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# Is It Possible To Increase Flap Viability By Hydrostatic Dilatation? An Experimental Study In The Rat Abdominal Fasciocutaneous Flap Model

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Nothing to Disclose





# Is It Possible To Increase Flap Viability By Hydrostatic Dilation? An Experimental Study In The Rat Abdominal Fasciocutaneous Flap Model

## OBJECTIVE

To investigate the effect of hydrostatic dilation on a fasciocutaneous flap model as an alternative method to surgical delay.





# Is It Possible To Increase Flap Viability By Hydrostatic Dilation?

## An Experimental Study In The Rat Abdominal Fasciocutaneous Flap Model

- 18 Wistar rats were used (6 rats in each group)
  - Control group
  - Surgical delay group
  - Hydrostatic dilation group





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## Control Group

- The flaps were elevated based on the right-sided superficial inferior epigastric (SIE) vessels



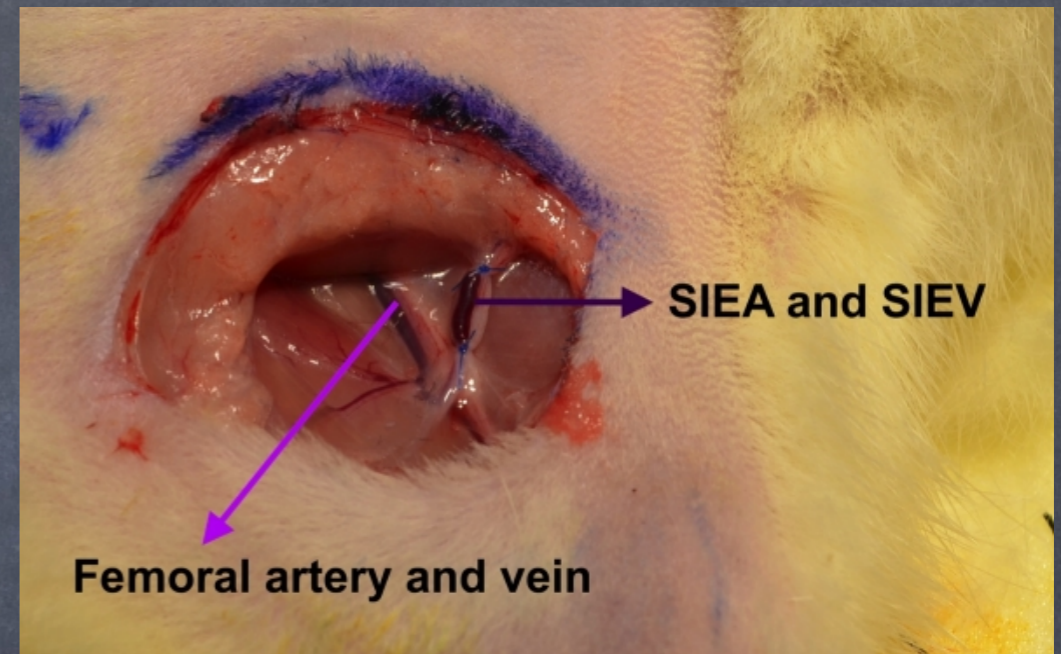




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## Delay Group

- The delay procedure was applied to the animals in the delay group on their left sides one week before the flap elevation.





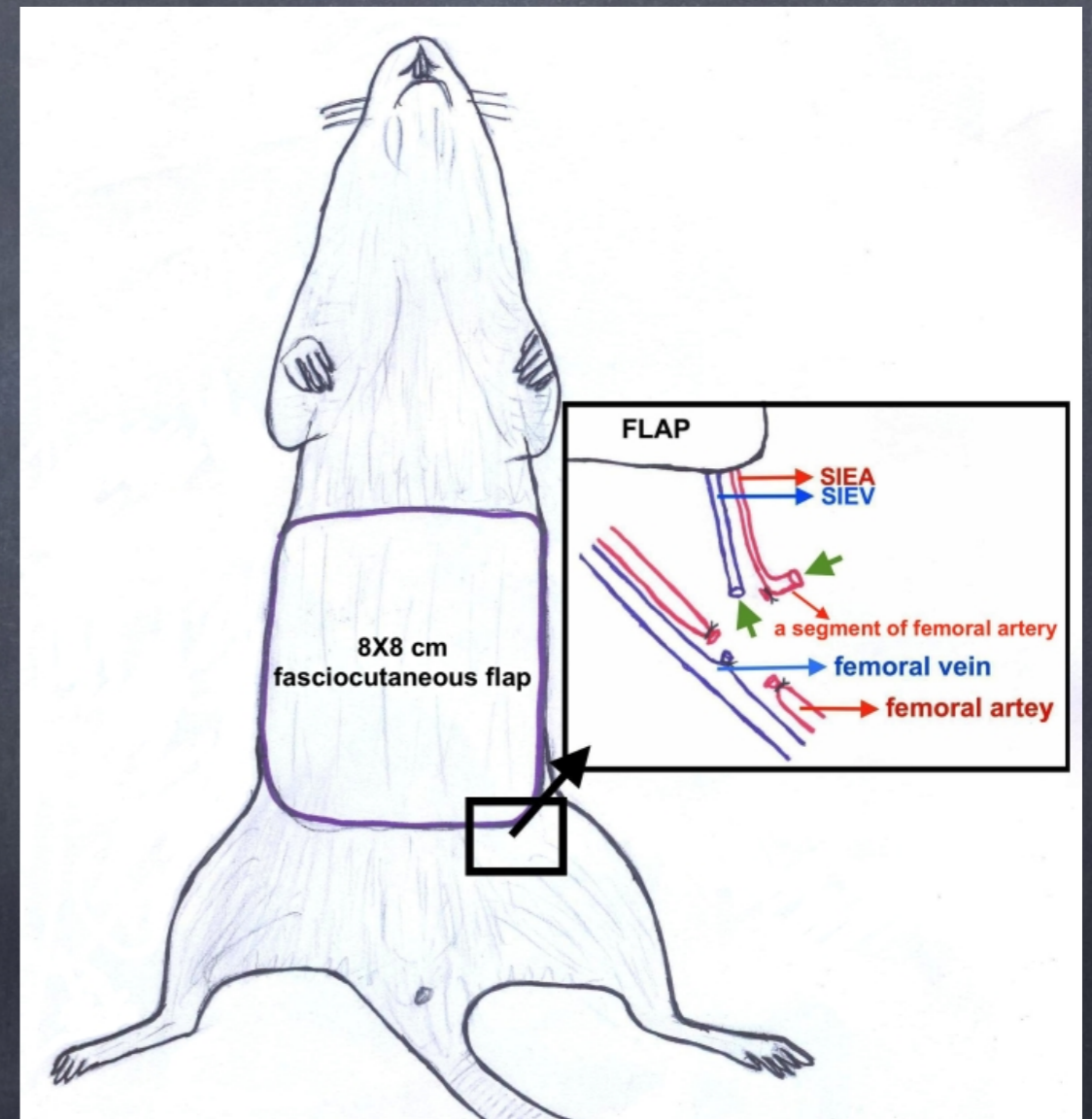


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### Hydrostatic Dilation Group

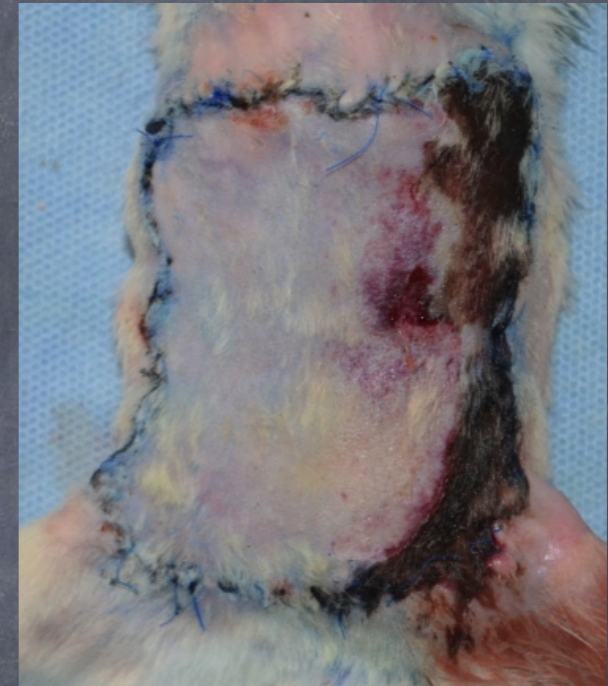
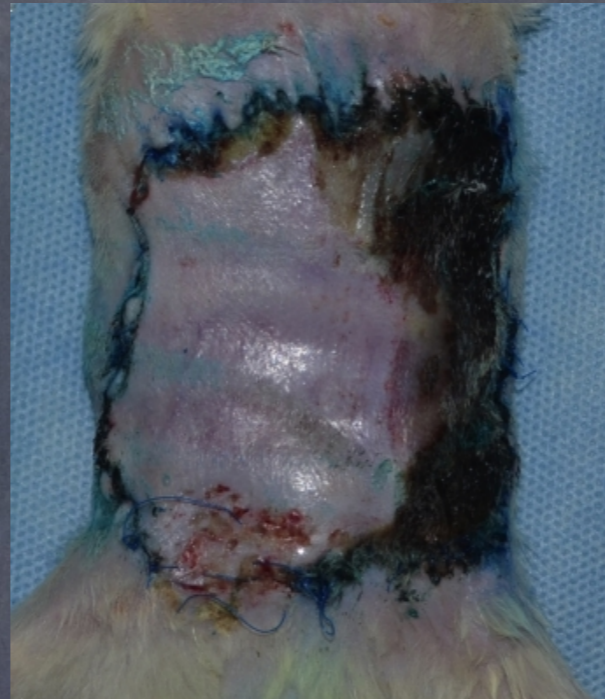
- An isotonic solution was injected over 1 minute.
- During the injection, the pressure was stabilized at 300 mm Hg on average.







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We calculated the necrotic area after the excision of the flaps.





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## Mean Values of Necrotic Areas of Flaps

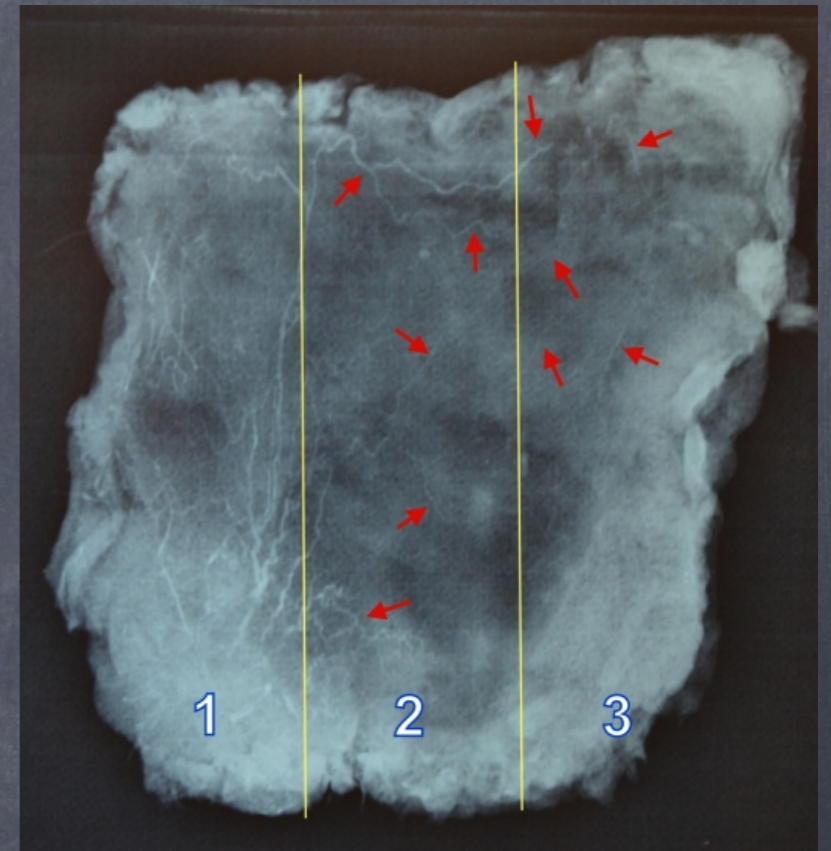
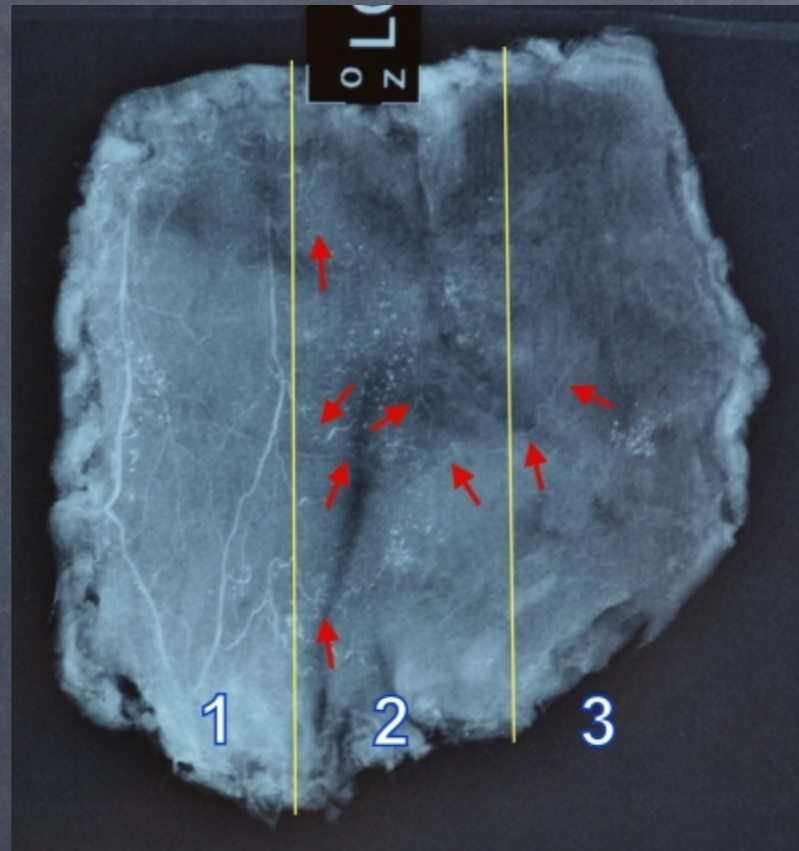
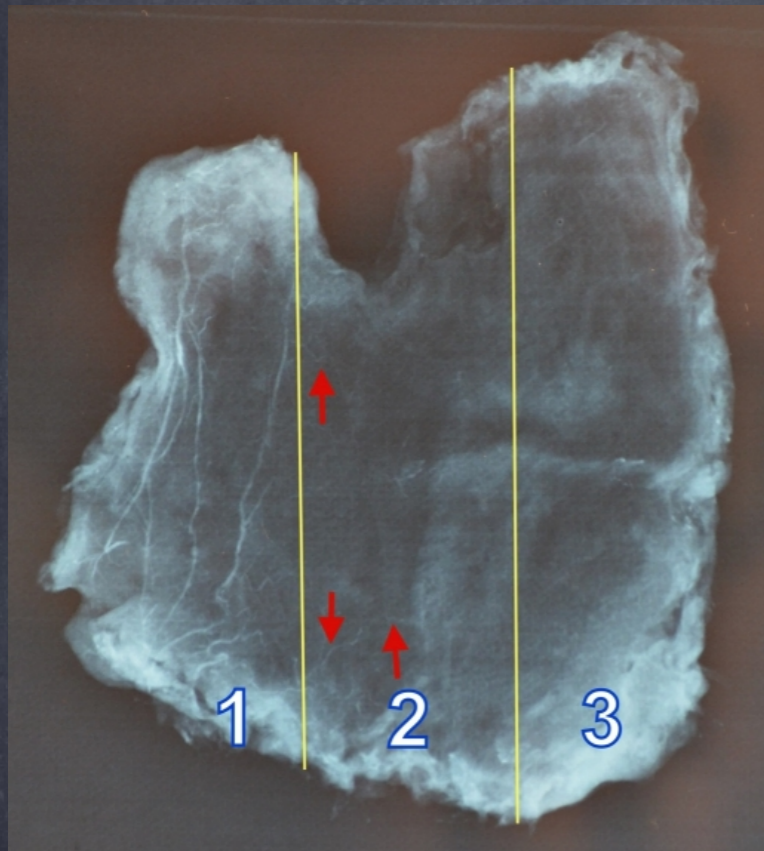
CONTROL	DELAY	DILATATION
46.61	31.55	29.11
44.96	22.37	28.99
52.11	33.68	37.53
46.90	40.87	34
38.69	41.28	38.86
45.25	30.18	26.06
<b>45.75±4.31</b>	<b>33.32±7.11</b>	<b>32.51±5.03</b>





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- we examined the vascularization in angiographic images by dividing them into three zones
- the increased vascularity in the delay and hydrostatic dilation groups was remarkable





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## CONCLUSION

We consider intraoperative hydrostatic dilation to be a feasible method to improve circulation in compromised tissue