

## **REPATRIATION MEDICAL AUTHORITY**

## STATEMENT OF REASONS

## **RE: INVESTIGATION INTO METATARSALGIA**

Part I	INTRODUCTION	3
Part II	Background to the Investigation	3
Part III	Submissions received by the Authority pursuant to section 196F	3
Part IV	Evidence/Information Available to the Repatriation Medical Authority	3
Part V	Disease and injury	4
Part VI	Reasons for the decision	5
Part VII	Decision	5
Part VIII	Bibliography	6

### PART I INTRODUCTION

- The Repatriation Medical Authority (the Authority) has decided to revoke the Statements of Principles (SoPs) Instrument Nos. 39 and 40 of 1996 in accordance with subsection 196B(9) of the Veterans' Entitlements Act 1986 (the Act) in respect of metatarsalgia, following notice of an investigation gazetted on 25 June 2008 in the Commonwealth of Australia Gazette.
- 2. The Authority considers that the new sound medical-scientific evidence available is not sufficient to justify the making of the Statements of Principles. Metatarsalgia is considered to not be a disease or injury for the purposes of the Act and hence is not a condition for which a Statement of Principles could be determined or amended.

### PART II BACKGROUND TO THE INVESTIGATION

- 3. The Repatriation Medical Authority, under section 196G of the Act, decided to review the contents of the Statements of Principles, to find out if there is new information available about how metatarsalgia may be contracted, or death from metatarsalgia may occur, or the extent to which metatarsalgia or death from metatarsalgia may be due to eligible service.
- 4. The investigation notice was signed by the Chairman of the Authority on 19 June 2008 and was gazetted in accordance with section 196G of the Act in the *Commonwealth of Australia Gazette* on 25 June 2008. Submissions were invited from persons and organisations wishing to make a submission by 28 November 2008.

### PART III SUBMISSIONS RECEIVED BY THE AUTHORITY PURSUANT TO SECTION 196F

- 5. Following notification of its investigation, the Authority did not receive any information from persons eligible to make submissions pursuant to section 196F.
- 6. However, the Authority received an email from a Department of Veterans' Affairs representative seeking clarification of the scope of the Statement of Principles and definitional issues.

# PART IV EVIDENCE/INFORMATION AVAILABLE TO THE REPATRIATION MEDICAL AUTHORITY

- 7. The following information was available to the Authority.
  - 7.1. Literature search using PubMed, with 'Metatarsalgia [Mesh]' as a search term, using the subheadings of 'etiology' and 'epidemiology'.
  - 7.2. Medical or scientific publications as set out in the bibliography attached hereto.
  - 7.3. Briefing paper prepared for presentation to the Authority by a research officer of the Secretariat.
- 8. On 6 October 2010 the Authority considered the draft Declaration and Statements of Reasons concerning Metatarsalgia. A decision was made to consult with the Ex-Service community regarding the revocation of the metatarsalgia Statements of

Principles and review their comments and concerns at the February 2011 meeting before proceeding with the revocation.

### PART V DISEASE AND INJURY

9. Section 5D of the Act defines disease and injury relevantly as follows:

disease means:

- (a) any physical or mental ailment, disorder, defect or morbid condition (whether of sudden onset or gradual development); or
- (b) the recurrence of such an ailment, disorder, defect or morbid condition;

but does not include:

- (c) the aggravation of such an ailment, disorder, defect or morbid condition; or
- (d) a temporary departure from:
  - (i) the normal physiological state; or
  - (ii) the accepted ranges of physiological or biochemical measures;

that results from normal physiological stress (for example, the effect of exercise on blood pressure) or the temporary effect of extraneous agents (for example, alcohol on blood cholesterol levels);

[and]

*injury* means any physical or mental injury (including the recurrence of a physical or mental injury) but does not include:

- (a) a disease; or
- (b) the aggravation of a physical or mental injury.
- 10. The proper meaning of what constitutes a disease or injury for the purposes of determining a Statement of Principles under the Act is to be determined by the Authority. In considering these terms, the Authority had regard to ordinary dictionary definitions, medical dictionaries, and its expert knowledge. In determining whether a condition is a disease as defined, the Authority is entitled to have regard to the connotations of the word 'disease' as used and understood in its ordinary meaning.<sup>1</sup>
- 11. Being familiar with the ordinary English meanings of the terms that are used in section 5D, the Authority considered whether metatarsalgia was within the ordinary meaning of these terms, and applied the ordinary meaning of those terms to its consideration of whether metatarsalgia is a disease. It also relied upon its expert medical knowledge and had regard to internationally agreed concepts of when metatarsalgia may represent a disease state.

<sup>&</sup>lt;sup>1</sup> Comcare v Mooi (1996) 42 ALD 495.

### PART VI REASONS FOR THE DECISION

- 12. Metatarsalgia refers to localised or generalised forefoot pain in the region of the metatarsal heads often on the plantar aspect of the foot. A variety of diseases or injuries may cause pain in this location.
- 13. The Authority previously determined that metatarsalgia (Instrument Nos. 39 and 40 of 1996) can be related to relevant service.
- 14. Recent reviews of metatarsalgia<sup>2</sup> <sup>3</sup>, discuss classification systems and frameworks for metatarsalgia adopted by some clinicians to identify the underlying pathological conditions causing the foot pain symptoms.
- 15. Underlying disease processes affecting the ball of the foot include rheumatoid arthritis, osteoarthritis, peripheral neuropathy, various tumours in the region, tendonitis or bursitis. Foot pain symptoms can also be related to neurological or metabolic disease processes, other systemic diseases, trauma, biomechanical disorders of the foot or failed surgical procedures. Claims in respect of such conditions should be determined by reference to the relevant Statement of Principles, or, if no Statement of Principles exists, having regard to available medical evidence.
- 16. In the absence of one or more of these underlying disease processes, no pathophysiological entity underlying the reported symptoms of metatarsalgia has been established.

#### PART VII DECISION

- 17. On examination of the evidence as part of the review, the Authority is of the view, in accordance with subsection 196B(9)(b), that the new sound medical-scientific evidence available is not sufficient to justify the determination of a new Statement of Principles or the amendment of the Statement of Principles already determined.
- At its meeting on 2 June 2010 the Authority decided not to make a Statement of Principles in respect of metatarsalgia for the purposes of subsection (9) of section 196B of the Act as the Authority concluded, for the reasons set out above, that it is not a disease within the meaning of section 5D of the Act.

<sup>&</sup>lt;sup>2</sup> Bardelli & Scoccianti, 2003

<sup>&</sup>lt;sup>3</sup> Espinosa, Maceira, & Myerson, 2008

## PART VIII BIBLIOGRAPHY

RMA ID	Article Reference
Number	
8174	Albert SF (1990). Soft-tissue causes of metatarsalgia. Clin Podiatric Med Surg, 7(4) pp 579-583, 594-595.
8175	Alexander IJ, Johnson KA, Parr JW (1987). Morton's neuroma: a review of recent concepts. Orthopedics, 10(1): 103-6.
57087	Amis JA, Siverhus SW, Liwnicz BH (1992). An anatomic basis for recurrence after Morton's neuroma excision. Foot & Ankle, 13(3): 153-6.
8177	Apley A, Solomon L (1993). Osteonecrosis and osteochondritis. Apley's system of orthopaedics and fractures 7th Edition. Butterworth-Heinmann Ltd Oxford, Great Britain Chapter 6 pp 92, 103, 106.
8176	Apley A, Solomon L (1993). The ankle and foot. Apley's system of orthopaedics and fractures 7th Edition. Butterworth-Heinmann Ltd Oxford, Great Britain Chapter 21 pp 494-496, 498.
8178	Asbury AK (1994). Diseases of the peripheral nervous system Harrison's Principles of Internal Medicine 13th Edition. Isselbacher KJ, Braunwald E, Wilson JD, Martin JB, Fauci AS, & Kasper DL (Eds). McGraw-Hill New York Chapter 383 pp 2368-2369.
57085	Awerbuch MS, Shephard E, Vernon-Roberts B (1982). Morton's metatarsalgia due to intermetatarsophalangeal bursitis as an early manifestation of rheumatoid arthritis. Clin Orthop Relat Res, 167: 214-21.
57387	Bancroft LW, Peterson JJ, Kransdorf MJ (2008). Imaging of soft tissue lesions of the foot and ankle. Radiol Clin N Am, 46: 1093-103.
55905	Bardelli M, Turelli L, Scoccianti G (2003). Definition and classification of metatarsalgia. Foot & Ankle Surgery, 9: 79-85.
57380	Biasca N, Zanetti M, Zollinger H (1999). Outcomes after partial neurectomy of Morton's neuroma related to preoperative case histories, clinical findings, and findings on magnetic resonance imaging scans. Foot & Ankle International, 20(9): 568-75.
57167	Bossley CJ, Cairney PC (1980). The intermetatarsophalangeal bursa - its significance in Morton's metatarsalgia. J Bone Joint Surg, 62-B(2): 184-7.
56997	Bossley CJ, Cairney PC (1980). The intermetatarsophalangeal bursa - its significance in Morton's metatarsalgia. J Bone Joint Surg, 62-B(2): 184-7.
56558	Breusch SJ, Sharp RJ, Wenz W, Taylor LJ (1998). Morton's neuroma following first metatarsal osteotomy. Orthopedics, 21(12): 1287-8.
57383	Briggs PJ (2006). Morton's neuroma. Br J Hosp Med, 67(2): 68-71.
55977	Brown TD, Micheli LJ (2004). Foot and ankle injuries in dance. Am J Orthop (Belle Mead NJ), 33(6): 303-9.
8179	Childers RI, Meyers DH, Turner PR (1990) Lesser metatarsal stress fractures: a study of 37 cases. Clin Podiatric Med Surg, 7(4) pp 633-635, 642-644.
8180	DeLee JC (1993). Fractures and dislocations of the foot. Surgery of the foot and ankle 6th Edition Vol 2. Mann RA and Coughlin ML (Eds) Mosby-Year Book St Louis Chapter 35 pp 1617-1618, 1638-1640.
57166	Diebold PF, Daum B, Dang-Vu V, Litchinko M (1996). True epineural neurolysis in Morton's neuroma: a 5-year follow up. Orthopedics, 19(5): 397-400.
55879	Dunstan DW, Barr ELM, Healy GN, Salmon J, et al (2010). Television viewing time and mortality. The Australian Diabetes, Obesity and Lifestyle Study (AusDiab). Circulation, 121: 384-91.
55878	Espinosa N, Maceira E, Myerson MS (2008). Current concept review: metatarsalgia. Foot & Ankle International, 29(8): 871-9.

	Esterman A, Pilotto L (2005). Foot shape and its effect on functioning in Royal
55900	Australia Air Force recruits. Part 1: prospective cohort study. Military Medicine,
	170(7). 023-0. Cauthiar C (1970). Thomas Morton's disease: a narve entranment syndrome. A
57086	new surgical technique. Clin Orthop Relat Res. 142: 90-2.
57485	Graham CE, Graham DM (1984). Morton's neuroma: a microscopic evaluation. Foot Ankle 5(2): 150-3
57385	Graham CE, Graham DM (1984). Morton's neuroma: a microscopic evaluation. Foot Ankle, 5(2): 150-3.
8182	Hamilton WG (1993). Foot and ankle injuries in dancers. Surgery of the foot and ankle 6th edition Vol 2. Mann RA and Coughlin ML (Eds) Mosby-Year Book St Louis Chapter 29 pp 1251-1252. 1275-1276.
57081	Hassouna H, Singh D (2005). Morton's metatarsalgia: pathogenesis, aetiology and current management. Acta Orthop Belg. 71: 646-55.
8183	Helfand AE (1990). Lesser metatarsalgia in the geriatric patient. Clin Podiatric Med Surg. 7(4) pp 743-749
57486	Higgins KR, Burnett OE, Krych SM, Harkless LB (1988). Seronegative
8184	Higgins KR, Russel IJ (1990) Lesser metatarsalgia: rheumatologic
57484	Hofbauer PG (1974). Rheumatoid nodule in Morton's neuroma. A case report. J
8185	Jahss MH (1992). Foot and ankle pain resulting from rheumatic conditions. Curr
	Jimenez Al Martin DF Phillips A.I (1990) Lesser metatarsalgia evaluation and
8186	treatment. Clin Podiatric Med Surg, 7(4) pp 599-601.
57382	Kay D, Bennett GL (2003). Morton's neuroma. Foot Ankle Clin N Am, 8: 49-59.
56471	Keogh C, Torreggiani WC, Al-Ismail K, Munk PL (2002). Musculoskeletal case 25. Diagnosis. Morton's neuroma. Can J Surg, 45(6): 467-8.
55903	Keogh C, Torreggiani WC, Al-Ismail K, Munk PL (2002). Musculoskeletal case 25. Presentation. Can J Surg, 45(6): 448-9.
55904	Keogh C, Torreggiani WC, Al-Ismail K, Munk PL (2002). Musculoskeletal case 25. Diagnosis. Can J Surg, 45(6): 667-8.
56739	Khoury V, Guillin R, Dhanju J, Cardinal E (2007). Ultrasound of ankle and foot: overuse and sports injuries. Semin Musculoskelet Radiol, 11(2): 149-61.
55902	Kilmartin TE (2002). Revision of failed foot surgery: a critical analysis. J Foot Ankle Surg, 41(5): 309-15.
12896	Knapik J, Harman e & Reynolds K (1996). Load carriage using packs: A review of physiological, biomechanical and medical aspects. Elsevier 27 (3) pp 207-216.
38463	Knapik JJ (2004). Soldier load carriage: historical, physiological, biomechanical, and medical aspects. Military Medicine, 169(1): 45-56.
56522	Kumar A, Darby AJ, Kelly CP (2003). Pacinian corpuscles hyperplasia - an uncommon cause of digital pain. Acta Orthop Belg, 69(1): 74-6.
55982	LaCombe DM, Miller GT, Dennis JD (2004). Primary blast injury. An EMS guide to pathophysiology, assessment & management. JEMS, 29(5): 70-89.
56467	Larson EE, Barrett SL, Battiston B, Maloney CT, Dellon AL (2005). Accurate nomenclature for forefoot nerve entrapment. J Am Podiatr Med Assoc, 95(3): 298-306.
55975	Latinovic R, Gulliford MC, Hughes RAC (2006). Incidence of common compressive neuropathies in primary care. J Neurol Neurosurg Psychiatry, 77: 263-5.
57082	Levitsky KA, Alman BA, Jevsevar DS, Morehead J (1993). Digital nerves of the foot: anatomic variations and implications regarding the pathogenesis of interdigital neuroma. Foot & Ankle, 14(4): 208-14.
8187	Macguire JA (1994). Osteomyelitis and infections of prosthetic joints. Harrison's Principles of Internal Medicine 13th Edition. Isselbacher KJ, Braunwald E, Wilson JD, Martin JB, Fauci AS, & Kasper DL (Eds) McGraw-Hill New York Chapter 92 pp 558-561.

8189	Mann RA (1993). Diseases of the nerves. Surgery of the foot and ankle 6th Edition Vol 1. Mann RA and Coughlin ML (Eds) Mosby-Year Book St Louis Chapter 11 pp 544-545
8190	Mann RA (1993). Flatfoot in adults. Surgery of the foot and ankle 6th Edition Vol 1. Mann RA and Coughlin ML (Eds) Mosby-Year Book St Louis Chapter 17 pp 757-760.
8191	Mann RA, Coughlin MJ (1993) Adult hallux valgus. Surgery of the foot and ankle 6th Edition Vol 1. Mann RA and Coughlin ML (Eds) Mosby-Year Book St Louis Chapter 6 pp 167-169.
57381	Mann RA, Reynolds JC (1983). Interdigital neuroma - a critical clinical analysis. Foot & Ankle, 3(4): 238-43.
57136	Mann RA, Reynolds JC (1983). Interdigital neuroma - a critical clinical analysis. Foot & Ankle, 3(4): 238-43.
55973	McNerney JE (1990). Sports-medicine considerations of lesser metatarsalgia. Clin Podiatr Med Surg, 7(4): 645-87.
57487	Miller HG, Abadesco L, Heaney JP (1983). Morton's neuroma symptoms from a rheumatoid nodule. A case report. J Am Podiatr Assoc, 73(6): 311-2.
56524	Morscher E, Ulrich J, Dick W (2000). Morton's intermetatarsal neuroma: morphology and histological substrate. Foot & Ankle International, 21(7): 558- 62.
57083	Mulder JD (1951). The causative mechanism in Morton's metatarsalgia. J Bone Joint Surg, 33-B(1): 94-5.
57084	Nissen KI (1948). Plantar digital neuritis. Morton's metatarsalgia. J Bone Joint Surg, 30-B(1): 84-94.
8192	Pack LG, Julien PH (1990). Differential diagnosis of lesser metatarsalgia. Clin Podiatric Med Surg, 7(4) pp 573-577.
56470	Quirk R (1996). Metatarsalgia. Aust Fam Physician, 25(6): 863-9.
56525	Read JW, Noakes JB, Kerr D, Crichton KJ, et al (1999). Morton's metatarsalgia: sonographic findings and correlated histopathology. Foot & Ankle International, 20(3): 153-61.
56469	Reinherz RP; Weil, LS (1996). [Comments] Morton's interdigital neuroma: a clinical review of its etiology, treatment and results by Kent K Wu MD. J Foot Ankle Surg, 35(2): 187-8.
57164	Ruuskanen MM, Niinimaki T, Jalovaara P (1994). Results of the surgical treatment of Morton's neuralgia in 58 operated intermetatarsal spaces followed over 6 (2-12) years. Arch Orthop Trauma Surg, 113: 78-80.
55974	Scranton PE Jr (1981). Metatarsalgia: a clinical review of diagnosis and management. Foot & Ankle, 1(4): 229-34.
55731	Sharp RJ, Wade CM, Hennessy MS, Saxby TS (2003). The role of MRI and ultrasounds imaging in Morton's neuroma and the effect of size of lesion on symptoms. J Bone Joint Surg, 85-B(7): 999-1005.
55976	Singh D, Dudkiewicz I (2009). Lengthening of the shortened first metatarsal after Wilson's osteotomy for hallux valgus. J Bone Joint Surg Br, 91-B: 1583-6.
57165	Stamatis ED, Myerson MS (2004). Treatment of recurrence of symptoms after excision of an interdigital neuroma. J Bone Joint Surg, 86-B: 48-53.
55730	Torriani M, Thomas BJ, Bredella MA, Ouellette H (2008). MRI of metatarsal head subchondral fractures in patients with forefoot pain. AJR, 190: 570-5.
55877	Toth K, Huszanyik I, Boda K, Rode L, Kellermann P (2008). The influence of the length of the first metatarsal on transfer metatarsalgia after Wu's osteotomy. Foot & Ankle International, 29(4): 396-9.
55978	Toth K, Huszanyik I, Kellermann P, Boda K, Rode L (2007). The effect of first ray shortening in the development of metatarsalgia in the second through fourth rays after metatarsal osteotomy. Foot & Ankle International, 28(1): 61-3.
57386	Vainio K (1979). Morton's metatarsalgia in rheumatoid arthritis. Clin Orthop Relat Res, 142: 85-9.
57137	Viladot A (1992). Morton's neuroma. Int Orthop, 16: 294-6.
55901	Waldecker U (2002). Metatarsalgia in hallux valgus deformity: a pedographic analysis. J Foot Ankle Surg, 41(5): 300-8.

8193	Weinstein SL (1994). The paediatric foot Turek's orthopaedics: principles and their application 5th edition. Weinstein S and Buckwalter J (Eds.) J B Lippincott
55979	Williams THD, Pasapula C, Robinson AHN (2009). Complete sesamoid agenesis: a rare cause of first ray metatarsalgia. Foot & Ankle International, 30(5): 465-7.
56468	Wu KK (1996). Morton's interdigital neuroma: a clinical review of its etiology, treatment, and results. J Foot Ankle Surg, 35(2): 112-9.
56523	Young G, Lindsey J (1993). Etiology of symptomatic recurrent interdigital neuromas. J Am Podiatr Med Assoc, 83(5): 255-8.
57138	Zanetti M, Strehle JK, Hollinger H, Hodler J (1997). Morton neuroma and fluid in the intermetatarsal bursae on MR images of 70 asymptomatic volunteers. Radiology, 203: 516-20.
57384	Zanetti M, Weishaupt D (2005). MR imaging of the forefoot: Morton neuroma and differential diagnoses. Semin Musculoskelet Radiol, 9(3): 175-86.
57163	Zielaskowski LA, Kruljac SJ, DiStazio JJ, Bastacky S (2000). Multiple neuromas coexisting with rheumatoid synovitis and a rheumatoid nodule. J Am Podiatr Med Assoc, 90(5): 252-5.