

Francesco Bruno *

NEVI AND MELANOMA

DIGITAL VIDEODERMATOSCOPY WITH THE NEW TECHNIQUE “FOTOFINDER MOLEANALYZER”

DIGITAL NEVI MAPPING



THE PREVENTION OF MELANOMA



<http://www.francescobrunodermatologo.it/mappatura-nevi.asp>



**Author Notes.*

Francesco Bruno is a Dermatologist in Milan.

He is the Member- Founder of ISPLAD (Italian Society of Plastic Dermatology and Oncology).

He was trained at the school directed by Professor Otto Braun-Falco, of Munich, where in 1988 the technique of dermoscopy was created and put into practice for the first time.

“Hautarzt. 1990 Mar;41(3):131-6. The dermatoscope. A simplification of epiluminescent microscopy of pigmented skin changes.

Braun-Falco O, Stolz W, Bilek P, Merkle T, Landthaler M.”

Francesco Bruno has been the first Italian Dermatologist to practice Epiluminescence Dermatoscopy in 1988.

Dermatoscopy is a non-invasive technique that evaluates microscopic morphology and disposition of melanin for the purpose of studying nevi in details and making an earlier diagnosis of melanoma.

What are nevi?

The nevus is a benign lesion of the skin that originates from melanocytes, the cells that produce melanin (the substance that gives colour to our skin).

Most of us has a number of nevi on the skin surface arisen in childhood and adolescence.

Melanocytic nevi may, however, be detected at birth ("congenital nevi") or appear in adulthood.

There are many types (flat, thickened, verrucosus) and different colours (black, dark brown / light, blue ...).

The colour does not depend on the amount of melanin in the nevus, but on the depth of melanin (the more superficial is darker).

The melanocytic nevus is, most of the time, benign and does not require any treatment.

Melanoma

Melanoma is a malignant tumour, which may arise on healthy skin or on a pre-existing melanocytic nevus.

Melanin is "hosted" by the skin with a "steady balance".

This balance is ensured by two phenomena:

- 1) the melanophages eliminate melanocytes such as "scavenger cells",
- 2) throw the regular turnover of the skin.

When this balance is lost, nevi degenerate into melanoma.

Melanoma originates in most of the cases from the nevus, and may arise from uninvolved skin.

The incidence of melanoma is increasing.

In Italy in the early 90s, the annual incidence was about four new cases per 100,000 inhabitants.

Currently in Italy melanoma has an incidence of 12-15 new cases per 100,000 inhabitants, while in

Australia the official estimation is 60 cases per 100,000 people.

Unfortunately, the incidence of melanoma is indeed higher.

The high spread of melanoma in Australia is due to the subtropical and tropical climate.

The immigrant population, English and Irish, with very fair skin, is certainly at a very high-risk of melanoma.

In Italy - every day - twenty people discover that they are suffering from melanoma.

In Italy, the incidence of melanoma has more than 7,000 cases per year of about 200,000 worldwide.

The incidence of melanoma has increased significantly in recent decades, with an annual increase of 5-7% in our country.

It is the second tumour as increased incidence after lung cancer in women.

95% of deaths from skin cancer is determined by melanoma.

Today it's possible to treat melanoma thanks to a **early diagnosis!**

Among the causes, the exposure to sunlight (in particular sunburn in childhood and adolescence), seems to be the most important.

Some skin characteristics, such as light-coloured skin, hair and eyes, the number of melanocytic nevi, the presence of atypical nevi and a family history of melanoma predispose this population towards the tumor.

Individuals with these somatic aspects should undergo regular dermatologic consultations .

To be able to ensure a complete and definitive healing, melanoma must in fact be diagnosed early, possibly when it is still confined in the epidermis (melanoma "in situ") and in any case when its thickness is limited.

The recent appearance, rapid growth or modification of a melanocytic nevus in an adult, especially with somatic characteristics, ranging promptly reported to the dermatologist.

Thanks to digital videodermatoscopy, dermatologist can diagnose melanoma at an early stage.

You are a person at risk?



If you answer "YES" to any of these questions, book a digital videodermatology!

“Do you have a fair skin and especially sensitive to the sun?”



“ Do you have a lot of moles?”



“You have to congenital pigmented and large nevi?”

“Do you have an atypical nevus or one that has recently changed in its appearance?”



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“During childhood and adolescence did you have suffer from sunburn?”



“Do you have any cases of melanoma in your family?”

“Did you have a melanoma?”

“Do you expose yourself to the sun when you exercise?”



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Pay attention to the following details:

“Arise of a new nevus”

“Color Variations, for example lighter darker”



“Increased or decreased diameter or thickness”

“Alteration of the edges”

"Paresthesia, itching, burning or foreign body sensation



Bleeding Nevus



Early diagnosis of melanoma with cutting-edge technologies.

If you notice at least one or more of the following changes, book a digital videodermatoscopy!

A-B-C-D-E Rule for early detection of melanoma

.A



Asymmetry

.B



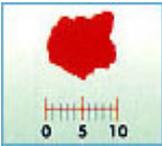
Borders (irregular edges)

.C



Colour (dark, black or multiple: grey, white..)

.D



Diameter (greater than 6 mm)

.E



Evolving (change in size, shape and colour)

Mole Mapping



Prevention of melanoma with PhotoFinder

- Melanoma can develop from pre-existing moles which have been remained harmless for many years or arise on a healthy skin.
- Therefore we are advised to check your moles regularly and in the long term!

- . Benefits guaranteed by PhotoFinder in melanoma prevention:
- . Storage and long-term monitoring ;
- . Regular checks which show early changes of the skin;
- . Analysis of malignancy;
- . You can prevent the removal of the harmless nevi.

Long-term safety: Digital Videodermatoscopy



Computerised digital videodermatoscopy is the most advanced technique for the early detection of melanoma.

First of all it takes panoramic pictures of your skin.

The atypical nevi are "marked" - one by one - and localised with a reference number and also detected through the microscope in reflected light.

The digital photo of your skin saved in the storage allows a regular and objective comparison between the previous and the current findings.

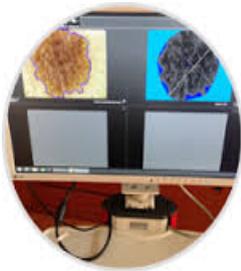
Even the slightest changes can be visible!

The examination is completely painless, it can be performed on children and you can watch it yourself on the screen.

<http://www.francescobrunodermatologo.it/mappatura-nevi.asp>



The Photo Finder with the system Tübinger mass analyser is a highly efficient and reliable tool for long-term prevention of melanoma.



Try the feeling of safety on prevention!



The FotoFinder Body Scan and the Mole analyser.

What are they?

They represent the last frontier of dermatology oncology for the analysis and prevention of melanoma.

Automatic analysis of total body recordings.

The technique - The exam.

How does the digital videodermatoscopy work in practice?

First of all, it accurately collects the patient's medical history; family history of melanoma, previous dermatoscopic and histological examinations, degeneration of nevi, sunburn, environmental habits (smoking-sun-trauma).

Then we examine the nevi present throughout the body, including the soles of the feet.

The Bodyscan

The Bodyscan dermatoscopic is a technique designed by the Institute of Biomedical Engineering IBMT Fraunhofer Institute in Germany.

Currency images of the entire body mapping body and shows the nevus lesions.

This way you can keep tabs on patients with many nevi.

They show both the variations of the individual nevi structure, and new in.

Bodyscan contributes to recognize the melanoma at an early stage.

Tübinger mass analyzer

What is Moleanalyzer?

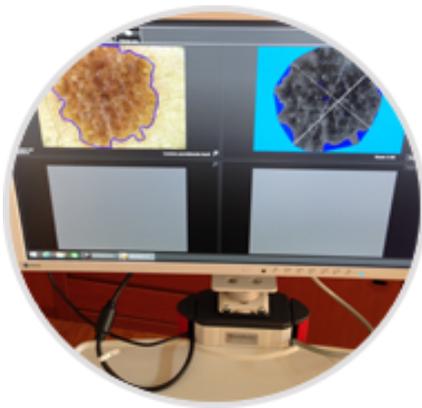
It is considered a second verification, a second opinion for the evaluation of the nevus.

The Moleanalyzer FotoFinder was developed in collaboration with University Dermatologic Clinic of Tübingen and provides high sensitivity and specificity.

With a rapid scanning it provides an accurate measurement of the diameter and the area of the surface of the nevus.

This measurement will be recorded in order to evaluate any minimal changes in the size of the nevus in future inspections.

The Moleanalyzer makes an accurate computer analysis of the colours on the basis of the algorithms of recognition of the samples that have been clinically tested with an indication of a score of malignancy.

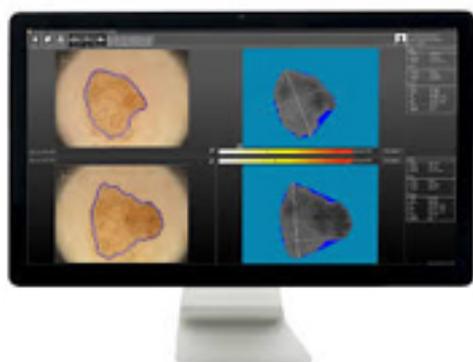


This allows, even in unclear cases, greater safety for the early detection of malignant melanomas!

It undertakes a detailed analysis of melanocytic nevi according to the recognition algorithms of the samples with high values of reliability, sensitivity and specificity.

The examination is very fast (a few seconds) and displays remarkable changes of the structure.

In the end we will see a Score hazard marked with a number and a colour bar below (see figure).



The image is saved in the office database and sent directly to the patient's email.

The record of the nevus is crucial for subsequent checks, which usually take place every six months.

Only a comparison with the previous images can help to assess whether the nevus has had morphological transformations.

See letter E, EVOLUTION IN TIME.



The report of the images will not occur only with printing on paper, but always in digital. We will make a personalised digital folder where all your personal information and all moles examined with videodermatoscopy are to be registered. Your medical record, after being printed will be delivered immediately. PDF folder full of your moles images will be sent to your personal email.



In this way the records will be permanently available for future periodical inspections, even if you are in another city or another country.



What is the advantage of the computerised digital videodermatoscopy, compared to a simple control with a simple dermatoscope?

The control carried out with a simple dermatoscope and performed by an expert dermatologist, certainly represents a reliable examination; however, since the records can't be saved on a data storage, it doesn't enable the monitoring of the morphological changes of the nevus in time with a subsequent Dermatoscopy.



In the picture a portable dermatoscope. With this old method the patient can not see the nevus, nor can the image storage for subsequent review.

The computerised mapping of the nevi has images stored in the doctor's computer and in the patient's e-mail; hence it permits a regular comparison (every six months) of the nevi considered at risk.

Then it allows you to make early diagnosis in the event of changes in the appearance of a mole.

We will look at those minimal morphological differences that otherwise could escape the clinician's attention.

The dermatologist and patient can not recall the appearance of a nevus seen six months or a year before.

With the help of the stored images by comparing the image with the recent past, you are immediately able to see even the smallest variations.

Once nevus or suspected melanoma are excised, it is necessary to undertake

histological examination that, in addition to clarifying the benign or malignant nature of the excised lesion, provides the morphological characteristics of the nevus itself. You should never burn a suspicious mole with the laser without an examination. But you have to surgically remove it to allow an histological examination.

Prognosis of melanoma

The best treatment is the early detection.

If melanoma is removed at the first stage the prognosis is very favourable. It is therefore clear that the best therapy of melanoma consists in the early diagnosis.

IMPORTANT NOTE:

The digital dermoscopic examination is an useful diagnostic aid in the examination of nevi and in the early diagnosis of melanoma, but never replaces the histological examination!



TREATMENT

A few minutes of an operation can save the life of the patient. Surgical excision of a nevus is very simple. It can be performed in an outpatients setting.

It has now been found that if a melanoma is removed at the first stage (within 0.7 mm histological), the patient recovers permanently without metastases.

Duration and frequency of videodermatoscopy

Digital videodermatoscopy lasts 30 to 45 minutes and occurs, as appropriate, every six months.

Photo gallery, dermatoscopic characteristics of moles and melanomas.

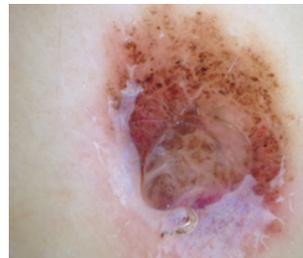
Composite nevus: The pigment network and the margins have a regular arrangement. The lesion is benign.



Composite nevus: The pigment network and the margins of the nevus are regular. Are all signs of kindness. You do not need surgery, but a check in time.



Papillary nevus: Present an excrescence (papilla) browns and blacks points (brown and black dot), distributed regularly. benign lesion. You do not need surgery, but a check in time.



Dysplastic nevus: Color variations of pigment network. To 5 hours (bottom right), it is evident a thickening of the pigment and the irregular margins. Even benign lesion, which imposes the intervention of excision, because it represents the antechamber of melanoma. Only histological examination can confirm the diagnosis.



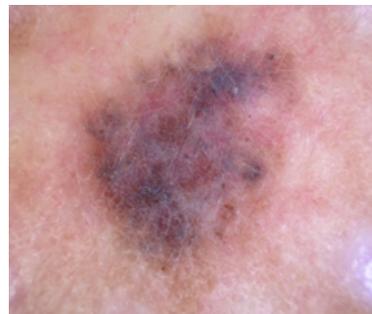
Superficial spreading melanoma (Superficial Spreading Melanoma):

The edges are irregular and jagged, the very dark color. At the edge there are points black dot irregular in shape and size. In these cases a prompt surgical removal can save the life of the patient. The excised element must always be examined histologically to evaluate the stage of melanoma.



Superficial spreading melanoma (Superficial Spreading Melanoma):

In this picture it is clear the alteration of the pigment. Alternate black areas, brown, gray, with unpigmented (white) areas. (So-called regression). black and brown dots, irregular in diameter. Histological examination confirmed the diagnosis of melanoma 0.7 mm (histological diameter). The prognosis is good, but it requires a second operation to excision surgical enlargement.





Prevention of melanoma.

The Italian climate is not without risks, to which the population should strictly observe a great attention in terms of proper sun exposure, in order to prevent melanoma.

Five golden rules

1) Avoid sunburn



2) Use sunscreen with a high protection factor recommended by the dermatologist



3) Avoid sun exposure from 13 to 15, when the sun is high and rays of the sun they are much more harmful for our skin;



4) Take supplements (beta-carotene - polypodium leucotomos ...) that filter sunlight carcinogenic;



5) No smoking.



It has now been found that the smoke, combined with excessive sun exposure, causes an increase of metalloproteinases, enzymes that destroy collagen and elastin, the "floor" of the skin.

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