

#AAD2019

Highlights
AEDV

IN 77TH AAD CONGRESS

1-5 MARCH 2019

★ WASHINGTON ★

Scientific Initiative of:



Sponsored by:



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**Human autologous cultured skin:
from lab to clinic
Dr. Salvador Arias Santiago**

Scientific Initiative of:



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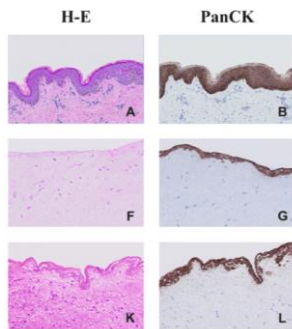
HUMAN ARTIFICIAL SKIN

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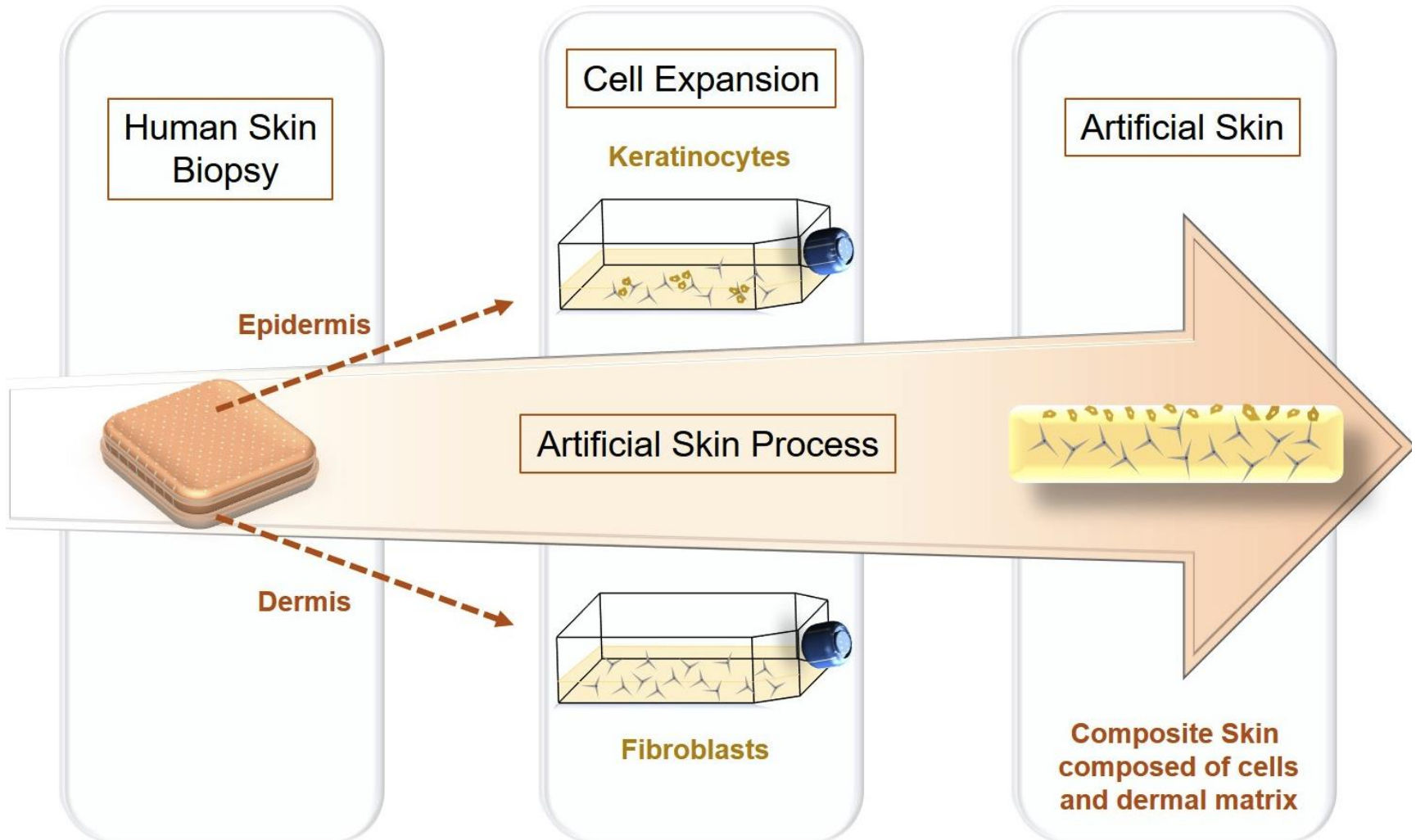
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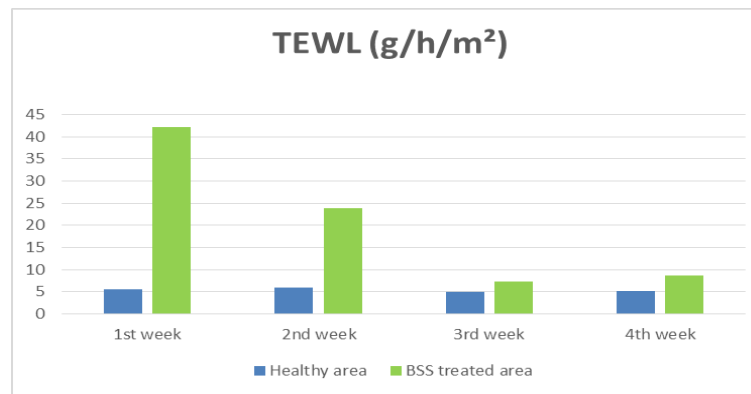
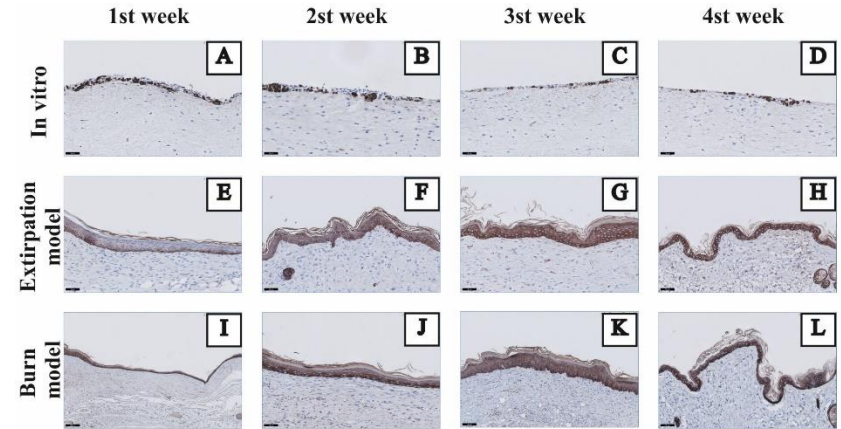
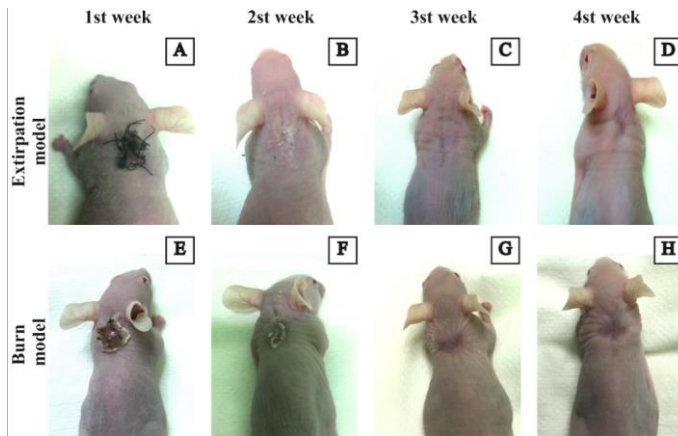


From lab to clinic...

ARTIFICIAL SKIN PRODUCTION PROCESS



WOUND MOUSE MODEL



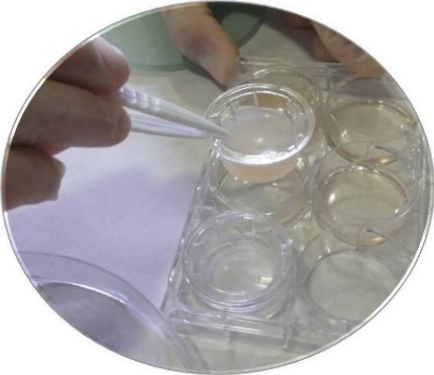
SCALING IN A GMP FACILITY

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10 cm²



CHALLENGES

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- Production following **European Regulation (EMA)**
- Implementation of **Quality Controls**
- Increase artificial **skin surface** (6000-12000 cm²)
- Limited period of time (**4 weeks**)

CLINICAL EXPERIENCE

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	Patient 1	Patient 2	Patient 3	Patient 4	Patient 5	Patient 6	Patient 7	Patient 8	Patient 9	Patient 10	Patient 11	Patient 12
Age	30 years	29 years	3 years	18 years	25 years	9 years	25 years	23 years	23 years	45 years	18 years	19 months
Gender	Female	Male	Female	Female	Male	Male	Male	Male	Male	Male	Male	Female
Type of burn	Fire	Fire	Fire	Fire	Fire	Fire	Fire	Fire	Fire	Fire	Fire	Boiled water
Body Surface Area	70%	71%	31%	70%	75%	65%	69%	75%	58%	80%	67%	20%
Evolution	Hospital discharge	Exitus (sepsis)	Hospital discharge	Hospital discharge	Exitus (sepsis)	Hospital discharge	Hospital discharge	Hospital discharge	Hospital discharge	Exitus (sepsis)	Hospital discharge	Hospital discharge
Artificial Skin Surface	6000 cm ²	4500 cm ²	3000 cm ²	7200 cm ²	12200 cm ²	4320 cm ²	7200 cm ²	11520 cm ²	5760 cm ²	10080 cm ²	8640 cm ²	1500 cm ²

CONCLUSIONS

- New bioengineered **autologous skin model**
- Fibrin-agarose biomaterial
- **Nanostructuring**
- **GMP** regulations
- **Clinical experience**
- Other **applications**

From lab to clinic!



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Tissue
Engineering
skin model

Wound
mouse model
experience

Optimization
and scaling
up (GMP)

Clinical
experience in
patients

