**oSuppl. Table 2: The MelanoQ Questionnaire**

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|  | **VARIABLE** | **DATA CODING** | **COMMENTS** |
| **SECTION A** | | | |
| **I. GENERAL (completed by physician/study nurse)** | | | |
| **1.** | **Subject** | Case or control | Separate questionnaires for cases and controls |
| **2.** | **Database code number** | Use numeric coding system. First 2 numbers= country; second 2 numbers= center; M or C (melanoma case or control subject, respectively); last 4 numbers= consecutive case/control number | Center-specific code can be added |
| **3.** | **Date of questionnaire administration and phenotyping** | DD/MMM/YYYY | Use a 3-letter abbreviation for month to avoid misinterpretation (US vs. European style) |
| **4.** | **Dates of updated questionnaire and/or phenotyping** | For each update, specify DD/MMM/YYYY and items updated (with corresponding section numbers in questionnaire) |  |
| **5.** | **Type of melanoma (if subject is a melanoma case):** sporadic or familial (the latter defined as ≥2 affected individuals, with *in situ* or invasive melanoma in 1st to 3rd degree relatives)\* | Sporadic:  Familial\*:  Don’t know:  Other (complex family history), specify:  \*Provide details in section C, item #14 | Note: our definition of “familial melanoma” applies to low incidence geographic regions, such as the Mediterranean basin. A different definition would apply to other regions  \*If there is no intention for genetic studies then a family history limited to 1st degree relatives is adequate but number of affected members in the larger family should be recorded. |
| **II. DEMOGRAPHIC (completed by case/control)** | | | |
| **6.** | **Sex** | M/F (defined at birth) |  |
| **7.** | **Date and place of birth** | DD/MMM/YYYY, or 15/MMM/YYYY (if day is not known), or 15/JUN/YYYY (if day and month are not known), or UNK if data is completely unknown  Place: city, province, country | UNK stands for “unknown date of birth” |
| **8.** | **Weight and height** | Weight (Kg):  Height (cm): | Last time checked within 12 months |
| **9.** | **Ethnicity** | 1. White  a. Europe  b. North Africa  c. Middle East  d. Jewish ancestry  2. Black or African American  3. Asian  4. Hispanic or Latino (i.e. from South or Central America)  5. Other (specify) | View **Appendix *A.*** |
| **10.** | **Residency** | Record all places where the case/control has resided for >6 months Specify exact location (country, city/town) and time (from YYYY to YYYY) | Geocoding is advisable |
| **11.** | **Education** | Three categories:   1. Up to junior high school (up to 14-16 yrs) 2. High school (up to 18-19 yrs) 3. University |  |
| **12.** | **Current occupational status** | Five categories: a. Employed d. Student  b. Working at home e. Retired  c. Unemployed |  |
| **13.** | **History**  **of occupation**  **(optional)** | History of occupation (starting from most recent and going backwards in time; record duration from YYYY to YYYY) | Minimum period of occupation: 1 yr  May use SIC/SOC coding (<https://siccode.com/en/>) |

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| **SECTION B** | | | |
| **I. PHENOTYPE (completed by case/control)** | | | |
| **1.** | **Skin type** | Answer to the following 2 questions and classify skin type according to Suppl. Figure 1:   1. Which of the following sentences does better describe your skin response to sun exposure at noon for 30 minutes in the first days of the summer without sunscreen/clothing protection?    1. Not burn    2. Burns lightly    3. Burns moderately    4. Burns severely 2. Does your skin tan after a prolonged and repeated sun exposure (e.g. after several days as at the end of the summer) without protecting it with sunscreen or clothing? 3. No tan 4. Tans lightly 5. Tans moderately 6. Tans deeply | The table can be applied after receiving the answers from the participant  Please refer also to tanning ability chart (Suppl. Figure 1) |
| **2.** | **Eye color** | Three categories:   1. Light (green, blue, gray) 2. Medium (light brown, hazel) 3. Dark (dark brown, black) | Eye color chart (Suppl. Figure 2) |
| **3.** | **Hair color (at age of 18 yrs)** | Five categories: a. Red d. Dark brown  b. Blonde e. Black  c. Light brown | Hair color chart (Suppl. Figure 3) |
| **4.** | **Freckles**  Definition: Light brown small macules since childhood, on the face, during summer time (disappear in winter) | None/Few/Some/Many | Freckle density chart (Suppl. Figure 4) from Reference 25 |
| **5.** | **Nevi in childhood/adolescence**  **(i.e., age of 18 yrs)** | None/Few/Some/Many | Nevus density chart (Suppl. Figure 5) |
| **II. HISTORY OF ULTRAVIOLET EXPOSURE (completed by case/control)** | | | |
| **6.** | **Occupational sun exposure**  (i.e. outdoor occupation with at least 4 hours/day spent outdoor in the sun) | YES/NO  If YES, specify the occupation:  ­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  How many hours/day? \_\_\_  How many days/month? \_\_\_  How many months/year? \_\_\_  How many years? \_\_\_ | See **Appendix *B*.** for examples of occupations  with continuous sun exposure |
| **7.** | **Recreational sun exposure** (i.e. outdoor hobbies or physical activities–other than sunbathing–with at least 4 hours/day spent outdoor in the sun) | YES/NO  If YES, specify which activity:  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  How many hours/day? \_\_\_  How many days/month? \_\_  How many months/year? \_\_  How many years? \_\_\_ | See **Appendix *C.*** for examples of outdoor recreational activities |
| **8.** | **Intermittent sun exposure** (i.e. sun exposure in spring and summer time, including vacation, during peak hours–11AM-4PM) | |  |  |  | | --- | --- | --- | | Age period | Exposure time | | |  | Weeks of vacation | Hours spent between  11AM and 4PM | | Childhood (up to age 10 yrs) |  |  | | Adolescence (11-18 yrs) | | Adulthood (≥18 yrs) | | 10 years before melanoma diagnosis (for cases) or last 10 years (for controls) | |  |
| **9.** | **Most recent intense intermittent sun exposure** | Provide date or month of last time of intense intermittent sun exposure before the diagnosis of melanoma (for cases) or before this interview (for controls) |  |
| **10.** | **Severe sunburns** (Grade 2), lifetime before diagnosis.  Definition: suburns with erythema and pain for more than 2 days or with blisters (no matter for how long) | At age <18 yrs: YES/NO/Not known  If YES, number:  At age ≥18 yrs: YES/NO/Not known  If YES, number:  At site of melanoma? YES/NO/Not known  In the last 5 yrs: YES/NO/Not known  If YES, number: |  |
| **11.** | **Sunscreen use**  (summer time) | |  |  |  | | --- | --- | --- | | Age period | Sunscreen use | | |  | Did you use sunscreens during the summertime? | Type of sunscreen used: | | Childhood (up to age 10 yrs) | - Never  - <50% of time exposure  - >50% of time exposure  - Always  - Not known | - SPF<20  - SPF>20  - Not known | | Adolescence (11-18 yrs) | | Adulthood (≥18 yrs) | | 10 years before melanoma diagnosis (for cases) or last 10 yrs (for controls) | | Answers to the questions related to the sunscreen use should be provided for each of the specified time periods’ |
| **12.** | **Sun protection other than sunscreen use** (summertime over the last 10 yrs)  (Optional) | Did you use a hat?   * Never * <50% of time exposure * >50% of time exposure * Always * Not known   Did you use protective clothing?   * Never * <50% of time exposure * >50% of time exposure * Always * Not known   Did you seek the shade or stay indoors during peak UVR hours?   * Rarely * Sometimes * Always * Not known |  |
| **13.** | **Sunlamps/sunbeds** | YES/NO  If YES:   * Lifetime number of sessions: * Age at first exposure: * Age at last exposure: |  |
| **14.** | **Phototherapy**  **(UVB-PUVA)**  (Optional) | Ever/Never |  |
| **III. LIFESTYLE HABITS (completed by case/control)** | | | |
| **15.** | **Smoking** | 1. Never 2. Former smoker (quit one year before diagnosis or earlier) 3. Current smoker   If b. or c.:   * age when you started smoking:\_\_\_ * how long have you been smoking (years): * how much did/do you typically smoke:   one pack/day or more\_\_\_  up to half pack/day\_\_\_  only occasionally\_\_\_ |  |
| **16.** | **Have you received vitamin pills during the last year?**  (Optional) | YES/NO  If YES:   * Never * 1-3 days/month * 1-3 days/week * 4-6 days/week * Everyday |  |
| **17.** | **What type of vitamins did you receive and how often?**  (Optional) | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | β-carotene | Vitamin A | Vitamin C | Vitamin E | Vitamin D | Multivitamins | | -Never  -1-3 days/month  -1-3 days/week  -4-6 days/week  -Everyday | -Never  -1-3 days/month  -1-3 days/week  -4-6 days/week  -Everyday | -Never  -1-3 days/month  -1-3 days/week  -4-6 days/week  -Everyday | -Never  -1-3 days/month  -1-3 days/week  -4-6 days/week  -Everyday | -Never  -1-3 days/month  -1-3 days/week  -4-6 days/week  -Everyday | -Never  -1-3 days/month  -1-3 days/week  -4-6 days/week  -Everyday | |  |
| **18.** | **For how long did you receive vitamins?**  (Optional) | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | β-carotene | Vitamin A | Vitamin C | Vitamin E | Vitamin D | Multivitamins | | -<1 yr  -1-4 yrs  -5-9 yrs  -≥10 yrs | -<1 yr  -1-4 yrs  -5-9 yrs  -≥10 yrs | -<1 yr  -1-4 yrs  -5-9 yrs  -≥10 yrs | -<1 yr  -1-4 yrs  -5-9 yrs  -≥10 yrs | -<1 yr  -1-4 yrs  -5-9 yrs  -≥10 yrs | -<1 yr  -1-4 yrs  -5-9 yrs  -≥10 yrs | |  |
| **Section B Completion Evaluation Questions** | | | |
| **19.** | **Were you able to respond to the questions of this Section?** | * All questions * Most questions * Nearly half of the questions * Very few questions |  |
| **20.** | **Which questions of this Section did you consider difficult to fill in?** | * None * Number: |  |

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| **SECTION C** | | | | |
| **I. CLINICAL EXAMINATION (completed by physician/study nurse)** | | | | |
| **1.** | **Solar Lentigines**  Definition: permanent multiple macular pigmented lesions, aggregated, in areas of chronic sun exposure, do not disappear in winter | | Record according to severity:  - None  - Few  - Many  At site of melanoma (i.e. area around the site w/ a 20 cm radius)? YES/NO |  |
| **2.** | **Nevi count** | | Consider nevi >2 mm and include all nevi (common, clinically atypical, and congenital). Nevi should be recorded as a continuous variable.  Sites (except genitalia. For each site, specify number and, when appropriate, if left/right)   |  |  |  | | --- | --- | --- | | **Site** | **Number**  **(left)** | **Number**  **(right)** | | Scalp |  | | | Face (including ears) |  |  | | Neck |  |  | | Anterior thorax + abdomen |  | | | Back |  | | | Upper extremities including deltoid |  |  | | Lower extremities including gluteus |  |  | | Palms |  |  | | Soles |  |  | | Mandatory sites: back, one arm |
| **3.** | **Nevi count**  (Optional) | | Consider nevi ≤2 mm  Five categories (based on a total body count):  a. 0 b. 1-50 c. 51-100 d. 101-200 e. >200 |  |
| **4.** | **Clinically atypical nevi**  Clinical definition: macular (i.e. flat) component in at least part of the lesion (mandatory) and at least 3 of the following criteria:  - >5 mm diameter  - multiple colors  - hazy borders  - erythema | | Record number of clinically atypical nevi as a continuous variable  At site of melanoma (i.e. area around the site with a 20 cm radius)?  YES/NO |  |
| **5.** | **Congenital nevi**, CN  (only medium, large, or giant) | | Medium-sized CN: YES/NO  If YES, site(s):  Large-sized CN: YES/NO  If YES, site(s):  Giant CN: YES/NO  If YES, site(s): | Size at phenotyping for:  - medium CN >1.5–19.9 cm  - large CN ≥20 cm  - giant CN ≥40 cm  *Exclude small (i.e. ≤1.5 cm CN)* |
| **6.** | **Blue nevi**  (Optional) | | YES/NO  If YES, number: |  |
| **7.** | **Actinic keratoses** | | YES/NO  Site: a. scalp, b. face, c. other exposed areas (hands, arms, trunk, legs)  If YES, describe the predominant type of distribution:   1. isolated/scattered 2. clustered 3. confluent | Description per AKASI or AK-FAS scoring systems can be added – see references 24 and 25 |
| **8.** | **Current (i.e. at time of visit) non-melanoma skin cancer, KSC (basal cell carcinoma, BCC, and squamous cell carcinoma, SCC)** | | BCC: YES/NO  If YES, number:  Site(s):  Invasive SCC: YES/NO  If YES, number:  Site(s):  *In situ* SCC: YES/NO  If YES, number:  Site(s): |  |
| **ΙI. MEDICAL HISTORY/MEDICATIONS (completed by physician/study nurse)** | | | | |
| **9.** | **History of medical (non-cancer) diagnoses** | List all diagnoses from medical history  (include corresponding ICD-10 codes) | |  |
| **10.** | **Previous and concomitant treatments (related to above-mentioned diagnoses)**  (Optional) | Record all medications and time of drug exposure  (from YYYY to YYYY) | | If specific hypotheses are to be tested regarding association of medications with melanoma risk, then there may be certain classes of drugs for which definitive answers are needed |
| **11.** | **Pregnancy history** | No. of full-term pregnancies:  Date of birth of children:  No. of miscarriages:  Did melanoma occur during pregnancy: YES/NO  Did melanoma occur before pregnancy: YES/NO  How many years before pregnancy? \_\_  Did melanoma occur after pregnancy: YES/NO  How many years after pregnancy? \_\_  History of hormone-assisted pregnancy (IVF) before diagnosis: YES/NO | | Please describe the closest pregnancy as a time event to melanoma diagnosis |
| **12.** | **Lifetime history of non-melanoma skin cancer, KSC (basal cell carcinoma, BCC, and squamous cell carcinoma, SCC)** | For BCC indicate:   * No. of BCCs * Before or after melanoma diagnosis * Site(s): * Dates of diagnosis (optional):   For invasive SCC indicate:   * No. of SCCs * Before or after melanoma diagnosis * Site(s): * Dates of diagnosis (optional):   For *in situ* SCC indicate:   * Type and number of *in situ* SCC: \_Bowen (skin), \_Erythroplasia Querat (genital mucosa), \_Other location (i.e., lip etc) * Before or after melanoma diagnosis * Site(s): * Dates of diagnosis (optional): | |  |
| **13.** | **Other non-cutaneous neoplasia** | For each additional neoplasia:   * Type * Age at of diagnosis: \_\_\_\_ * Year at diagnosis: \_\_\_\_ | | Refer to Appendix *D*.  Include whether there is histologic or other confirmation of the cancer diagnosis |
| **ΙΙI. FAMILY HISTORY OF MELANOMA OR OTHER CANCERS (completed by physician/study nurse)** | | | | |
| **14.** | **Family history of melanoma** (up to 3rd degree relatives) | * YES/NO/Not known/Other (specify: \_\_\_\_\_) * Type of melanoma (cutaneous, uveal, other, don’t know): * Define the affected relative (maternal or paternal side; indicate if 1st, 2nd, 3rd degree relative and age at diagnosis). Note denominator (number of relatives in family) or provide pedigree | | Note: our definition of “familial melanoma” applies to low incidence geographic regions, such as the Mediterranean basin. A different definition would apply to other regions  \*If there is no intention for genetic studies then a family history limited to 1st degree relatives is adequate but number of affected members in the larger family should be recorded. |
| **15.** | **Germline status**  (Optional) | * Not tested * CDKN2A * CDK4 * BAP-1 * MC1R * TERT * MITF * POT1 * Other (name genes, including other cancer predisposing genes) | |  |
| **16.** | **Family history of other cancers** (up to 3rd degree relatives) | * Type of cancer (exclude NMSC and melanoma) * Define the affected relative (maternal or paternal side; indicate if 1st, 2nd 3rd degree relative and age at diagnosis) * Provide pedigree (if available) | | Refer to Appendix *D*. |
| **Section C - Completion Evaluation Questions** | | | | |
| **17.** | **Were you able to respond to the questions of this Section?** | * All questions * Most questions * Nearly half of the questions * Very few questions | |  |
| **18.** | **Which questions of this Section did you consider difficult to fill in?** | * None * Number: | |  |

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| **SECTION D** | | | | |
| **I. MELANOMA CHARACTERISTICS (completed by physician/study nurse)** | | | | |
| **1.** | **Pre-existing pigmented lesion at the same site of melanoma** | | YES/NO/Not known  If YES, how long (No. of yrs) was the pre-existing  pigmented lesion present? \_\_\_ |  |
| **2.** | **Detection of melanoma**  (Optional) | | * Patient * Relative/Spouse/Friend * Physician * Other |  |
| **3.** | **Self-skin exam**  (Optional) | | How often did you check your skin in the past 3 yrs?   * Never * Once * Once/year * More than once/year |  |
| **4.** | **Skin exam by physician**  (Optional) | | How often did a physician examine your skin in the past 3 yrs?   * Never * Once * Once/year * More than once/year * Do not recall a physician ever examining my skin |  |
| **5.** | **Multiple primary melanoma (MPM) – concurrent or previous** | | YES/NO  If YES, No. of primaries (separate recording for each melanoma) | If additional primary melanomas, complete section H1, H2 etc for each tumor  Include melanoma in situ and record separately from invasive melanoma |
| **6.** | **Date of diagnosis** | | Date of diagnosis as in the pathology report for each melanoma  DD/MMM/YYYY |  |
| **7.** | **Is the primary tumor known?** | | YES/NO (i.e. metastatic disease with unknown primary)  If YES, proceed with the other questions |  |
| **8.** | **Site** | |  |  |  | | --- | --- | --- | | abdomen\_left | eyelid\_left | lip | | abdomen\_middle | eyelid\_right | lumbar | | abdomen\_right |  | nail\_finger\_left | | anus | finger\_left | nail\_finger\_right | | arm\_left\_anterior | finger\_right | nail\_toe\_left | | arm\_left\_posterior | foot\_left\_dorsal | nail\_toe\_right | | arm\_right\_anterior | foot\_left\_plantar | nose | | arm\_right\_posterior | foot\_right\_dorsal | penis\_scrotum | | axilla\_left | foot\_right\_plantar | scalp | | axilla\_right | forearm\_left\_anterior | shoulder\_left | | back\_left | forearm\_left\_posterior | shoulder\_right | | back\_middle | forearm\_right\_anterior | thigh\_left\_anterior | | back\_right | forearm\_right\_posterior | thigh\_left\_posterior | | buttock\_left | forehead | thigh\_right\_anterior | | buttock\_right | hand\_left\_dorsal | thigh\_right\_posterior | | cheek\_left | hand\_left\_palmar | toe\_left | | cheek\_right | hand\_right\_dorsal | toe\_right | | chest\_left | hand\_right\_palmar | vagina | | chest\_middle | head | vulva | | chest\_right | laterocervical\_left | other | | chin | laterocervical\_right |  | | ear\_left | leg\_left\_anterior |  | | ear\_right | leg\_left\_posterior |  | | eye\_left | leg\_right\_anterior |  | | eye\_right | leg\_right\_posterior |  | | |  |
| **9.** | **Breslow thickness** | Continuous variable (mm) | |  |
| **10.** | **Other main histopathologic features** | Subtype: SSM, NM, LMM, ALM, Desmoplastic, Mucosal, Uveal, Other, NOS  Mitotic rate (number of mitoses/mm2):  Ulceration (absent/present):  Tumor growth phase (radial/vertical):  Regression (absent/present, specify percentage; <50% or >50%):  Tumor Infiltrating Lymphocytes (TILs) (absent/non-brisk/brisk):  Associated nevus (absent/present, specify type):  Vascular invasion (absent/present):  Microsatellitosis (absent/present):  Pigmentation (absent/partially pigmented/fully pigmented):  Solar elastosis (absent/mild/moderate/severe):  Lateral margin status (disease-free or not):  Deep margin status (disease-free or not): | |  |
| **11.** | **Sentinel Lymph Node (SLN) biopsy** | YES, NO, Not done, Not known  If YES, specify if positive/negative | |  |
| **12.** | **AJCC stage at diagnosis** | Record AJCC staging | | Specify AJCC version |
| **13.** | **Mutational data for melanoma tissues** | - Record results for each gene (BRAF, NRAS, KIT, others)  - Source of data (primary or metastatic tissue)  - If metastatic, record site (skin, lymph node, brain, lung, other) | | If available |
| **II. CHARACTERISTICS OF 2nd PRIMARY MELANOMA, repeat items from 1-13 (completed by physician/study nurse)** | | | | |
| **III. CHARACTERISTICS OF 3rd PRIMARY MELANOMA, repeat items from 1-13 (completed by physician/study nurse)** | | | | |