

National Tall Man Lettering List

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Purpose

To present a revision of the *National list of Australian medicines names with Tall Man applied* published in 2011.

Introduction

The Australian Commission on Safety and Quality in Health Care (the Commission) is responsible for the development and stewardship of the *National Tall Man Lettering List*.

This document is a revision of the *National list of Australian medicines names with Tall Man applied* published in 2011. This document has been updated by the Commission based on the changes to the Australian Register of Therapeutic Goods, changes to Tall Man lettering lists published by other countries (United States, Canada and New Zealand), International Harmonisation of Ingredient Names, and reported adverse incidents or near misses from hospital networks across Australia.

Medication errors are one of the most commonly reported clinical incidents in acute healthcare settings. While rates of serious harm are low, the prevalence of medication errors is a concern, particularly as many are preventable. Medication incidents related to 'look-alike, sound-alike' (LASA) medicine names are one of the most common type of medication error.^[1,2,3] In some instances, medication incidents involving LASA medicine names have the potential to cause serious patient harm, such as administering hydromorphone instead of morphine.

With several new medicines entering the market each year and in the absence of an effective pre-marketing screening method, LASA medicine names continue to pose a risk to patient safety.

Tall Man lettering

Tall Man lettering is a typographic technique that uses selective capitalisation to help make similar looking medicine names more easily differentiable.^[4,5,6] It uses a combination of lower- and upper-case letters to highlight the differences between look-alike medicine names, helping to make them more easily distinguishable. For example:

proGRAF and proZAC

Research based on experimental psychology suggests that Tall Man lettering purposely disrupts the reading of a medicine name, drawing attention to one or more differentiating syllables, and potentially preventing erroneous selection of a medicine with a similar name.

The Institute for Safe Medication Practices (ISMP), the International Medication Safety Network (IMSN), the World Health Organization (WHO) and many other organisations have recommended Tall Man lettering as a strategy to minimise risk associated with LASA medicine name pairs.^[2,7,8,9,10]

Governance

The Commission has established an expert advisory panel consisting of frontline clinicians and a pharmacy and medication safety academic to advise the Commission on matters related to Tall Man lettering. The panel is responsible for making recommendations on the medicine name pairs that need to be included in the list. The panel follows a systematic process to decide on the medicine name pairs that would most benefit from the application of Tall Man lettering.

Limitations

The *National Tall Man Lettering List* does not aim to be an exhaustive list of all LASA medicine name pairs. This list has been compiled to include LASA medicine name pairs that have been predicted to pose the greatest risks to patient safety. In addition, the Commission has taken the view consistent with published evidence that overuse of the Tall Man technique may reduce its effectiveness.

Health service organisations are encouraged to consider implementing other measures such as use of bar code scanners, electronic alerts, or separate storage locations to minimise harm associated with LASA medicine name pairs.

Monoclonal antibodies (MABs) and tyrosine kinase inhibitors are not included in this revision, but will be considered in future revisions.

Guidance for use

Implementation of Tall Man lettering should include educating health professionals about the risks associated with LASA medicine name pairs and the purpose of Tall Man lettering.

The [National guidelines for on-screen display of medicines information](#) and guidance for implementation of [Electronic medication management](#) systems published by the Commission recommend using Tall Man lettering.

The Commission supports the use of Tall Man lettering as part of a multi-faceted approach to reduce the risk of selection errors by health professionals associated with LASA medicines names.

Tall Man lettering should be used by clinicians and health service organisations in:

- Electronic medication management systems, including prescribing, dispensing and administration systems
- Printed labels used for inpatient dispensing, shelving in pharmacies, and ward medicines cupboards
- Drug libraries for smart pumps
- Automated medicines storage and distribution systems.

Figures 1, 2 and 3 on the following pages provide the details of the medicine name pairs with Tall Man lettering applied. This information is provided for use as described above.

List of medicine name pairs with Tall Man applied

Figure 1: General list of medicine name pairs

actoNEL	actoS
aKAMin	aCLin
alDOMET	alDACTONE
	alODORM
amARYI	amOXil
amiODAROne	amLODIPine
amLODIPine	amiTRIPTYLine
amiTRIPTYLine	amiNOPHYLLine
aPomine	aVomine
arATAC	arOPAX
	arABLOC
ARIPiprazole	RABEprazole
aTRopt	aZopt
azATHIOPRINE	aziTHROMYCIN
ERYthromycin	
bisOPROLOI	bisACODYI
buMETANide	buDESONide
caRAFate	caLTRate
CARBAMazepine	OXCARBazepine
	carbiMAZOLe
caRVEDILOI	caPTOPRil
ceLAPRAM	ceIEBEX
ciprAMIL	ciprOXIN
cLARITHROMYcin	ciPROFLOXAcin
cLOMIPRAMine	cLOMIPHEne
	cHLORPROMAZine

Figure 1: General list of medicine name pairs (continued)

coUMADIN	coVERSYL
ciclosPORIN (cyclosPORIN)	cyclosERINE
DEPO-medrol	SOLU-medrol
DEPO-medrol	depo-PROVERA
solu-CORTEF	SOLU-medrol
dePTRAn	deRALin
dilaUDID	dilaNTIN
diPRIVan	diTROPan
diPYRIDAMOLE	diSOPYRAMIDe
doSULepin (doTHiepin)	doXepin
humALOG	humULIN
hydreA	hydreNE
hydrALAZINe	hydrOCHLOROTHIAZIDe
isopto HOMATROPine	isopto CARpine
iSOtretinoin	tretinoin
januMET	januVIA
ketALAR	ketOROLAC
laMICTAI	laRGACTil
	laMISil
lamiVUDine	lamOTRIGine
lanTUs	lanVis
linCOMYCIN	linEZOLID
lipiDil	lipAZil
loSEC	loVAN
mercaptAMine (cysteamine)	mercaptOPURine

Figure 1: General list of medicine name pairs (continued)

methADONe	methYLPHENIDATe
MOXifloxacin	NORfloxacin
moBILis	moVALis
morphine	HYDROmorphone
NEOral	INDEral
nexAVAR	nexiUM
niMODIPine	niFEDIPine
	niZATIDine
norVASC	norMISON
novoMIX	novoRAPID
oxyCONTIN	MS Contin
	oxyNORM
paXTINE	paRIET
pEXSIG	pRISTIQ
primaXIN	primaCOR
	primaCIN
proGRAF	proZAC
proMETHazine	proCHLORPERazine
propRANOLol	propOFol
QUETIAPine	SERTRALine
rifaMPICin	rifaXIMin
riSPERIDONe	rOPINIROLe
siTagliptin	sAXagliptin
	sUMATRIPTAn
Sirolimus	TACrolimus
sulfaSALazine	sulfaDiazine
toPAMAX	toFRANIL

Figure 1: General list of medicine name pairs (continued)

tEGRETOI	tRENTAI
	tEMOdal
tRAMadol	tORadol
	tAPENTadol
trimETHOPRIM	alimemazine (trimePRAZINE)
valAciclovir	valGANciclovir
xalaTAN	xalaCOM
zinVit	zinNAt
zoCOR	zoTON
zoLOFT	zoCOR

Figure 2: Medicines used predominantly in cancer therapy

ALKeran	LEUKeran
	MYLeran
avaSTIN	avaXIM
ciSplatIn	cARBOplatin
daCTINomycin	daPTomycin
DAUNOrubicin	DOXOrubicin
	iDArubicin
DOCEtaxel	PACLitaxel
iFOSFamide	CYCLOPHOSPHamide
vinBLASTine	vinCRISTine
	vinORELBine

Figure 3: Classes of medicines

Cephalosporins	SSRI/SNRI
cefaLEXin (cephaLEXin)	DULoxetine
cefALOTIN	fluoxetine
cefaZOLin (cephaZOLin)	fluVOXAMine
cefEPIME	PARoxetine
cefOTAXIME	
cefOXITIN	Sulfonylureas
ceftAROLine	gliBENCLAMide
cefTAZIDIME	gliCLAZide
cefTRIAZONE	gliMEPIRide
	gliPIZide
Benzodiazepines	
CLONazepam	
Diazepam	
LORazepam	
OXazepam	

References

1. Lambert BL, Lin S-J, Chang K-Y, Gandhi SK. Similarity as a risk factor in drug-name confusion errors: the look-alike (orthographic) and sound-alike (phonetic) model. *Medical care*. 1999;37(12):1214-25.
2. DeHenau C, Becker MW, Bello NM, Liu S, Bix L. Tallman lettering as a strategy for differentiation in look-alike, sound-alike drug names: the role of familiarity in differentiating drug doppelgangers. *Applied ergonomics*. 2016;52:77-84.
3. Phatak HM, Cady PS, Heyneman CA, Culbertson VL. Retrospective detection of potential medication errors involving drugs with similar names. *Journal of the American Pharmacists Association*. 2005;45(5):616-24.
4. Filik R, Purdy K, Gale A, Gerrett D. Drug name confusion: evaluating the effectiveness of capital (“Tall Man”) letters using eye movement data. *Social science & medicine*. 2004;59(12):2597-601.
5. Filik R, Purdy K, Gale A, Gerrett D. Labeling of medicines and patient safety: evaluating methods of reducing drug name confusion. *Human Factors*. 2006;48(1):39-47.
6. Gabriele S. The role of typography in differentiating look-alike/sound-alike drug names. *Healthc Q*. 2006;9:88-95.
7. Institute for Safe Medication Practices. ISMP Updates Its List Of Drug Names With Tall Man Letters. 2016 [cited 2017 Sep 6]. Available from: <https://www.ismp.org/newsletters/acutecare/showarticle.aspx?id=1140>.
8. The Institute for Safe Medication Practices Canada. Principles for the Application of TALLman Lettering in Canada. 2015 [cited 2017 Sep 15]. Available from: https://www.ismpcanada.org/download/TALLman/Principles_for_the_Application_of_TALLman_Lettering_in_Canada.pdf.
9. Health Quality and Safety Commission New Zealand. Tall Man Lettering List Report. 2013 [cited 2017 Aug 24]. Available from: <https://www.hqsc.govt.nz/assets/Medication-Safety/Tall-Man-lettering/Tall-Man-report-Dec-2013.PDF>.
10. World Health Organization. Patient Safety Solutions: Look-Alike, Sound-Alike Medication Names 2007 [cited 2017 May 25]; 1(Solution 1). Available from: <http://www.who.int/patientsafety/solutions/patientsafety/PS-Solution1.pdf?ua=1>.

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