



## **Supporting Information**

### **Supplementary methods and results**

**This appendix was part of the submitted manuscript and has been peer reviewed.  
It is posted as supplied by the authors.**

Appendix to: Pandeya N, Olsen CM, Shalit MM, et al. The diagnosis and initial management of melanoma in Australia: findings from the prospective, population-based QSkin study. *Med J Aust* 2023; doi: 10.5694/mja2.51919.

**Table 1.** MBS item numbers for the diagnosis and treatment of skin cancers and benign skin lesions, 2011-2015

	<b>Procedure</b>	<b>Item Numbers</b>	<b>Description</b>		
SURGICAL EXCISION	Melanoma	31300	nose, eyelid, lip, ear, digit or genitalia; ≤ 10 mm in diameter		
		31305	nose, eyelid, lip, ear, digit or genitalia; > 10 mm in diameter		
		31310	face, neck or lower leg; ≤ 10 mm in diameter		
		31315	face, neck or lower leg; > 10 mm and ≤ 20 mm in diameter		
		31320	face, neck or lower leg; > 20 mm in diameter		
		31325	other areas of the body; ≤ 10 mm in diameter		
		31330	other areas of the body; > 10 mm and ≤ 20 mm in diameter		
		31335	other areas of the body; > 20 mm in diameter		
	Benign lesions to exclude melanoma	31205	single lesion; ≤ 10 mm in diameter		
		31210	single lesion; > 10 mm and ≤ 20 mm in diameter		
		31215	single lesion; > 20 mm in diameter		
		31220	4-10 lesions; ≤ 10 mm in diameter		
		31225	>10 lesions; ≤ 10 mm in diameter		
		31230	nose, eyelid, lip, ear, digit or genitalia		
		31235	face, neck or lower leg; ≤ 10 mm in diameter		
	31240	face, neck or lower leg; ≤ 10 mm in diameter			
	BCC/SCC, first surgical excision	31255	nose, eyelid, lip, ear, digit or genitalia; ≤ 10 mm in diameter		
		31260	nose, eyelid, lip, ear, digit or genitalia; > 10 mm in diameter		
		31265	face, neck or lower leg; ≤ 10 mm in diameter		
		31270	face, neck or lower leg; > 10 mm and ≤ 20 mm in diameter		
		31275	face, neck or lower leg; > 20 mm in diameter		
31280		other areas of the body; ≤ 10 mm in diameter			
31285		other areas of the body; > 10 mm and ≤ 20 mm in diameter			
31290		other areas of the body; > 20 mm in diameter			
Residual and Recurrent BCC/SCC, previously treated surgically	31256, 31261, 31266, 31271, 31276, 31281, 31286, 31291, 31257, 31262, 31267, 31272, 31277, 31282, 31287, 31292, 31258, 31263, 31268, 31273, 31278, 31283, 31288, 31293				
	Residual and Recurrent BCC/SCC, previously treated non- surgically	31295			
		Moh surgery	31000		
			31001		
			31002		
		BIOPSY	Biopsy	30071	
		OTHER TREATMENT (cryotherapy or serial curettage)	Benign lesion	30195	
			Premalignant lesion	30192	
			Malignant lesion	30196, 30197, 30202, 30203, 30205	

BCC: Basal Cell Carcinoma; SCC: Squamous Cell Carcinoma.

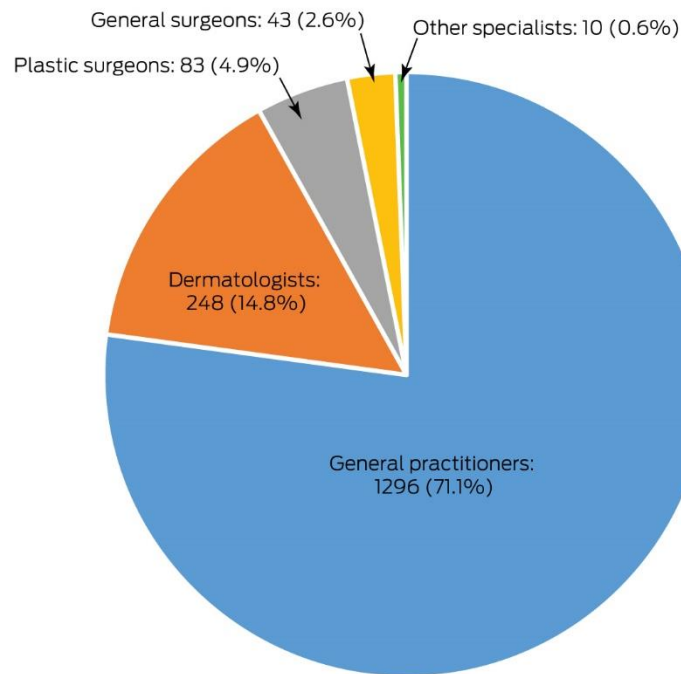
**Table 2.** MBS item numbers for the diagnosis and treatment of skin cancers and benign skin lesions, 2016-2019

	<b>Procedure</b>	<b>Item Numbers</b>	<b>Description</b>
SURGICAL EXCISION	Melanoma	31371 31372  31373  31374 31375 31376	nose, eyelid, lip, ear, digit or genitalia; $\geq 6$ mm in diameter face, neck, scalp, nipple-areola complex, distal lower limb (distal to, and including, the knee) or distal upper limb (distal to, and including, the ulnar styloid); $< 14$ mm in diameter face, neck, scalp, nipple-areola complex, distal lower limb (distal to, and including, the knee) or distal upper limb (distal to, and including, the ulnar styloid); $\geq 14$ mm in diameter other areas of the body; $< 15$ mm other areas of the body; 15-30 mm other areas of the body; $> 30$ mm in diameter
	Benign lesions to exclude melanoma	31357 31360 31362  31364  31366 31368 31370	nose, eyelid, lip, ear, digit or genitalia; $< 6$ mm in diameter nose, eyelid, lip, ear, digit or genitalia; $\geq 6$ mm in diameter face, neck, scalp, nipple-areola complex, distal lower limb (distal to, and including, the knee) or distal upper limb (distal to, and including, the ulnar styloid); $< 14$ mm in diameter face, neck, scalp, nipple-areola complex, distal lower limb (distal to, and including, the knee) or distal upper limb (distal to, and including, the ulnar styloid); $< 14$ mm in diameter other areas of the body; $< 15$ mm other areas of the body; 15-30 mm other areas of the body; $> 30$ mm in diameter
	BCC/SCC, first surgical excision	31356 31358 31359  31361  31363  31365 31367 31369	nose, eyelid, lip, ear, digit or genitalia; $< 6$ mm in diameter nose, eyelid, lip, ear, digit or genitalia; $\geq 6$ mm in diameter nose, eyelid, lip, ear, digit or genitalia; excision area at least one third of surface area of the site face, neck, scalp, nipple-areola complex, distal lower limb (distal to, and including, the knee) or distal upper limb (distal to, and including, the ulnar styloid); $< 14$ mm in diameter face, neck, scalp, nipple-areola complex, distal lower limb (distal to, and including, the knee) or distal upper limb (distal to, and including, the ulnar styloid); $< 14$ mm in diameter other areas of the body; $< 15$ mm other areas of the body; 15-30 mm other areas of the body; $> 30$ mm in diameter
	Residual and recurrent BCC/SCC, previously treated surgically	31256, 31261, 31266, 31271, 31276, 31281, 31286, 31291, 31257, 31262, 31267, 31272, 31277, 31282, 31287, 31292, 31258, 31263, 31268, 31273, 31278, 31283, 31288, 31293	
	Residual and Recurrent BCC/SCC, previously treated non- surgically	31295	
	Moh surgery	31000 31001	

	Procedure	Item Numbers	Description
		31002	
BIOPSY	Biopsy	30071	
OTHER TREATMENT (cryotherapy or serial curettage)	Benign lesion	30195	
	Premalignant lesion	30192	
	Malignant lesion	30196, 30197, 30202, 30203, 30205	

BCC: Basal Cell Carcinoma; SCC: Squamous Cell Carcinoma.

**Figure 1.** Practitioner type for first incident melanoma



**Table 3.** Characteristics of all QSkin participants with an incident melanoma during follow-up, and according to treating practitioner for first excision.

Variable	Total	Primary care practitioner	Dermatologist	Plastic surgeon	General surgeon	Other specialist	Missing data	P*
<b>Total number</b>	1683	1296	248	83	43	10		
<b>Age at baseline</b>								0.96
40-49	290 (17.2%)	219 (16.9%)	47 (19%)	15 (18%)	8 (19%)	1 (10%)	-	
50-59	617 (36.7%)	478 (36.9%)	92 (37%)	31 (37%)	13 (30%)	3 (30%)	-	
60+	776 (46.1%)	599 (46.2%)	109 (44%)	37 (45%)	22 (51%)	6 (60%)	3	
<b>Sex</b>								0.71
Women	720 (42.8%)	547 (42.2%)	113 (45.6)	33 (40%)	21 (49%)	5 (50%)	1	
Men	963 (57.2%)	749 (57.8%)	135 (54.4)	50 (60%)	22 (51%)	5 (50%)	2	
<b>Education</b>								<0.001
No school certificate	112 (7.2%)	99 (8.3%)	6 (3%)	5 (7%)	2 (5%)	0		
School certificate	543 (35.1%)	431 (36.2%)	67 (29%)	28 (37%)	14 (35%)	3 (33%)		
Trade/diploma	474 (30.6%)	387 (32.5%)	54 (23%)	11 (14%)	16 (40%)	5 (56%)	1	
University degree	419 (27.1%)	272 (22.9%)	105 (45%)	32 (42%)	8 (20%)	1 (11%)	1	
<i>Missing</i>	135	107	16	7	3	1		
<b>Private health insurance</b>								<0.001
No	444 (26.4%)	389 (30.1%)	26 (10%)	11 (13%)	14 (33%)	3 (30%)	1	
Yes	1236 (73.6%)	904 (69.9%)	222 (89.5%)	72 (87%)	29 (67%)	7 (70%)	2	
<i>Missing</i>	3	3	-	-	-	-		
<b>Region of residence<sup>1</sup></b>								<0.001
Urban	1114 (66.2%)	815 (62.9%)	216 (87.1%)	59 (71%)	16 (38%)	7 (70%)	1	
Rural	556 (33.1%)	473 (36.5%)	28 (11%)	24 (29%)	26 (60%)	3 (30%)	2	
Remote	12 (0.7%)	7 (0.5%)	4 (2%)	0	1 (2%)	0	-	
<i>Missing</i>	1	1	-	-	-	-		
<b>Skin check in 3 years prior to baseline</b>								0.001
None	243 (14.6%)	204 (16.0%)	18 (7.3%)	11 (13%)	9 (21%)	1 (10%)		
1	419 (25.2%)	338 (26.5%)	49 (20%)	21 (26%)	9 (21%)	1 (10%)	1	
2 or more	1000 (60.2%)	734 (57.5%)	181 (73.0%)	50 (61%)	25 (58%)	8 (80%)	2	

Variable	Total	Primary care practitioner	Dermatologist	Plastic surgeon	General surgeon	Other specialist	Missing data	P*
<i>Missing</i>	21	20	-	1	-			
<b>Clinical risk score</b>								0.001
Q1	115 (6.8%)	96 (7.4%)	14 (5.6%)	2 (2%)	3 (7%)	0		
Q2	264 (15.7%)	213 (16.4%)	29 (12%)	12 (14%)	7 (16%)	3 (30%)		
Q3	464 (27.6%)	378 (29.2%)	49 (20%)	20 (24%)	15 (35%)	0	2	
Q4	840 (49.9%)	609 (47.0%)	156 (63%)	49 (59%)	18 (42%)	7 (70%)	1	
<b>Family history of melanoma</b>								0.41
No	960 (65.5%)	735 (65.2%)	139 (62.6%)	54 (75%)	24 (69%)	5 (71%)	3	
Yes	506 (34.5%)	392 (34.8%)	83 (37%)	18 (25%)	11 (31%)	2 (29%)	-	
<i>Missing</i>	217	171	26	11	8	3		
<b>Past excisions for skin cancer</b>								0.002
None	658 (39.5%)	540 (42.1%)	70 (28%)	26 (32%)	16 (37%)	4 (40%)	2	
1	263 (15.8%)	206 (16.0%)	38 (15%)	12 (15%)	7 (16%)	0	-	
2+	747 (44.8%)	538 (41.9%)	138 (56%)	44 (54%)	20 (46%)	6 (60%)	1	
<i>Missing</i>	15	13	2	1	-			
<b>Past skin lesions destroyed</b>								0.010
None	421 (25.1%)	344 (26.7%)	44 (18%)	17 (20%)	13 (30%)	2 (20%)	1	
1-5	436 (26.0%)	345 (26.8%)	59 (24%)	16 (19%)	13 (30%)	3 (30%)	-	
6-20	445 (26.6%)	341 (26.5%)	68 (27%)	25 (30%)	8 (19%)	2 (20%)	1	
21+	373 (22.3%)	258 (20.0%)	77 (31%)	25 (30%)	9 (21%)	3 (30%)	1	
<i>Missing</i>	8	8	-	-	-			

\*  $\chi^2$  test.

(1) Australian Bureau of Statistics. 1270.0.55.005. Australian Statistical Geography Standard (ASGS): Volume 5. Remoteness Structure, July 2011. 31 Jan 2013. <https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/1270.0.55.005main+features1july+2011> (viewed Dec 2022).

**Table 4.** Treatment modality for the first tissue sample of the first incident melanoma according to patient characteristics

Variables	Shave biopsy	Punch biopsy	First excision	Second wide excision	Other	<i>p</i> *
<b>Total number</b>	549	178	854	44	58	
<b>Age at baseline</b>						0.93
40-49	99 (18%)	27 (15%)	148 (17%)	9 (20%)	7 (12%)	
50-59	193 (35.2%)	70 (39%)	314 (37%)	17 (39%)	23 (40%)	
60+	257 (46.8%)	81 (46%)	392 (46%)	18 (41%)	28 (48%)	
<b>Sex</b>						0.012
Women	238 (43.4%)	90 (51%)	338 (40%)	25 (57%)	29 (50%)	
Men	311 (56.6%)	88 (49%)	516 (60%)	19 (43%)	29 (50%)	
<b>Education</b>						0.45
No school certificate	35 (6.9%)	12 (7.3%)	60 (7.7%)	2 (5%)	3 (6%)	
School certificate	161 (31.9%)	67 (41%)	286 (36.5%)	12 (29%)	17 (32%)	
Trade/diploma	154 (30.5%)	44 (27%)	244 (31.2%)	16 (38%)	16 (30%)	
University degree	155 (30.7%)	41 (25%)	193 (24.6%)	12 (29%)	18 (33%)	
<i>Missing</i>	44	14	71	2	4	
<b>Private health insurance</b>						0.18
No	136 (24.8%)	47 (26%)	242 (28.4%)	10 (23%)	9 (16%)	
Yes	412 (75.2%)	131 (73.6%)	610 (71.6%)	34 (77%)	49 (84%)	
<i>Missing</i>	1	-	2	-	-	
<b>Region of residence<sup>1</sup></b>						<0.001
Urban	428 (78.0%)	118 (66.7%)	496 (58.1%)	30 (68%)	42 (72%)	
Rural	115 (20.9%)	59 (33%)	352 (41.2%)	14 (32%)	16 (28%)	
Remote	6 (1%)	0	6 (0.7%)	0	0	
<i>Missing</i>	-	1	-	-	-	
<b>Skin check in 3 years prior to baseline</b>						0.037
None	70 (13%)	27 (15%)	134 (15.8%)	6 (14%)	6 (11%)	
1	112 (20.7%)	55 (31%)	227 (26.8%)	12 (28%)	13 (23%)	
2 or more	358 (66.3%)	95 (54%)	485 (57.3%)	25 (58%)	37 (66%)	

Variables	Shave biopsy	Punch biopsy	First excision	Second wide excision	Other	<i>p</i> *
<i>Missing</i>	9	1	8	1	2	
<b>Melanoma clinical risk prediction score</b>						0.97
Q1	35 (6.4%)	13 (7.3%)	60 (7.0%)	4 (9%)	3 (5%)	
Q2	87 (16%)	31 (17%)	126 (14.8%)	8 (18%)	12 (21%)	
Q3	160 (29.1%)	50 (28%)	229 (26.8%)	11 (25%)	14 (24%)	
Q4	267 (48.6%)	84 (47%)	439 (51.4%)	21 (48%)	29 (50%)	
<b>Family history of melanoma</b>						0.41
No	302 (63.7%)	103 (64%)	495 (66%)	29 (78%)	31 (65%)	
Yes	172 (36.3%)	59 (36%)	250 (34%)	8 (22%)	17 (35%)	
<i>Missing</i>	75	16	109	7	10	
<b>Past excisions for skin cancer</b>						0.20
None	202 (37.1%)	81 (46%)	340 (40%)	19 (43%)	16 (28%)	
1	85 (16%)	28 (16%)	136 (16%)	4 (9%)	10 (17%)	
2+	258 (47.3%)	66 (38%)	370 (44%)	21 (48%)	32 (55%)	
<i>Missing</i>	4	3	8	-	-	
<b>Past skin lesions destroyed</b>						0.90
None	126 (23.1%)	47 (27%)	228 (26.8%)	11 (25%)	9 (16%)	
1-5	142 (26.1%)	48 (27%)	217 (25.5%)	11 (25%)	18 (32%)	
6-20	153 (28.1%)	44 (25%)	222 (26.1%)	11 (25%)	15 (26%)	
21+	124 (22.8%)	38 (22%)	185 (21.7%)	11 (25%)	15 (26%)	
<i>Missing</i>	4	1	2	-	1	

\*  $\chi^2$  test.

(1) Australian Bureau of Statistics. 1270.0.55.005. Australian Statistical Geography Standard (ASGS): Volume 5. Remoteness Structure, July 2011. 31 Jan 2013. <https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/1270.0.55.005main+features1july+2011> (viewed Dec 2022).