



# Dino-Lite USB-microscopes, for specialists

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### **Dino-Lite digital microscopes**

Dino-Lite digital microscopes have already proven their worth across the world. Many different professionals use any of the more than 100 different model Dino-Lites every day. All models are easy to use, versatile and dedicated to their daily task. Dino-Lite has become an indispensable tool for many people.

### Special models for life sciences and healthcare

Dino-Lite has developed a special product range for health care and life sciences. This range consists of several models for specific applications:

- DermaScope
- TrichoScope
- EarScope

- CapillaryScope
- IriScope
- PodoScope



Dino-Lite medical products are Medical Device Class 1 devices – According to Directive 93/42/EEC modified 2007/47/EC.

www.dino-lite.eu/medical



TrichoScope

## EarScope

## CapillaryScope

PodoScope











## Dino-Lite DermaScope



#### Easy to use

The Dino-Lite DermaScope is an easy to use digital microscope that can make high quality closeup images and video of skin. These images go much further than the digital camera with macro lens that is common for this application. This is why many professionals are now using the Dino-Lite DermaScope.

The DermaScope can be positioned on the skin – either with a water or oil lubricant – to look at and make a picture of a nevus or lesion. The magnification achieved with the DermaScope will show the practioner what the naked eye cannot see and help him to make the right diagnosis. The patient can view the result on the computer screen at the same time.

The DermaScope is connected to and powered by the USB port of the computer, so there are no batteries to replace or charge. The DermaScope also features its own 8 LED's which makes an external light source superfluous and the DermaScope a very versatile instrument.

### **Broad scope**

The DermaScope is not only used by dermatologists to assist in their diagnosis, but also by general practitioners. They use the DermaScope as part of a teledermatology setup, one of the applications in the fast growing practice of telemedicine. The doctor can send the clinical and dermatological photos to a dermatologist together with the patient history and questions. The dermatologist can give his judgment and advice at a distance and the patient only actually visits the dermatologist if he thinks the question is suspicious.

All versions of the DermaScope are also applicable in veterinary applications which further underline the versatility of the Dino-Lite. The DermaScope is sturdy and will function under most circumstances. The polarization filter that is available on all models will help to reduce the reflections of shiny skin which will improve the quality of the images. The DermaScope comes standard with the DinoCapture software that opens up all functionality of the digital microscope.

### DermaScope Polarizer (MEDL4DW)

For examining the human skin the Dino-Lite digital DermaScope Polarizer (MEDL4DW) is a very convenient instrument. With the Dino-Lite DermaScope you can make better and clearer skin pictures than any standard digital camera with macro button can provide. This model can work with 2 magnification rates (~10-50x) while maintaining the same working distance, making this the ideal model for macro view applications with a larger field of view and a zoom function to reveal smaller details. Different caps are supplied with the microscope making the Dino-Lite DermaScope a very versatile instrument. The built-in polarizer filter minimizes the glaring effect of the skin. The Dino-Lite DermaScope is an excellent solution for human medicine as well for veterinary use.



## In use

### A general practitioner

A general practitioner in Baarn, The Netherlands is using several Dino-Lite models:

"With the Dino-Lite DermaScope you can make better and clearer skin pictures than any standard digital camera with macro button can provide.

Because the Dino-Lite microscopes are directly connected to the USB port of my PC, the pictures can immediately be checked on a large screen and shared with my patients, batteries are never dead, the light is always good. As the Dino-Lite microscopes are connected to my PC, I can store and share images easily and quickly. Pictures made with Dino-Lite can be stored in the Electronic Patient File simply by means of 3 mouse clicks. I can easily add pictures to my 'library' of skin affections.

In Baarn's Meander Hospital there is a special policlinic for "suspect skin spots", where the dermatologist can take a biopsy right on the first appointment, if alerted by the patient's general practitioner.

A picture says more than many words; the emergency of a patient's case can be judged very quickly. I am very fond of visualization."

### Teledermatology

The Dutch health care institution Ksyos Tele Medical Center focuses on research, development and introduction of tele-consultation in the regular health care. Ksyos cooperates with over 3500 doctors and 2000 medical specialists and paramedics in tele-cardiology, teledermatology, tele-ophthalmology and tele-pulmonology.

Ksyos is offering the tele-dermatoscopy service since early 2011. Physicians interested in using this service have the option of using of a Dino-Lite digital DermaScope, which is seen as an major incentive for starting tele-dermatoscopy. Physicians currently using the Dino-Lite experience this equipment as versatile and very easy to use. The direct link to the PC is generally seen as one of the most important features. A general practitioner can use a secure web application to send dermatoscopic images to the dermatologist, including patient data and medical history.





### Distance medicine with the Dino-Lite DermaScope

Albert van der Velde is a general practitioner in Haarlem, The Netherlands and has more than 2,200 patients in his practice. He is an early adopter when it comes to technology and has been working with the Dino-Lite DermaScope for quite some time.

"Much to my pleasure and that of my patients", says Van der Velde. "The DermaScope is compact and my patients can see on the screen what I see, which involves the patient in the diagnosis. The biggest advantage is of course the speed of working. I send my findings and photos to KSYOS (the teledermatology organisation) and I receive the results the next day.

There is a negative and a positive to this. If the result is positive, you can reassure the patient immediately by phone, but if there is something suspicious, the patient will visit the dermatologist the next day instead of having to wait in suspense for several weeks. In the end, either way it is better for the patient."



The Dino-Lite DermaScope in use

#### **Increasing expertise**

Using the DermaScope does take some getting used to. Van der Velde: "Yes, I had to find a medium between skin and scope and have found water to work best. You need to maneuver the Dino-Lite to achieve optimal viewing, but you get the hang of it quite soon".

For Van der Velde using the Dino-Lite Derma-Scope also means that he increases his expertise. "I have no ambition to be a dermatologist, but by seeing the images and getting the results back very soon, you learn something every time. You can say that the DermaScope has high added value, and most of all this benefits the patient."







## Dino-Lite EarScope



The Dino-Lite EarScope is a digital Otoscope that is easy to use and will be very helpful in general practice, in Audiology and for ear, nose and throat specialists. With the EarScope you can easily inspect and photograph the ear canal, the ear drum and the outer ear. Ear problems such as inflammation, clogging by accumulated ear wax or the presence of fluid behind the ear drum can be recognized quickly. The practitioner is always assured of a bright and clear image thanks to the built-in LED lights and adjustable magnification between 55 and 90 x (Pro models).

All Dino-Lite EarScopes have a USB connection and function independent of batteries. Therefore the EarScope is always ready for use. The image can be viewed on a computer screen to simplify diagnosis simplifies and also allows the patient to watch the images as well. The images – either still photo or video - can be stored digitally and easily added to a patient file or forwarded to a colleague. All EarScopes are compatible with Windows and MacOS.

The EarScope Basic MEDL3E has a VGA resolution and is particularly suitable for home use. The speculum is removable and can be cleaned for proper hygienic.

The MEDL4E EarScope Pro is intended for professional use, has a 1.3 mega pixel resolution and comes with replaceable specula of 3, 4 and 5 mm. Ten pieces of each size are included and re-ordering of the specula is possible. All of the benefits mentioned earlier are obviously also applicable to this model.

The top model with a 1.3 megapixel resolution is the EarScope Pneumatic MEDL4EP. With this model, the physician has the additional function of blowing a puff of air into the ear canal which allows him to assess the mobility of the eardrum that can point to a glue ear. Just like the EarScope Pro this model has replaceable specula, in this case 2.5 and 4 mm.



### EarScope Pro MEDL4E

The EarScope is a compact and safe solution for watching the eardrum and the external ear. The MEDL4E is the Pro model with 1,3 Megapixel resolution and a magnification of 55 ~ 90x. This model is delivered with disposable specula of 3, 4 and 5 mm (10 each).





### EarScope Pneumatic MEDL4EP

The pneumatic EarScope is a compact and safe solution for watching the eardrum and the external ear. The MEDL4EP has a 1,3 Megapixel resolution and a magnification of 55 ~ 90x. It comes with a rubber bulb that is squeezed to give a puff of air into the ear canal, which allows the doctor to see how the eardrum moves. This model is delivered with disposable specula of 2,5 and 4 mm (10 each).





### EarScope Basic MEDL3E

The EarScope Basic is a compact and safe solution to look at the ear. The cap is detachable for hygienical reasons. The MEDL3E has a 640x480 resolution and magnification of 20 ~ 30x. This model is delivered with disposable specula of 3, 4 and 5 mm (10 each).



## In use

A general practitioner in Baarn, The Netherlands is using several Dino-Lite models: "My Dino-Lite EarScope provides beautiful images of the inside of the ear, I use it to inspect my patient's tympanic membranes. I can even inspect my own eardrum by means of the EarScope.

Because the Dino-Lite microscopes are directly connected to the USB port of my PC, the pictures can immediately be checked on a large screen and shared with my patients, batteries are never dead, the light is always good. As the Dino-Lite microscopes are connected to my PC, I can store and share images easily and quickly.

Pictures made with Dino-Lite can be stored in the Electronic Patient File simply by means of 3 mouse clicks. I can easily add pictures to my 'library' of skin affections. A picture says more than many words; the emergency of a patient's case can be judged very quickly. I am very fond of visualization."









## Dino-Lite CapillaryScope



Capillaroscopy is the examination of the capillaries (tiny blood vessels) of the skin at the nailrim. The Dino-Lite CapillaryScope can show the capillaries in high magnification, as well as the decrease in capillaries, knot formation in capillaries and bleeding. With this information doctors can diagnose the condition of the blood vessels in the rest of the body. Capillaroscopy of the cuticle can demonstrate, for example, Scleroderma or dermatomyositis.

The Dino-Lite CapillaryScope has been specially developed for capillaroscopy of

#### CapillaryScope 500 MEDL4N5

The CapillaryScope 500 is a special version intended for looking at the microcirculation (microcapillar function) under nails. It is very easy to capture and store highly detailed magnified images. The magnification rate is 500x.



the cuticle. The images can be captured as still photos or video. The resolution of 1,3 megapixel and resolutions around 500x assure the acquisition of clear pictures. The digital images can be stored on any digital medium.

The CapillaryScope does not need batteries as the microscope is powered through the USB connection. The builtin 8 LEDs can be enabled or disabled as desired and make external light source unnecessary. Peering through a viewing lens is a thing of the past now that the picture can be viewed on the computer screen, laptop or Windows tablet,

#### CapillaryScope 200 MEDL4N

The CapillaryScope 200 is a special version intended for looking at the microcirculation (microcapillar function) under nails. It is very easy to capture and store highly detailed magnified images.



so that the images can also be seen by the patient.

The CapillaryScope has a robust plastic housing so that the device is suitable for intensive daily use. Of course this model is certified according to the Medical Device Directive 93/42/EEC, amended in 2007/47/EC.

The CapillaryScope is compatible with Windows and MacOS. All the necessary software is included so you can get up to speed quickly.

#### **Dino-Lite Foot Pedal SW-F1**

The Foot Pedal allows you to take a picture with a simple step from your foot using the Dino-Lite CapillaryScope. No additional software is required, simply plug in the device and it is ready to use.



## In use

### Faster diagnosis scleroderma with Dino-Lite CapillaryScope

If a patient has suspected systemic sclerosis, the Dino-Lite CapillaryScope can be used to make a quick and painless examination of the capillaries in the cuticle. Actelion Pharmaceuticals Ltd cooperates with rheumatologists to make this a generally used procedure quickly.

Actelion Pharmaceuticals Ltd is originally a Swiss biopharmaceutical company focused on the discovery, development and marketing of orphan drugs on the market. "These are medications for unresolved medical problems which in most cases involves a small group of patients," says brand manager Peter Dingeldein of the Dutch division of Actelion Pharmaceuticals Ltd. Systemic sclerosis is one of the rare diseases for which the company is providing a drug. This rare chronic disease is caused by a disordered immune system, which is why this is called an autoimmune disease. In systemic sclerosis healthy tissue gets damaged and creates connective tissue. The vasculopathy is an important characteristic of this disease, that often results in digital ulcers, painful sores on the fingers.

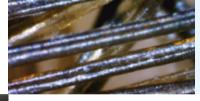
Once patients arrive at this stage, this will have major impact on everyday life, as everyday activities, such as buttoning clothes and writing difficult.

### Non-invasive investigation

Dingeldein: "There is increased attention to discover systemic sclerosis as early as possible. The idea is that the sooner you discover the disease, the better it is for the patient because the damage can be limited. If a patient is suspected of systemic sclerosis, then studying the capillaries in the cuticle can provide more information about the diagnosis. This study goes well and fast with a Dino-Lite Capillary-Scope. It is a simple, non- invasive and painless test that patients can watch themselves. That is reassuring for many people."

For the examination a drop of oil is placed on the cuticle and the CapillaryScope is placed on that spot. The capillaries in the cuticle are clearly visible with the magnification of 500x and thus any abnormalities suggestive of systemic sclerosis can be examined. In most cases, the rheumatologist can reassure the patient that there is nothing to worry about. For anomalies it is easy to make a picture or recording with the CapillaryScope to save to the patient's file. At the repeat visit, usually after six months, it can be established whether the situation has improved, remained stable or deteriorated. When a patient is diagnosed with systemic sclerosis the treatment – medication – can begin immediately.









## Dino-Lite TrichoScope



Trichoscopy is the relatively young science studying the health of the hair and the scalp. Trichoscopy is often practiced by dermatologists, but more and more medical professionals become proficient in this science. The Dino-Lite TrichoScope is a perfect tool for trichoscopy, as the digital microscope is a great tool to study the scalp, hair shaft and the hair itself in detail.

In the case of hair loss trichoscopy can mean a lot for patients since there are more than 50 known causes for hair loss and only detailed study can bring the cause to light. The images made with the TrichoScope can help the specialists to recognize the skin or hair problems and diseases and decide on the treatment method and resources or to prescribe the right medication.

### Wide scope

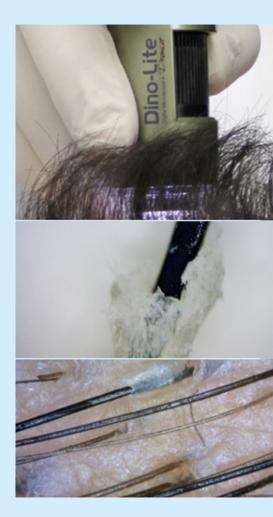
The TrichoScope is not just relevant for the medical world. In forensic science (the science concerned with finding evidence in criminal investigations) the TrichoScope is becoming a valued partner. With the TrichoScope pictures, the forensic specialist can draw important conclusions when it comes to the victim's age, weight, race and health. A criminal investigation can gain momentum. The TrichoScope is also becoming an increasingly common phenomenon in hair salons. Customers can literally get a better view of their hair treatment by watching the results together with the hair specialist on a PC, laptop or Windows tablet. The results of treatment with products for hair growth and improvement can be shown with before/after pictures.

#### Made to work

The TrichoScope is robust, available with various ranges of magnification and there are models available with VGA, 1.3 megapixel and 5 megapixel. Thanks to the built-in bright white LED's, an external light source is not needed. The TrichoScope is connected and powered by USB so no batteries are required. The built-in polarizing filter in the Pro and Pro HR models can be used to suppress any glare.

The images can be viewed on the PC-monitor, laptop or Windows tablet and stored digitally. By storing the pictures in the patient or customer database they can easily be compared over time.

The Dino-Lite TrichoScope complies with the Medical Device Directive 93/42/EEC, amended 2007/47/EC and is compatible with major operating systems such as Windows and MacOS. All necessary software is included.



### TrichoScope HR MEDL7HMA

The TrichoScope HR is a great instrument for the examination of the human scalp and for hair analysis, e.g. for hair loss research. With the high magnification of up to 200 times a single hair can be viewed with great detail. The 5 Megapixel sensor makes it possible to display microscopic images, without loss of quality, on large screens or when large images should be printed.



### TrichoScope MEDL4HMA

**USB 2.0** 

duud

MEASUREMENT

ADJUSTABLE

~10-70x & 200x

FUNCTIONALITY

The TrichoScope is a great instrument for the examination of the human scalp and for hair analysis, e.g. for hair loss research. With the high magnification of up to 200 times a single hair can be viewed with great detail.

**1.3 MEGAPIXEL** 

1280 x 1024

**8 WHITE LEDs** 

SWITCHABLE

### TrichoScope Basic MEDL3H

The TrichoScope Basic is a great instrument for the examination of the human scalp and for hair analysis, e.g. for hair loss research. The special cone shaped cap allows easy separation of hair on the human head. With the high magnification of up to 200 times a single hair can be viewed with great detail.



## In use

### Hair science with a Dino-Lite TrichoScope

The company Hantesis sells a wide range of hair treatment products to professional hairdressers across Europe. Besides that, Hantesis is selling the Dino-Lite TrichoScope.

'The TrichoScope allows hair specialists that sell our products to recognize problems with hair and scalp', explains Hantesis marketing manager Luca Dellaversana.

### The TrichoScope gives added value to products and supports hair specialists

'Our hair specialists can study the hair, the hair shaft and the scalp with the TrichoScope and determine what the problem is and how it can be solved. The device is very easy to use and because of the USB connection the customers can watch the result on the computer screen together with the specialist. The enlarged image can be used to explain to the customer how our products can help to solve the problem. Using the TrichoScope gives added value to our products and supports our hair specialists in their work.' Hantesis had worked with a hair microscope before but this was no success because it was expensive, the magnification was low and you had to study the manual before you could use it.

Dellaversana: 'Then we came across the TrichoScope by Dino-Lite. Easy to operate, LED lighting built in, powered over USB and very affordable. We made real work of this and I estimate that around 1.000 hair specialists now work with the TrichoScope. It shows that you take your business and your customers seriously and provide fitting solutions to the real problems. So we will continue to offer the Dino-Lite TrichoScope as part of the line of accessories that we supply to our customers. There is a clear demand for this.'







## Dino-Lite IriScope



The Dino-Lite IriScope is handy, easy to use and a valuable tool for every medical practice. You can make razor-sharp images of the Iris with the magnification of 10-20 times that allows you to see details that can hardly be seen by the naked eye. Cases of irritation, dirt, insect or unknown object in the eye can be detected with the aid of the IriScope and allow the right diagnosis for further treatment.

IriScope pictures can have a resolution of up to 1,3 megapixel and the specially designed front cap can be placed on the eye socket to get the right distance for a perfect picture. The IriScope has its own built-in LED's met two different colours, white and yellow. The yellow LED's serve to allow images of darker irises. The LED's are powered by the direct USB connection which makes batteries superfluous and the IriScope always ready for action.

### **High mobility**

A big advantage of the IriScope device is that patient and practitioner can look at the screen together, be it a regular computer screen, laptop or Windows tablet. This shows the high mobility of the Dino-Lite IriScope. It goes without saying that the images and video can be stored on any digital media. They can also be stored in a patient file to document the complaint or complaints over time.

Obviously the IriScope is certified according to Medical Device Directive 93/42/EEC, modified 2007/47/EC. The Dino-Lite IriScope is supplied with dedicated software for Windows and MacOS.

### IriScope MEDL4R

The IriScope offers a new, fast and easy way to make pictures of eyes. The IriScope has 2x2 LED's (white/yellow) that illuminate the side of the eye which reduces the reflections in the image as well as the discomfort by bright light. The yellow LED's provide better images of dark irises. The images have a maximum resolution of 1.3 Megapixel.





## In use

### Iridology with a Dino-Lite Iriscope

The Dino-Lite IriScope allows you to easily create sharp images of eyes and irises. Because of the strong magnification you can see barely visible details. In Naturopathy, the IriScope is often used for iris diagnosis. Iridologists assess the health status of patients on the basis of colors characteristics in the iris of the eye. According to iridologists they can diagnose conditions such as diabetes, rheumatism or gout by using iris diagnosis and treat the patient accordingly.

### Camera made especially for Iris Photography

The contoured hood on the microscope camera ensures that the camera can be close to the eye. Because of the built-in LED lighting – two white and two yellow LEDs you can easily create good images without the need of an external light source. The yellow LEDs are used to provide better images of dark irises. The practitioner can watch the iris image directly on at the screen of a computer or laptop with Windows or MacOS or with a Windows tablet, which proves the versatility and easy mobility of the IriScope.

### Patients direct involvement in the diagnosis

Naturopathic practitioner Frederike Otger from The Hague, The Netherlands, has been using the IriScope for some time: 'It is a handy and simple microscope camera to make sharp images of eyes and irises. With the adjustable magnification I can focus properly on the eye and discover the smallest irregularities. Both my patients and myself find it very pleasant that the images can be viewed directly on the screen. In this way, the patient is more involved in the diagnosis and can also give better feedback.

For naturopathic practitioners the Iriscope is affordable, compact and very easy to use. Images can be digitally stored in the patient file. Frederike Otger: "The combination with a tablet makes the IriScope a wonderful tool to emphasize the modern character of my naturopathic practice.'







## Dino-Lite PodoScope



A podiatrist is a medical professional that can diagnose and treat diseases of the foot and ankle. Also, people with foot problems caused by, for example rheumatism or diabetes mellitus, visit the podiatrist. Problems with knee and back that originate in the misuse or malfunction of the foot are also within the scope of the podiatrist. Podiatrists have several tools at their disposal such as a foot mirror and a foot scanner, but they can also use the Dino-Lite PodoScope. With the PodoScope they can detect microangiopathy at an early stage, which means that diabetic neuropathy can be prevented. With the PodoScope changes in the skin of the foot and the foot itself can be documented by taking photographs and making movies as well. These images can be stored in the file of the patient. The podiatrist and his patient can view the images in real time on a laptop, Windows tablet or computer. An external light source is not required in the investigation, since the PodoScope features built-in LED lights with eight bright white LEDs. The lighting and PodoScope themselves are powered via the USB port, so that the PodoScope is always ready and does not depend on batteries. The PodoScope is robust and has a composite or aluminum housing making it sturdy for intensive use. The polarizing filter that is fitted as standard will help to reduce any bothersome shine or glow of the skin, optimizing the quality of the recordings. The software needed to use the PodoScope is included and is available for Windows and MacOS.



### PodoScope Polarizer MEDLFW

With the PodoScope changes in the skin of the foot and the foot itself can be documented by taking photographs and making movies as well. These images can be stored in the file of the patient.



### **Dino-Lite Foot Pedal SW-F1**

The Foot Pedal allows you to take a picture with a simple step from your foot using the Dino-Lite PodoScope. No additional software is required, simply plug in the device and it is ready to use.



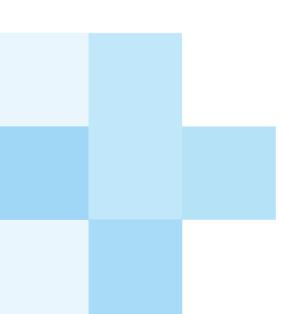
## In use

### The Italian Association of Podiatrists

Professor Mauro Montesi is the president of the Italian Association of Podiatrists (Associazione Italiana Podologi). Currently, the organization has 270 members spread across Italy. Montesi is a big fan of the Dino-Lite PodoScope because he believes it provides a large contribution to the professionalization of the podiatry profession.

### **Professionalization of the profession**

Montesi: 'The main advantage of using the PodoScope is that it allows podiatrists to make images of the skin of the foot by capturing the microscopic images. In this way the clinical development of, for example, a possible injury can be followed easily. Thanks to the PodoScope small cracks in the skin can be discovered at an early stage, which is important because bacteria can accumulate in these small cracks and in turn cause major infections, with consequences for the mobility of the patient. Late discovery may even lead to neuropathy. Therefore we strongly recommend the use of the PodoScope in some cases. It is now our task to make our members aware of the existence of the PodoScope, explaining that its use will significantly professionalize our profession.



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### Dino-Lite Digital Microscope Medical

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