

Corneal Tattoo as an Alternative to Iris Prosthesis in Traumatic Aniridia

by

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A Hint about Corneal Tattoo in **a Non-seeing Eye** before & after



Since 2008
Puncture technique
using dermal ink
(micro-pigment)
&



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→ In a **Non-seeing Eye**, close to good eye in both pattern & colour



Indications of Corneal Tattoo in **a Seeing Eye**

cosmetic

To conceal any peripheral disfigurement in ant seg without obscuring vision

optical

To conceal any iris defect causing photophobia and/or diplopia



Heterochromia irides

Is a relative indication,
Many points must be
assessed before decision
making.

Only the corneal periphery
will be tattooed.

I don't prefer to do it.



PS

- * **Pupillary area** must be spared, mid-dilated.
- * may be preferred - as an **extra-ocular** technique - to angle supported iris diaphragm.
- * I did NOT perform it in an eye that has NO problem.

Severe photophobia,
Photo è great difficulty.
Closed lid most of the
time. **RED** reflex

BC stenopeic VA 6/9

Well educated,
intellectual person

He studied color mixing,
specially to follow what I
do !!

Rt Traumatic Aniridia



Postop. 2 tattoo sessions 8 w apart

Photophobia almost gone as
Pt said

VA

6/9 without photophobia
postop, with great comfort.

Colors & pattern will never
be 100% like normal, but v
close.

Some iris pattern can be
made using this punture
technique.

How to reach artistic result =
video



How to achieve an artistic result ? Video

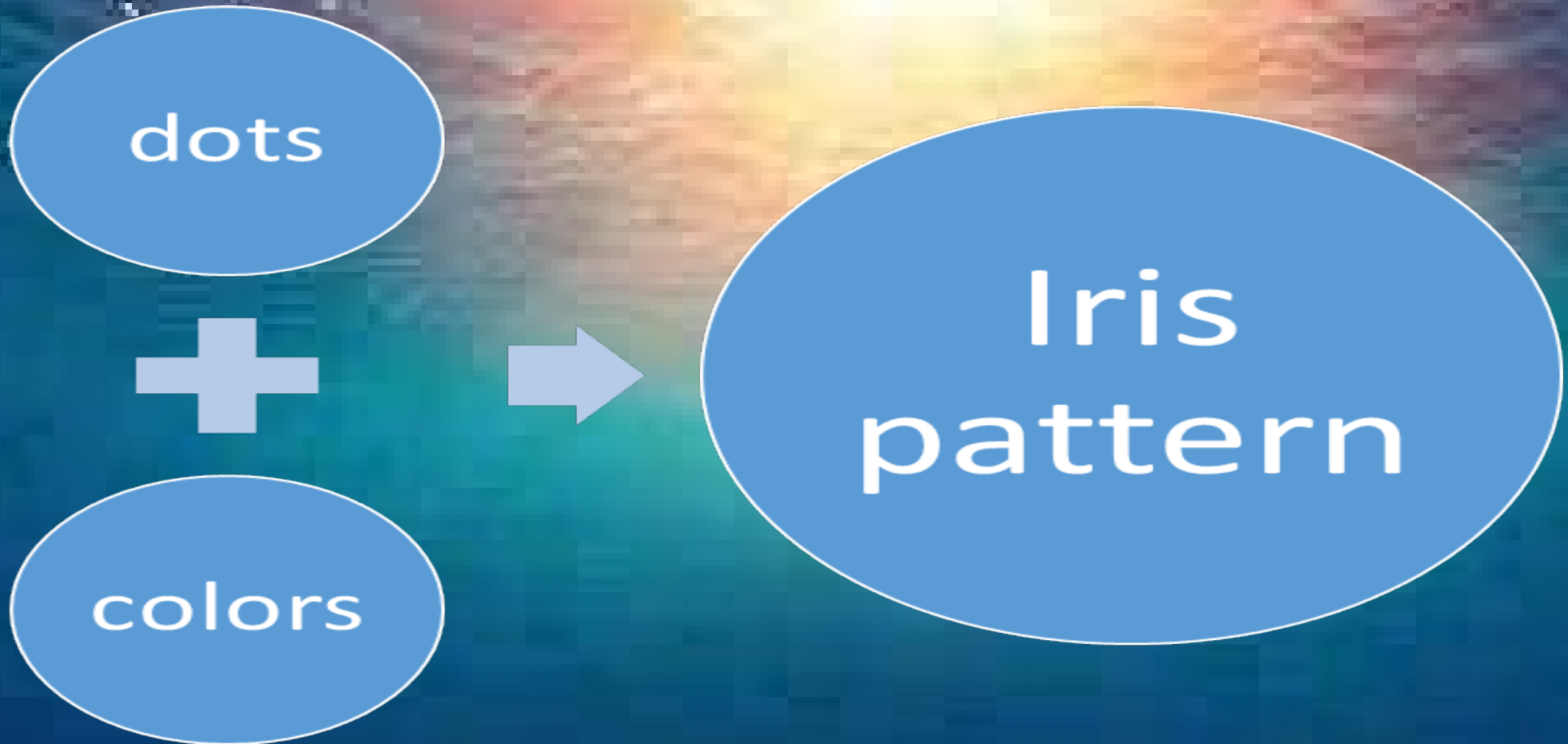
PS

- Pt must have realistic expectations : never as perfect as normal creation.
- After 1-2 months post 1st session, may become lighter in colour and may need 2nd session specially if light coloured.
- Use spatula needle in stead of conventional syringe needle

Video - Corneal Tattoo in Traumatic Aniridia

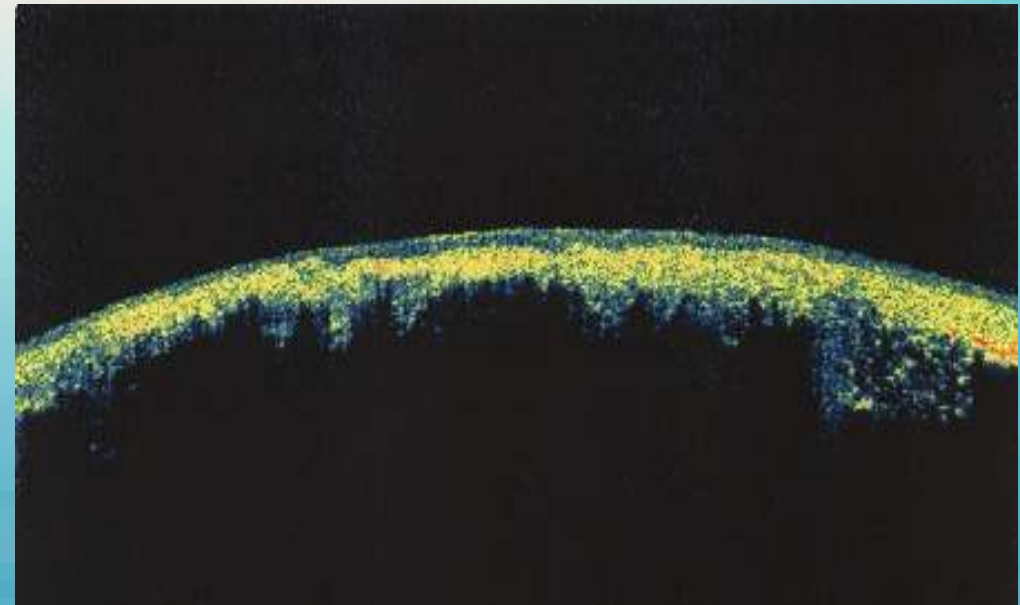


How to mimic iris patten?



**Ant. segment OCT, always before surgery.
Here it is after 1st tattoo, to document:**

Previlage of spatula needle, tattoo ink only in ant. stroma and is parallel to corneal surface just like the performed punctures, with some posterior echoes.



Tattoo Can be recognized only under magnification

Pre & postop



Some hazel dots @ pupil + varying degrees of greyish blue



Case2 Pre & postop.

**Rt traumatic
aniridia**



**Hazel tattoo é
some pattern**



**VA remained the
same without
photophobia**

Now, he has a new superficial iris



Br J Ophthalmol v.83(2); 1999 Feb

Under E/M previously tattooed button corneas were examined.

Keratocytes can actively ingest and retain tattooing particles of non-metallic dyes within their cell membrane for very long periods of time.

PS

The highest density of keratocytes is observed in the upper 10% of the stroma under normal conditions.

Other Known Techniques of corneal tattoo:

. **Puncture technique:** by syringe needle + tattoo ink : give some pattern but unsafe needle+ Debridement

Modified to safer spatula needle without debridement in the technique I use. Side cutting + curved

• Ink injected into a **pocket-like flap** created by crescent knife : fast but no pattern at all . Also cap of flap itself may be opaque. Femtolaser is used too, in opaque cornea. Colour does not reach the limbus.

Résumé

- spatula needle instead of syringe one, safety and accuracy
- Strict terms for punctures: parallel to corneal surface, in upper 1/3 of corneal stroma
- preceded by corneal OCT
- Some iris pattern = dots of punctures + alternating colors
- 2 sessions 6-8 weeks apart
- Artistic hectic time consuming technique, result is worth the effort

Old is Gold

Corneal Tattoo is Back ! modified and updated

THANK YOU

MERCI

DANKE

OBROGADO

GRACIAS