and screws should be reviewed in this context.

A quick review of the latest publicly available New Zealand PHARMAC price list[22] shows New Zealand is able to negotiate much lower prices for the same device from the same supplier that is manufactured at the same facility, despite having a much smaller market than Australia.

Recommendations

PHA further recommends:

- Removing the differential benefit between integral and non-integral fixation devices, with a single benefit for the cages defined by surgical area and cage size.
- Consolidating groupings where no clinically meaningful outcome difference is demonstrated by removing all suffices and placing cages into anatomically specific and approach specific groups, to reflect actual costs of the supplier as well as clinical outcomes. PHA proposes the follow cage groupings and rebates based on benchmarking prices with New Zealand:
    - Cervical – These cages are small and only used in an ACDF. The rebate in New Zealand is A$924 (compared with $2188 on PL).
    - Anterolateral Lumbar – This should incorporate ALIF, LLIF and XLIF cages as they are all a similar size and design. The rebate in New Zealand is A$2646 (compared to $3313 on the PL).
    - Posterior Lumbar – This should incorporate PLIF and TLIF cages in two sizes. Smaller cages intended to be used in pairs, i.e. up to 27mm, should match the New Zealand price of A$1816 (compared to $2222 on the PL).[23] For implants longer than 27mm, the rebate in New Zealand is A$2502 (compared to $3313 on the PL). These latter cages should have a condition attached that only one can be billed per level.
    - Any application for premiums on the base rate needs to be based on strong peer reviewed evidence of superior clinical and economic value, such as spine registry data, or high-level randomised, prospective studies with a minimum of two-year follow up.
- Reducing the rebates for spinal screws to the same level as orthopaedic screws. Rebates should also be aligned with international benchmarking, starting with the New Zealand PHARMAC pricing

[22] Available at https://www.pharmac.govt.nz/.
[23] PHA has found Italian price sheets with these devices listed at A$950.

- As with screws, the rebate amounts for spinal plates needs to be reviewed. Again, the excellent work done by HERECO in 2021 should be the starting point for this review. Many of the plates sitting within the spinal group are simple plate designs that would receive much lower rebates if they sat withing the Specialist Orthopaedic group. The sub-group Integral Fixation needs to be removed as does the suffix for >55mm. Plates need to be aligned with their anatomical and clinical regions. International price benchmarking should be applied with New Zealand prices adopted in the first instance.
- A full review of the entire Spinal Category to remove complexity and excessive rebate amounts. International benchmarking should be undertaken to find a fair price for Australian consumers.

Conclusion

Medical devices for spinal surgery in Australia are overpriced. This is evident across the category and may be contributing to higher rates of spinal surgery in Australia compared to other countries.

The available evidence does not demonstrate that integral fixation spinal fusion cages provide consistent, clinically meaningful improvements in patient outcomes compared to non-integral fixation constructs. These devices are overpriced with price differences that are not reflected by quality of outcomes or other patient-focused metrics.

Changes are necessary to support premium affordability for consumers and improve alignment with value-based healthcare principles.