

Tanning Lamps and Ultraviolet Radiation Exposure

A resolution adopted at the 1996 OPHA Annual General Meeting

Code: 1996-02 (RES) **Status:** Active

RESOLUTION

WHEREAS the increasing skin cancer rates across Ontario are attributed (partially) to ultra violet radiation (UVR) exposure; and

WHEREAS exposure to UVR via tanning lamps (for cosmetic purpose) is increasing and there is widespread misinformation that tanning lamps provide a “healthy” alternative to natural suntanning; and

WHEREAS there is no current monitoring/enforcement of access to and operating guidelines for tanning lamps (as outlined in operating guidelines set out in the Radiation Emitting Devices Act, Chapter R-1 1985); and

WHEREAS North American societal norms include the belief that tanned skin is an indicator of health, glamour and status.

THEREFORE, BE IT RESOLVED THAT:

1. The Ontario Public Health Association (OPHA) Board in conjunction with the Environmental Health Work Group advocate for the establishment of a joint committee by the Ontario Ministry of Health to include key stakeholders to collaboratively assess the risks related to UVR exposure and to recommend/implement appropriate measures to protect the public's health (eg. Regulation to control access to tanning lamps [for cosmetic purposes] and a public education campaign).
2. Public information messages and materials produced by constituent societies of the OPHA on the health risks of using tanning lamps be consistent with the basic scientific facts and action messages as developed at the 1994 consensus workshop (Mills 1995).
3. Public information messages and materials produced by constituent societies of the OPHA on the health risks of exposure to UVR from outdoor sun exposure include the risks of exposure to UVR from tanning lamps.
4. Public information campaigns by constituent societies of the OPHA regarding body image should include and reinforce the message that tanned skin does not equal beauty/success.

IMPLEMENTATION PLAN

The Environmental Health Group will work in conjunction with the OPHA Board to carry out the following advocacy strategy regarding the use of tanning lamps (for cosmetic purposes) in Ontario.

1. Distribute copies of the background report and resolution to the following government ministries and non-governmental organizations:
 - The Ontario Ministry of Health – Public Health Branch
 - Health Canada – Health Protection Services and Cancer Bureau
 - The Canadian Centre for Occupational Health and Safety
 - The Ontario Ministry of Labour – Radiation Protection Services
 - The Canadian Cancer Society
 - Cancer Care Ontario
 - The Canadian Dermatology Association
 - The Canadian Association of Optometrists
 - The Canadian Ophthalmology Association
 - The Canadian and Ontario Association of Pharmacists
 - The 8 constituent societies of the OPHA
 - All 42 Boards of Health in Ontario
 - Other groups as appropriate

2. Request that all public information messages and materials produced by the organizations above on:
 - (a) UVR exposure via tanning lamps:
 - be consistent with the basic scientific facts and actions messages as developed at the 1994 consensus workshop

 - (b) On the risks of outdoor UVR exposure:
 - include the risks of tanning lamp use.

 - (c) On body image:
 - include the message that tanned skin does not represent beauty/success.

3. Requests that the Ontario Ministry of Health – Public Health Branch establish a joint committee to include key stakeholders in order to recommend/implement appropriate strategies to protect the public's health (eg. Regulations to control access to tanning lamps [for cosmetic purposes] and a public education campaign).

4. Recommend to the Ontario Ministry of Health – Mandatory Program Advisory Committee that issues related to cancer prevention, such as exposure to UVR, be considered for inclusion in the revised Mandatory Program Guidelines.

The Environmental Health Work Group will monitor the activities of the ministries and agencies identified above and submit a status report to the OPHA Board, eight to twelve months after completion of actions 1, 2 and 3 as listed above.

TANNING LAMPS AND ULTRAVIOLET RADIATION EXPOSURE

Strategies to Address the Health Risks

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TABLE OF CONTENTS

1. Summary of Recommendations
2. Background on Task Force
 - Activities of Key Stakeholders
3. Discussion of key issues regarding the use of tanning lamps
 - A. Worker Safety
 - B. Compliance with Guidelines for Exposure and Maintenance/Operation of Equipment
 - C. Current Trends
 - D. Consumer Safety - Beliefs/Attitudes
4. Bibliography
5. Contributors
6. Appendices
 - I. Public Information Messages - based on “What’s Known” (from 1994 Consensus Workshop - see Mills et al)
 - II. IRPA/INIRC Guidelines on UVA Sunbeds Use for Cosmetic Purposes

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The recommendations listed below, along with the supporting documentation are intended to form the basis for a resolution for action by the Ontario Public Health Association at its November 1996 Annual Meeting. We, the authors also hope that the many contributors who have offered freely of their varied expertise and perspectives will further campaign to raise the profile of these issues within their own professional and organizational circles.

The following 4 recommendations include 2 separate health promotion strategies:

- 1) advocacy for change in regulations
- 2) public information messages

1. **Summary of Recommendations**

1. That the Ontario Public Health Association (OPHA) Environmental Health Work Group advocate for the establishment of a joint committee with the Ontario Ministry of Health and other key stakeholders to assess the risks related to UVR exposure and to consider appropriate measures to protect the public's health (eg. regulations applying to tanning parlours).
2. That public information messages and materials produced by any organization on the health risks of using tanning lamps for tanning be consistent with the basic scientific facts and action messages as developed at the 1994 consensus workshop (Appendix IV).
3. That public information messages and materials produced by any organization on the health risks of exposure to UVR from outdoor sun exposure include the risks of exposure to UVR from tanning lamps.
4. That public information campaigns regarding body image should include and reinforce the message that tanned skin does not equal beauty/success.

2. **Background on Task Force**

Early in 1995 the Ontario Public Health Association Environmental Health Group was alerted to the need for clear and consistent public information messages and coordinated strategies to deal with the health risks of using tanning lamps both in the home or in tanning parlours. The Working Group requested that staff of York Region Public Health Department who had raised the issue lead a task force "to establish health promotion strategies regarding the health risks of tanning lamp use".

This task force reviewed literature and hosted a consultation/consensus meeting in late 1995. Twenty key informants/experts attended this preliminary meeting and/or provided background materials. They included representation from Canadian Cancer Society, Canadian Ophthalmology Society, Canadian Dermatology Association, Health Canada (Health Protection Branch), Ministry of Labour-Radiation Protection Services, Workers Health and Safety Centre, Canadian Centre for Occupational Health and Safety, School of Optometry at University of Waterloo, Canadian Association of Optometrists and various Public Health representatives including Environmental Health and Nursing.

A variety of issues were discussed; worker safety, operating standards (including maintenance of

equipment, operator training and compliance with guidelines), current trends (who is using lamps and where, marketing strategies being used), what health promotion strategies are occurring in other jurisdictions and lastly, consumer safety (including public and health providers beliefs/attitudes towards tans and risks of tanning lamp use and the need for consistency in health messages from all key jurisdictions).

Activities of Key Stakeholders

Several organizations and groups have been advocating against the use of tanning lamps for cosmetic purposes over several years. Prominent among them are The Canadian Dermatology Association (CDA) and the Canadian Cancer Society (CCS). The CDA has concentrated efforts on banning the manufacture and distribution of tanning lamps for cosmetic purposes. Both the CDA and CCS have focused on public education regarding the risks and guidelines for use (Appendix I). A few Ontario Public Health Departments have also focused on monitoring operating guidelines as per the Radiation Emitting Devices Regulations, i.e. promoting the use of eye protection and the posting of warning signage (Appendix II).

The British Columbia Ministry of Health Radiation Protection Branch has focused on operator competency and the wide variation of radiation exposure between types of lamps and UVR from lamps after many hours of use versus lamps with newly-replaced bulbs or tubes.

The Quebec Ministry of Health has recently (March 1996) set up a joint committee with the Quebec Association of Dermatologists to assess the risks related to UVR exposure and to consider appropriate measures to protect public health including regulations applying to tanning parlours. No similar initiative is currently underway in the Province of Ontario.

3. Key Issues Regarding the Use of Sun Lamps

A. Worker Safety

While we were unable to locate any epidemiological studies on operator health risks, it is generally viewed that because operators usually are not in close proximity to tanning lamps, operators are not at occupational risk. The greatest risk may be the likelihood of frequent personal use of sun lamps due to easy and possibly free access or feeling the need to promote the business by appearing tanned.

B. Compliance with Guidelines for Exposure and Maintenance/Operation of Equipment

Standards of functioning and hazard warning signs for tanning lamps are contained in the “Radiation Emitting Devices Regulations” (Appendix III), administered by the Bureau of Radiation of Health Canada. Once UVR lamps are purchased by tanning bed operators, however, there are no routine inspections to assess whether equipment is properly maintained or operated and whether warning signs remain properly affixed. However, there is no consensus among professionals and key organizations on whether there should be. Some believe that energy invested in inspections and monitoring could indicate a tacit acceptance of the use of tanning lamps and that energy is better spent on advocating against their use and sale for cosmetic purposes.

A pilot survey of 35 tanning salons in the Greater Vancouver mainland by the British Columbia Ministry of Health Radiation Protection Branch found almost 80% of tanning studio operators “not competent to operate the machines that emit potentially harmful UVR. Many operators don’t

understand the difference between UVB and UVA and some tanning lamps emit much more radiation than others.”

Informal surveys in the Greater Toronto Area indicate that manufacturers’ guidelines are not enforced and not routinely posted. In particular, proper eye protection is not routinely used or, in some cases, not provided or promoted by operators.

C. Current Trends

Tanning salons are proliferating in Ontario, particularly in urban areas, where young women are the most frequent users. Many health educators express the belief that increased use of sun lamps is, in part, a reaction to the health message that exposure to natural sunlight has risks. There is widespread misinformation that tanning salons provide a healthy alternative to natural suntanning. Salons openly advertise “safe tans”.

The Wall Street Journal reported that millions of Americans visit 25,000 tanning parlours every year creating a \$2 billion business. A 1994 British survey reported a quarter of all 16-24 year olds in Britain use tanning beds. Women were more avid users than men (11% of women and 7% of men used tanning beds).

D. Consumer Safety

Most exposure to tanning lamps in tanning salons began after 1980. For this reason, epidemiological studies have difficulty revealing direct risk of melanoma and chronic eye damage due to latency periods between exposure and occurrence of damage, as well as the cumulative effects of exposure to natural sunlight and tanning lamps. At the same time, doctors are seeing more cases of skin cancer among people who use sun lamps - especially basal cell carcinoma, the most common and least harmful type, as well as malignant melanoma, the most dangerous type.

A comprehensive review of current scientific knowledge of the effects of tanning lamps on experimental animals and humans found a correlation between tanning bed use and basal cell carcinoma - particularly in young adults (Spencer 1995). Numerous reports also point to the potential for damage to the eye’s cornea and lens (including the development of cataracts).

The National Symposium on UVR-related diseases in 1992 stressed the importance that “public messages about the risks of UVR be consistent, positive and derived from credible sources” and that it “should reach all levels of society”. Subsequently a September 1994 Workshop compiled such a list of Public Education Messages (Mills 1995). Those messages pertinent to the risks of tanning lamp use were extracted (Appendix IV).

A 1991 statement by the International Non-Ionizing Radiation Committee (Appendix V) identified the health hazards of UVR “A” sunbeds used for cosmetic purposes and produced recommendations to reduce the risks. Their key recommendation is that tanning lamps should not be used for cosmetic purposes. Also included are recommended guidelines to minimize the risk for individuals who voluntarily expose themselves to tanning lamps.

Beliefs/Attitudes

The proliferation of tanning lamp use is believed by some health care professionals to be a reaction, in part, to the health message that exposure to natural sunlight has risks. There is a widespread erroneous belief that tanning salons provide a healthy alternative to ‘natural’ suntanning. Salons openly advertise

'safe tans'! An Alberta survey found that 49% of pharmacists and 59% of the general public think a tanned person looks healthy. An alarming 18% of pharmacists surveyed thought it was a good idea to use a tanning salon prior to a warm climate holiday.

However, it cannot be assumed that by merely disseminating information about the health risks of using tanning lamps there will be a dramatic drop in their usage. Our experience with smoking has taught us this. The North American societal view that tanned skin symbolizes beauty, health and success is a strong one and difficult to change.

A survey of attitudes, beliefs and behaviours by Mawn (1993) found that tanning bed users were better informed about the damaging effects of UV radiation than non-users - suggesting that education is insufficient to decrease voluntary UVR exposure and the related negative health effects. In fact, at least 10% of those surveyed stated that they would continue to use UVR lamps "even if it was proven to cause skin cancer".

Conclusion

In Summary

For all of these reasons, this report includes recommendations for 2 distinct health promotion strategies. Namely:

- 1) public information messages based on current scientific knowledge should be clear and consistent from all credible organizations and aimed at altering erroneous beliefs regarding the health risks of using tanning lamps
- 2) advocacy to strengthen government regulations applying to tanning lamps and their use for cosmetic purposes

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APPENDIX I

The following are extracted from the recommendation of the 1994 Workshop sponsored by Health Canada and Environment Canada with the active collaboration of the Canadian Cancer Society (Mills et al). It is intended that these scientific facts and action messages to the public should form the basis for materials produced...by organizations. The messages are not intended to be used word-for-word, but to convey suggested content that should be phrased appropriately for the intended target audience.

I. Exposure to Ultraviolet Radiation (UVR) - via tanning lamps

What is Known

The intensity of UVR (especially UVA) can be significantly higher in tanning beds than in sunlight.

Public Information Messages

The intensity of UVR (especially UVA) can be significantly higher in tanning beds than in sunlight..

II. Health Risks Associated with UVR Exposure – via tanning lamps

What is Known

Health can be affected by exposure to UVR.

Most skin cancers are caused by UVR.

UVR causes premature aging of the skin.

Eyes, skin and other tissues can be damaged by UVR regardless of whether the skin is burned. Damage can be short-term (eg. skinburn) and long-term (eg. premature aging of the skin).

Some people are more sensitive to the effects of UVR than others. All skin types can be damaged, but the fairer the skin, the higher the risk. Eye damage is independent of skin type or eye colour.

Some medications, chemicals and cosmetics interact with UVR, and this can be detrimental to people's health.

The skin has immunological functions that can be suppressed by UVR. There is no clear consensus among health scientists about the clinical impact of UVR-mediated immune suppression.

Public Information Messages

UVR from tanning lamps is a major contributor to skin cancer, premature aging of the skin and cataracts.

Most skin cancers are caused by UVR.

Injury to the skin and eyes can occur without skinburn. Although all skin types can be damaged, the fairer the skin, the higher the risk. Eye damage is independent of skin type or eye colour.

Damage can be immediate (eg. skinburn) and long term (eg. premature aging of the skin). All exposure contributes to cumulative lifetime damage.

Occasionally, some medications, cosmetics and other substances can interact with UVR rays, and this can be detrimental to your health (ask your health professional for additional information).

UVR can suppress the immune functions of the skin.

Mills, C.J., Jackson, S. Public Education Messages for Reducing health Risks from Ultraviolet Radiation, Chronic Diseases in Canada, Vol. 16, No. 1, Winter 1995.

APPENDIX II

HEALTH ISSUES OF ULTRAVIOLET "A" SUNBEDS USED FOR COSMETIC PURPOSES A Statement by the International Non-Ionizing Radiation Committee* of the International Protection Association

Health Physics - August 1991, Volume 61, Number 2

RECOMMENDATIONS

General:

The use of sunbeds for cosmetic purposes is not recommended.

Specific:

- (1) People with skin types I and II should not use sunbeds. They are likely to be disappointed with the results of the exposures, they have higher susceptibility to sunburn, and have a higher risk of developing skin cancer.
- (2) Any person with a large number of nevi (moles), a tendency to freckle, a history of severe sunburn especially in childhood, or a family history of malignant melanoma should not use a sunbed.
- (3) Any person taking a medicine that is known to be photoactive should not use a sunbed. If in doubt, they should seek the advice of a physician.
- (4) Any person who already has extensive skin "sunlight" damage, or who has had premalignant or malignant skin lesions, should not use sunbeds.
- (5) Any person who has a skin disease should seek the advice of a physician before using a sunbed.
- (6) Children should not use sunbeds.
- (7) Sunbeds should not be used if perfumes or body lotions or sprays have been applied that day.
- (8) Because the sensitivities of individuals vary greatly, it is advisable to limit the duration of the first session to about one-half of a regular session in order to establish the user's skin response. If following the first session any adverse reaction occurs, further use of the sunbed is not recommended.
- (9) Regular exposure should not exceed two session per week with a maximum of 30 sessions per year or 30 minimum erythemal doses (MEDs) per year, whichever is the smaller erythemally effective exposure; An occasional break from the regularity of exposure is advisable.
- (10) With respect to recommendation (9), the manufacturer of the sunbed should supply a schedule of exposure and recommended maximum exposure durations based on the emission characteristics of the sunbed.
- (11) Appropriate protective eyewear should be provided by the manufacturer and should always be worn when using a sunbed.
- (12) When the sunbed is being provided for use by a commercial operator, it is the responsibility of the operator to provide the person intending to use the sunbed with the appropriate information as summarized in recommendations (1) to (11) above.

DO YOU STILL TAN?

*As appeared in FLARE Magazine
June 1997 issue: pages 58-64*

Produced by: Samantha Grice

As the Aussies say, “Slip, Slop, Slap” – slip on a shirt, slop on some sunscreen and slap on a hat. (Queensland, in Australia, has one of the highest incidence of skin cancer in the world.) We’re all too familiar with terms like ozone, melanoma, SPF, UVA and UVB, yet many of us still tan. Many who baked their skin in previous years are finding themselves prime candidates for skin cancer. Will it one day be unsafe to go outside at all? Avoiding the sun may benefit our skin, but what effect will it have on our psyches? We convened a panel to discuss the dangers of tanning, damage control, sun alternatives and the worrisome state of the diminishing ozone.

The Moderator: Anne Mroczkowski, anchor/reporter for City Pulse at Six on Toronto’s Citytv.

The Panel:

Gabby, 32, self-confessed sun worshipper. She has had a non-cancerous mole removed from her lips, but still bakes in the sun.

Dr. Michael Davis, FRCPC, dermatologist at Toronto’s Dermatology Associates and Laserderm Spamedica. Member of the Canadian Dermatology Association and Toronto Dermatological Association.

Shirley Weinstein, Vice-president of product development world-wide, Clinique. She has extensive knowledge of sunscreens and skin-care products as well as self-tanning lotions.

Dave Broadhurst, meteorologist, atmospheric issues division, Environment Canada. Since 1992, he has been the stratospheric ozone and ultraviolet radiation meteorologist for Environment Canada in the Ontario region.

Tina, 26, is aware she is in a high-risk group (blond hair, green eyes) for skin cancer, yet she lies in the sun in the summer and goes to tanning salons in the winter. Tina does wear a moderate sunscreen.

Mary, mid-40’s. As a teenager, she spent a lot of time in the sun playing tennis as well as under sunlamps as a cure for her acne. Today, after several operations to remove skin cancers from her face, she has given up tennis and the outdoors completely.

Christine Kasperavicius, R.M., B.Sc.N., A.C.C.E. Member of the York Region Public Health task force: Tanning Lamps and Ultraviolet Radiation (UVR) Exposure Strategies to Address the Health Risks. She wants the myth that tanning lamps provide a healthy alternative to the sun rebuked and access to tanning beds regulated.

Mori Goldlist, entrepreneur. He has been in the indoor suntanning industry for 14 years. He believes strongly that tanning beds are a far safer alternative to the sun.

Mroczkowski: Canadians are a sun-deprived people. We want the sun, yet we’ve been told for 20 years that the sun is dangerous. What is it in our psyche that makes us need to go out there in spite of all the evidence that it’s harmful?

Dr. Davis: There is no question that when you lie in the sun, and the heat and the rays are absorbed, you feel great. In the 60's and 70's, to be tanned was to look healthy. But if you look at magazines now, you don't see the Bain de Soleil women bronzed like they used to be.

Mroczkowski: Mr. Broadhurst, since the early 80's, we've had a depletion of ozone around the world. What does that mean for Canadians?

Broadhurst: We have seen a reduction in ozone worldwide, but it is true that in the northern latitudes, we have seen a significant thinning. In Canada, ultraviolet B radiation is now 6-8 percent stronger (in the late spring and summer) than it was before 1980. If we look at the ultraviolet spectrum, you can divide it into A, B and C rays. Ultraviolet C (rays) is the shortest wavelength and the most intense. They are completely screened out before they reach the surface of the Earth. Ultraviolet B is mostly screened out. More than 90 percent of it is screened before it gets here and the thinning of the ozone layer has led to an increase in those rays. Ultraviolet A passes virtually untouched through the atmosphere.

Mroczkowski: So knowing that – and both you young women are in the magazine business and you read those (sun) articles every single year – why do you still tan?

Gabby: I have absolutely no excuse. I was brought up on the beach (coming from Cape Town, South Africa). I never, ever, used to carry block out with me until I developed a freckle on my lip and it started getting darker and larger. I went to a surgeon and he removed it. It wasn't cancerous, but the doctor said I have skin that is definitely susceptible to skin cancer. So I started wearing total block out on my face and always a hat, but I don't put any block out on the rest of me. I know it's not smart.

Tina: I was a sun baby. I spent my summer in cottage country. I was tanned and I'm sure I burned. But then I got a really bad case of sunstroke and it just turned me off sun for a while. When I got bad acne in my teens, I started going back in the sun. I find that when I am tanning, my skin gets better. It clears up. Eventually, I built up an immunity to the sun and I am fine with it now. There is a healing property to the sun.

Mroczkowski: Again, it goes back to the feel-good part of it. Also there is some truth to clearing up skin, isn't there?

Dr. Davis: Yes, we know that certain diseases, like psoriasis and acne are better with all kinds of sunlight and ultraviolet light. But we have to temper that with the increasing incidence of skin cancer that occurs in those patients.

Mroczkowski: Mary, what do you think when you hear these women talk about how they love the sun and don't wear sunblock?

Mary: I used to spend hours (in the sun) when I was a teenager because I had severe acne. I went to a skin specialist once a week for two years. I was on tetracycline (an antibiotic that may enhance your ability to burn) and he told me to lie in the sun and I had ultraviolet radiation treatment once a week because it would heal my acne. I've had eight skin cancers removed.

Dr. Davis: I can't tell you there is a safe tan. Someone like her (Gabby) who is out in the sun with sunscreen on her top and nothing on her bottom, she is going to get melanoma on her body. She (Tina) is going to get something when she is 50 because she is spending hours out in the sun. She may be wearing sunscreen, but that sunscreen is only good for an hour or two. You may not get a

burn, but you are still absorbing the bad rays of the sun. UVB are the burning rays, but UVA goes deeper and causes more wrinkling. We know that together, and even separately, there is evidence that both rays are carcinogens.

Kasperavicius: Yes, there have been environmental changes, but you've taken it on step too far in the sense that they think they're getting the "safe tan" by coming inside.

Goldlist: *Safer tan.*

Kasperavicius: But that's not true. The tanning industry has taken advantage of the societal paranoia that, yes, there are now problems with the ozone layer, (by saying) come in (and tan).

Goldlist: My business is trying to promote what we consider a safer tan by regulating certain rays that are necessary for tanning, but aren't in the spectrum of danger. And a minimal exposure will ensure the look the client wants and gets is achieved in a safe manner.

Broadhurst: But the client might be getting a few things they weren't bargaining for.

Goldlist: There has been no research on what the effect is of a minimal UVB ray for a short duration and only coming from a 100 watt bulb.

Broadhurst: We have to get away from (talking about) a specific strength of bulb. We must reduce our total exposure to ultraviolet radiation because all forms contribute to skin damage and potentially skin cancer.

Mroczkowski: Can we talk about the incidence of skin cancer? One of the problems with our thinking on skin cancer is that there are those basal skin cancers that are curable and people hear about that and they don't hear about how lethal the malignant melanoma is.

Dr. Davis: Melanoma accounts for probably less than 10 percent of the total skin cancers and yet accounts for more than 90 percent of skin cancer deaths. A child born this year has a one in seven chance of getting skin cancer in their lifetime. The incidence of melanoma is now one in 10. In 1930, it was one in a 100. The other thing that is happening is that I am seeing skin cancer in much younger people.

Mroczkowski: How young?

Dr. Davis: Well, people like Mary and young women and young men in their 20s coming in and saying: "Please check my moles." And I say, "Why? Your moles look normal." "A friend died last week and they had a mole a year ago." "How old was your friend?" "Twenty-five. They had melanoma." It's terrifying. When patients ask me if there is a safe tan, I say: "Is there a safe level of smoking?"

Kasperavicius: Look at the evolution of smoking. People were smoking and then lung cancer rates skyrocketed and now you've got a significant turnaround with tobacco companies admitting that smoking does cause cancer. You can see the same evolution occurring with tanning lamps. And one day, one of your clients will come to you as a tanning lamp owner and say "I got a melanoma from you. And I am going to sue you because you did not give me the right information. I was under the impression that I came in here for a safe tan."

Goldlist: A person like Tina coming into a tanning salon, a proper tanning salon, would be asked if

she is on any kind of medications and what kind of a skin type she has – “Do you tan easily, do you burn easily?” And then she would be put into a bed on the lowest end of the B-ray spectrum coming from only a 100-watt bulb for a period of maybe 10 minutes or eight minutes – depending on how well the person knows skin behind the desk. She would then gradually build up to a period of 20 minutes.

Dr. Davis: But the idea of a tanning salon is still stating that tanning is appropriate.

Mroczkowski: A recent study told us that about 60 percent of respondents said they look better with a tan. The vanity issue is a big part of this. But why isn't the spectre of developing skin cancer or wrinkling enough to prevent women and men from going out in the sun?

Kasperavicius: But who is doing it? It is the young – between 15 and 25. At that (stage of) development in your life (you think) you are never going to die, you are never going to get old, you are never going to get grey hair. You are looking at a totally different body of people who have a different perspective. How do you sell the fact that it is dangerous?

Tina: I don't say at all that is not dangerous. But I think you have to live your life. I am not a sun worshipper, I believe in things in moderation. You will never see me with a George Hamilton tan. But I am going to Cuba at the end of the month and I am going to go to the sunbeds to make sure I have a good base, so that I don't burn. To me, that's safer than just showing up there in the state that I'm in now.

Kasperavicius: But that is another myth, getting a base tan.

Mary: Someone who is using both a tanning bed and lying out in the sun is doing exactly what I did as a teenager and look at where I am now. I have two children and they wear sunblock; they do not go out of the house without a hat on if I can help it. I am just petrified now, just petrified.

Mroczkowski: And what were the signs. Did you have moles that were changing colour?

Mary: I had little white pustules: one was on the bridge of my nose and it wouldn't go away. It changed and it bled. I went to see Dr. Davis and he took a sample and sure enough. I used to play tennis a lot and every September I would have a least one. And I wore sun block and a hat. But the sunblock dilutes after a while, particularly if you have been doing something physical. And the reflection from the tennis courts, although I was wearing a hat caused (cancer) behind my ear. It is just very scary.

Gabby: So what are you supposed to do, Dr. Davis? You were saying that you are not telling people to stop living. What are you supposed to do if you are playing tennis?

Dr. Davis: It is very difficult because I can't tell patients to avoid the sun completely. If they are going south, I tell them to wear a number 30 sunscreen. And there are a lot of great sunscreens out now with chemical screens and titanium which are physical blocks and reflectors. I would prefer them to go out in the morning between 8 and 10 and in the afternoon from 4 until 5. I would prefer them to sit under a cabana. I spend a week and a half in Florida at Christmas and I got a little tan, but I went out in the morning with my family and we sat under a hut. I would never take up golf now because I could not expose myself to the sun that much during the day. There is no way, I couldn't do it. I don't tell people to stop going to Cuba, but you have to know that I am going to be treating your wrinkles before you are 35.

Weinstein: I think also, Dr. Davis, the fact that there are safe options... I don't know if you recommend self-tanning products in your practice, but it is very possible to get a beautiful, safe, natural looking tan from bottle or tube.

Mroczkowski: So we have this frightening scenario around skin cancer and now we have products where you can simulate the look of a tan. Does that make you two tanners inclined to forgo tanning?

Tina: I firmly believe that (tanning) is more than just getting that orange look. It is just not the same thing.

Weinstein: Many years ago, there were very specific problems that developed with the use of self-tanners – the streaking and the orange colour. But today, those negatives can easily be overcome. For example, formulas have changed. We know a lot more about dihydroxyacetone, a concentration that determines how deep the colour will be. We've learned about the incorporation of sugars into the formulas to get a browner colour. We have learned how to tan faster – in two hours a self-tan can be developed. We've learned how to make the tan last a little bit longer. And we have a scientific way of measuring the actual colour that will develop on various skin undertones before we launch the product.

Dr. Davis: I do have a number of patients who use self-tanning products as their only source of tan. It is true that the sun is important to health and to vitamin D metabolism, but today with the amount of vitamin D and additives we have in our food...

Goldlist: We know that the sun is very healthy and without it life would cease to exist. We also know that the sun's spectrum causes an increase in vitamin D production. Which means, as far as I am concerned, any woman between the ages of 18 and 60 should find a safe way of getting some sunshine.

Kasperavicius: Just have a glass of milk. Or a 15 minute walk. That will give you enough vitamin D.

Goldlist: Suddenly it is OK for a little bit? I know that I am trying to protect the tanning industry and yet, in the same sense I would also like to see some changes. I'd like to see the 1,000 watt bulbs outlawed and the 400 watt bulbs heavily regulated.

Mroczkowski: Until we make tans socially unacceptable, the way we are doing with smoking, and until we say you don't look healthy with a tan, you look unhealthy with a tan, unless that becomes the mantra, how do we start preventing disease?

Broadhurst: When we ask what is causing this increased incidence of skin cancer, it comes down to the lifestyle choices people make today. There is such a time lag between the exposure and the development of skin cancer that a thinning ozone layer from 1980 onwards would not have even shown up yet in the cancer statistics. UV in the environment in Canada is strong enough to cause cancer – it always has been. And the thinning ozone is adding to the risk.

Mroczkowski: Dr. Davis, how does the sun affect different skin types?

Dr. Davis: We determine a person's skin type with regard to their tanning history, not by how they look. It is also genetic. If you have parents that have great skin in their 80's you are going to have a better chance of having great skin in your 80's.

Tina: I wanted to ask you, Dr. Davis, how much damage is done when you are a baby?

Dr. Davis: A severe sunburn in childhood more than doubles your risk of skin cancer. But it is cumulative. We still have to walk in the sun on a summer day. We are still drawn to have lunch outdoors. How many people do you see sitting at lunch with their faces in the sun. It is all cumulative and that is the whole point of this.

Gabby: I am starting to get a little bit nervous with the statistics you are giving us here.

Mroczkowski: You have been accumulating a lot of sun.

Dr. Davis: I have to tell you I have a lot of South African patients.

Gabby: Oh great.

Mroczkowski: The bottom line is we are talking about lifetime exposure to all kinds of light and people who do not expose their skin do look better and younger when they hit 40 or 50.

Broadhurst: The issue is not about staying 100 percent out of the sun. It is about having a few common-sense principals, so that you can be outside, but not get a lot of exposure.

Mroczkowski: Amen to that!

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