

**Table 2.2. Case-control studies of sun exposure and squamous cell carcinoma, published after 1992**

Reference, study location & period	Cases	Controls	Exposure assessment	Exposure categories	Relative risk (95% CI)*	Adjustment for potential confounders	Comments
Gallagher <i>et al.</i> (1995b), Bajdik <i>et al.</i> (1998), Alberta, Canada, 1983–1984	180M with incident SCC from cancer registry, 25–79 yrs, stratified by site; response rate 72%; 100% histol confirmed	406 male controls selected from population-based health care register, stratified by age and sex; response rate 71%	Interviewer-administd standard q'aire	<i>Painful sunburns life</i>			Age, mother's ethnicity, skin colour, hair colour
				N	1.0		
				Y	1.2 (0.8–1.8)		
				<i>Painful sburn last 10y</i>			
				N	1.0		
				Y	2.5 (0.9–7.1)		
				<i>Mean recreation sun/yr, 0–19yrs</i>			
				Lowest	1.0		
				Low-med	1.2 (0.6–2.5)		
				High-med	1.1 (0.5–2.6)		
				High	1.6 (0.6–4.5)		
				<i>Mean rec sun/yr, life</i>			
				Lowest	1.0		
				Low-med	0.6 (0.3–1.1)		
				High-med	0.8 (0.3–1.8)		
				High	0.3 (0.1–0.9)		
<i>Mean occupatn sun</i>							
Lowest	1.0						
Low-med	0.8 (0.3–2.0)						
High-med	1.5 (0.6–4.2)						
High	1.4 (0.4–4.3)						
<i>Mean cumul sun/yr</i>							
Lowest	1.0						
Low-med	1.8 (0.9–3.3)						
High-med	1.2 (0.6–2.3)						
High	1.0 (0.4–2.1)						

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Gallagher <i>et al.</i> (1995b), Bajdik <i>et al.</i> (1998)	113M with incident SCC, 80% response rate	342 male controls		<i>Painful sunburn age 5–15yrs</i> None 1/yr 2+/yr <i>Painful sunburn after age 15y</i> N Y <i>Painful sunburn last 10y</i> N Y <i>Adult Rec sun, hrs</i> Lowest Low-med High-med High <i>Adult Occ sun, hrs</i> Lowest Low-med High-med High <i>Total sun, hrs</i> Lowest Low-med High-med High	<i>Head &amp; neck</i> 1.0 1.4 (0.6–3.5) 4.1 (1.1–14.9) 1.0 1.5 (0.8–3.1) 1.0 3.3 (0.6–16.1) 1.0 1.9 (0.8–4.5) 1.4 (0.6–3.3) 1.5 (0.6–3.7) 1.0 2.1 (0.9–4.7) 1.9 (0.8–4.2) 2.9 (1.3–6.5) 1.0 1.6 (0.6–4.2) 1.2 (0.5–3.2) 2.5 (1.0–6.1)		

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Rosso <i>et al.</i> , (1996); 8 centres in Italy, France, Spain, 1989–1993	228 cases diagnosed in 5 cancer registries+ 2 hospitals, 20–70 yrs, 100% histol confirm	1795 controls From 5 pop registers+ non-cancer, non-dermatology patients of 3 hospitals	Interviewer-administd standard q'aire	<i>Sunburns life</i>	1.0	Age, sex, centre	Prevalent cases	
				None	1.1 (0.7–1.7)			
				1	1.3 (0.6–2.9)			
				2	0.9 (0.4–1.9)			
				3+				
				<i>Holidays at beach in life, hrs</i>				Age, sex, centre, other risk factors
				Never	1.0			
				Medium	1.0			
				High	0.9 (0.8–1.0)			
				<i>Life outdoor work, h</i>				
Low	1.0							
Medium	1.0							
High	1.6 (1.0–2.5)							

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English <i>et al.</i> (1998), Geraldton, Western Australia, 1988	132 cases with incident BCC, native-born, from population survey, 40–64 yrs, response rate 89%; 100% histol confirmed	1031 controls selected from disease free at population survey or year before; response rate 89%	Personal calendar and interviewer-administd standard q'aire	<b>Ambient solar radiatn at places residence (mWh cm<sup>2</sup> x10<sup>-5</sup>)</b>			
				<i>Whole year</i>			
				Low	1.0		
				Low-med	1.4(0.5–3.6)		Age, sex, site
				High-med	2.7 (0.8–8.6)		
				High	2.2 (0.6–8.3)		
				<i>Painful sunburns site</i>			
				None	1.0		Age, sex, ability to tan, propensity to burn
				1–2	0.8 (0.4–1.8)		
				3–10	1.8 (1.0–3.4)		
				11+	1.4 (0.8 –2.5)		
				<i>Total hrs outdoors</i>			
				Lowest	1.0		
Low-med	1.0 (0.5–1.8)						
High-med	1.4 (0.7–2.6)						
High	1.4 (0.7–2.8)						

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Kennedy <i>et al.</i> (2003) Leiden, the Netherlands, 1985–1997	161 cases with incident and prevalent SCC diagnosed in referral hospital, 30–80 yrs, 100% histol confirmed	386 ophthalmology patients from same hospital	Residence Work Calendar+ Interviewer-administd standard q'aire	<i>Sunburn &lt; 20yrs</i>	1.0	Age, sex, skin type	Prevalent cases diagnosed up to 12 years before included
				N	1.5 (1.0–2.3)		
				<i>Sunburn 20–39yrs</i>	1.0		
				N	1.1 (0.7–1.7)		
				<i>Sunburn 40–59yrs</i>	1.0		
				N	0.8 (0.4–1.8)		
				<i>Lifetime sun exp, hrs</i>	1.0		
				Low	2.4 (0.8–7.4)		
				Low-medium	2.1 (0.6–7.5)		
				High-medium	6.5 (1.7–25.6)		
Zanetti <i>et al.</i> (2006), 14 centres in Italy, Spain, France, Portugal, Denmark, Germany, Argentina, 2001–2002	139 cases with incident SCC diagnosed in hospitals in study centres, 20–75 yrs, 100% histol confirmed	349 non-dermatology patients of same hospitals	Interviewer-administd standard q'aire	<i>Sunburn</i>	1.0	Age, country, 'significant host factors'	
				Never	1.3 (0.8–2.2)		
				Sometimes	0.8 (0.4–1.6)		
				Often	1.0		
				<i>Holidays at beach, weighted hrs in life</i>	0.9 (0.5–1.8)		
				Never	0.7 (0.4–1.5)		
				Low	0.7 (0.4–1.5)		
				Low-medium	0.8 (0.4–1.6)		
				High-medium	1.0		
				High	2.2 (1.2–4.1)		
<i>Outdoor work, weighted hrs in life</i>	1.0	Age, 'significant independent risk factors'					
Low	0.9 (0.5–1.8)						
Low-medium	0.7 (0.4–1.5)						
High-medium	0.7 (0.4–1.5)						
High	0.8 (0.4–1.6)						
<i>Outdoor work, weighted hrs in life</i>	1.0						
Low	0.9 (0.5–1.8)						
Low-medium	0.7 (0.4–1.5)						
High-medium	0.7 (0.4–1.5)						
High	0.8 (0.4–1.6)						

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Karagas <i>et al.</i> (2006), New Hampshire USA, 1993–1995	168 cases with incident SCC diagnosed in in NH population, 25–74 yrs, 78% response rate, 100% histol confirmed	343 controls selected from population-based register, stratified by age and sex; response rate 66%	Interviewer-administd standard q'aire	<i>Painful sunburns</i> None 1–2 3–9 10+	1.0 0.8 (0.4–1.8) 1.8 (1.0–3.4) 1.4 (0.8 –2.5)	Age, sex	Estimates only for people seronegative for betapapillomaviruses