



## **SHPA's response to the MSAC consultation on application 1769 - Human leukocyte antigen testing for sensitivity to carbamazepine in patients with epilepsy**

The Society of Hospital Pharmacists of Australia (SHPA) is the national, professional organisation for the 6,100+ Hospital Pharmacists, and their Hospital Pharmacist Intern and Hospital Pharmacy Technician colleagues working across Australia's health system, advocating for their pivotal role improving the safety and quality of medicines use. Embedded in multidisciplinary medical teams and equipped with exceptional medicines management expertise, SHPA members are progressive advocates for clinical excellence, committed to evidence-based practice and passionate about patient care.

SHPA convenes numerous Specialty Practice groups and Interest groups across diverse clinical areas, including Neurology, Mental Health, Paediatrics and Neonatology, Pain Management and Medication Safety, comprising of a network of SHPA members who have pharmaceutical expertise and experience in the use of carbamazepine for various indications in inpatient, outpatient, ambulatory care or primary care settings.

Since the initial report associating HLA-B\*5701 for abacavir hypersensitivity in 2002, there has been growing evidence to support the causal link between specific HLA alleles and drug hypersensitivity reactions to carbamazepine.<sup>1</sup> Although rare, severe hypersensitivity reactions to carbamazepine, such as drug reactions with eosinophilia and systemic symptoms (DRESS) or Stevens-Johnson Syndrome and toxic epidermal necrolysis (SJS/TEN), can lead to significant morbidity or mortality in individuals who are carriers of HLA-B\*1502 and HLA-A\*3101.<sup>1,2</sup>

There is significant use of carbamazepine in the neurodiverse population, with established evidence for use in paediatric patients. The use of HLA testing in these patient cohorts would mitigate potentially severe adverse drug reactions for some of the most disadvantaged children who would require initiation of carbamazepine therapy. The prevalence of these HLA risk alleles is also particularly common in Asian populations, an important consideration for Australia where self-reported Asian ancestry represented more than 17% of the total population in 2021.<sup>1</sup>

HLA genotyping is currently tested and reimbursed in Australia for other medications such as abacavir, but carbamazepine is yet to be included. Public funding of HLA genotyping through Australia's Medical Benefits Schedule (MBS), would ensure we are aligning current Australian practice with international standards, such as those in United Kingdom and United States, in preventing severe hypersensitivity reactions to carbamazepine for vulnerable population (e.g. paediatric patients) and across an ethnically diverse population.

SHPA's Pharmacy Forecast Australia 2023<sup>3</sup>, a strategic report into the future state of Australian hospitals and health system, outlines key recommendations for incorporating pharmacogenomics as part of preventative and personalised medicines in achieving optimal therapeutic outcomes and patient safety. Hospital pharmacists are well placed within the health system to support and lead the delivery of personalised care using pharmacogenomics. Hospital funding of genotyping services will become a key enabler in mainstreaming genomic medicines.

**SHPA therefore supports the Medical Services Advisory Committee (MSAC) application 1769 - Human leukocyte antigen testing for sensitivity to carbamazepine in patients with epilepsy, for inclusion on the MBS.**

<sup>1</sup> Stojanova J, Day RO, Suthers G. (2023). Avoiding severe drug hypersensitivity reactions: a case for HLA genotyping for at-risk patients. *MJA*, 218(10), 441-4. DOI: 10.5694/mja2.51937.

<sup>2</sup> Somogyi AA, Phillips E. (2017). Genomic testing as a tool to optimise drug therapy. *Australian Prescriber*, 40(3), 101-4.

<sup>3</sup> Society of Hospital Pharmacists of Australia. (2023). Pharmacy Forecast 2023. Available at:

<https://shpa.org.au/publicassets/5297d615-345b-ee11-912d-00505696223b/Pharmacy-Forecast-Australia-2023.pdf>

