

自体脂肪移植新技术 脂肪干细胞胶 (SVF GEL)

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案例

最早的脂肪移植

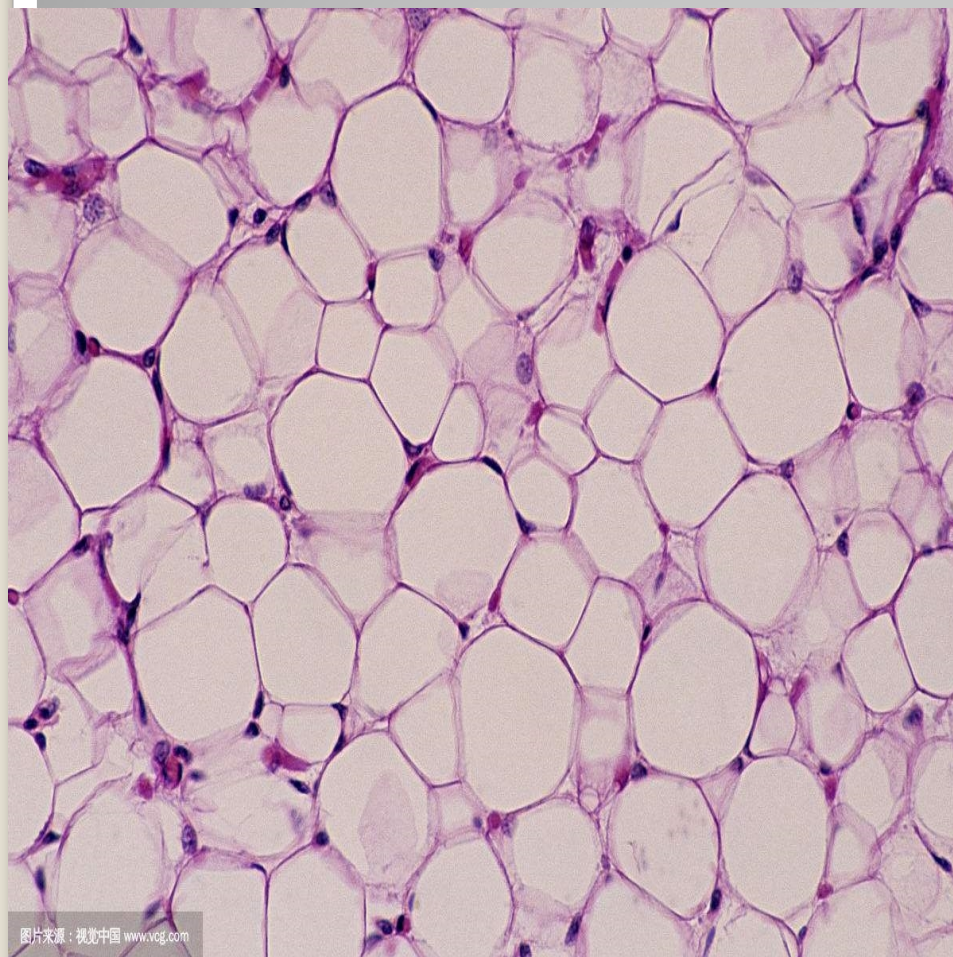
1893年德国外科医生Gustv Neuber首次报道了脂肪移植术，他将手臂的一块脂肪组织移植到眼眶下缘，矫正骨髓炎术后难看的凹陷性瘢痕，术后有令人满意的效果。

20世纪80年代，来自巴黎的Pierre Fournier和Yves-Gerard Illous发明了脂肪抽吸术。脂肪注射技术的发展，提高了脂肪于移植组织的接触面积，提高了脂肪细胞的存活率。

比利时学者Patrick Tonnard在2013年首次提出Nanofat这个概念，文章发表于美国整形外科杂志《Plastic and Reconstructive Surgery》。文中介绍了Nanofat的制备过程，并且报道了临床应用案例。Nanofat国内翻译为纳米脂肪；

SVF-gel的研发由国内南方医院鲁峰教授带领，2016年首次在国际权威杂志报道，同样刊发在美国整形外科杂志《Plastic and Reconstructive Surgery》

传统脂肪移植技术



图片来源：视觉中国 www.vcg.com

脂肪组织



大颗粒脂肪移植

是吸出自身腰、腹、大腿等部位多余脂肪，采用尖端绿色离心、提纯、净化处理后，选择完整的脂肪细胞颗粒，提高脂肪细胞成活率，采用精细联合化注射技术，多层次多点进行太阳穴、苹果肌、面颊等面部填充/除皱/塑形。



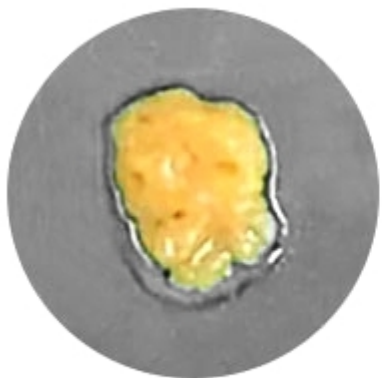
纳米脂肪

纳米脂肪是将取出的脂肪进行初步提纯后，将已经成熟的脂肪细胞，也就是含有大颗粒油滴的脂肪细胞破坏掉，这一类脂肪填充后不易成活，并且大颗粒的油滴还容易引起肿胀等炎症反应。存留下的体积较小的脂肪细胞填充后成活率相比来说较高，但纳米脂肪还是存在一定的局限。



SVF脂肪胶

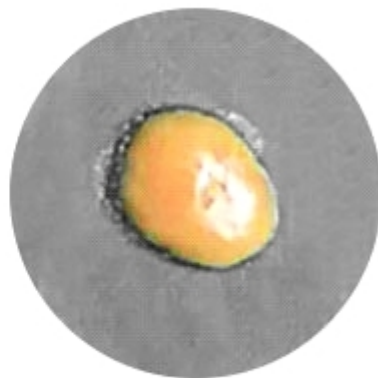
SVF脂肪胶是在纳米脂肪的基础上，进行进一步提纯，将纳米脂肪中多余的水分和杂质祛除，同时保留脂肪组织存活必须的脂肪细胞外基质，也就是包裹在脂肪细胞外面的一些物质。就像我们移植小树一样，不仅要移植走，最好还要带点土壤一起，SVF脂肪胶就是这个道理。



➤ 普通脂肪



➤ 纳米脂肪



➤ SVF脂肪胶

脂肪胶是什么？

脂肪胶，是通过物理方法有效去除脂肪组织中的油滴后，得到的富含脂肪胶（主要成分是胶原蛋白，弹性蛋白和粘多糖）的产物。自体脂肪胶通过27G细小的针头注射到皮肤真皮层和皮下，其中ECM能补充真皮中丢失的胶原成分，长时间地改善肤质，促进真皮胶原再生，达到面部年轻化的治疗效果。

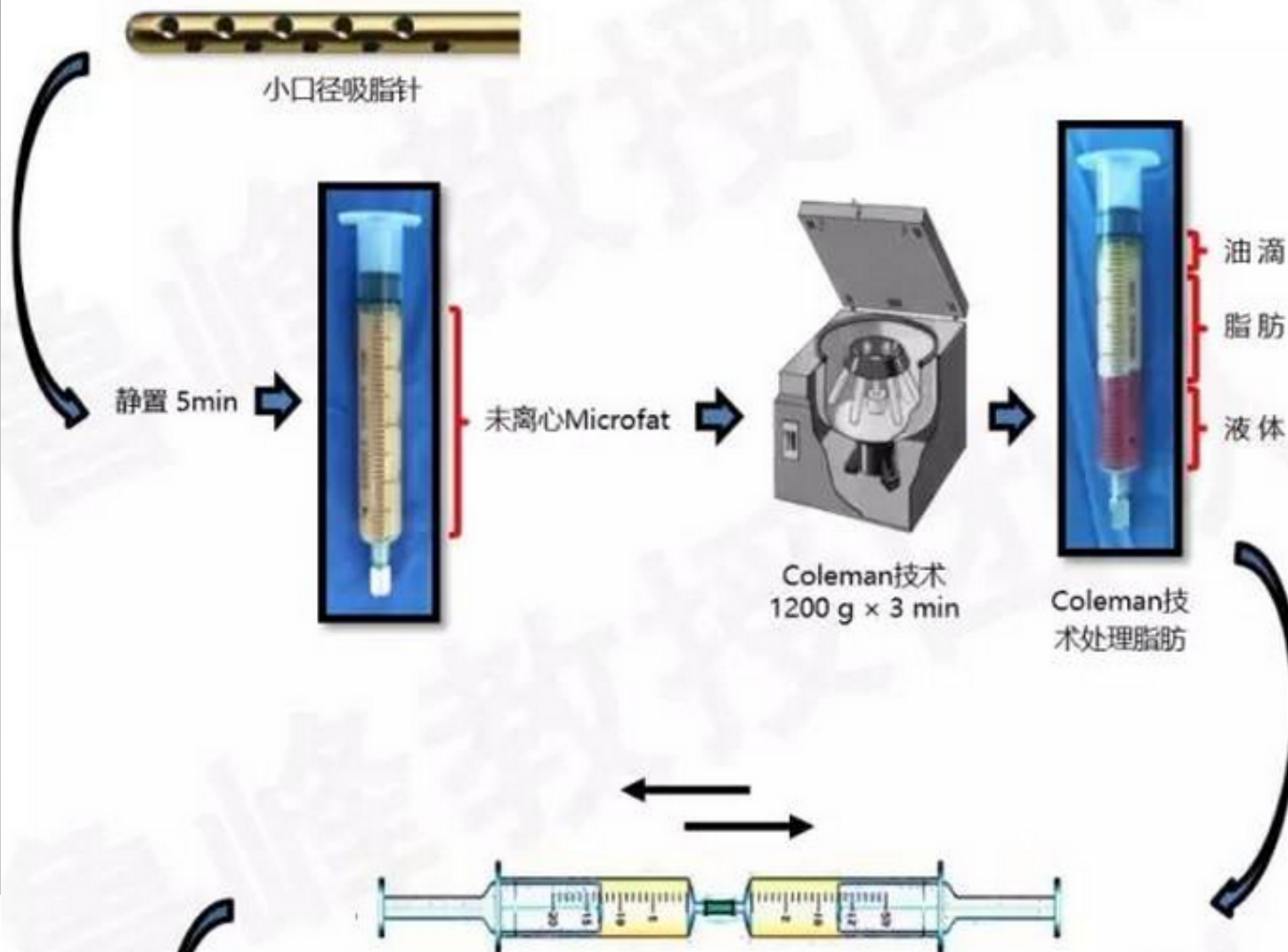
与纳米脂肪不同的时，脂肪胶在纳米脂肪加基础上让脂肪细胞破裂释放油脂，并祛除。

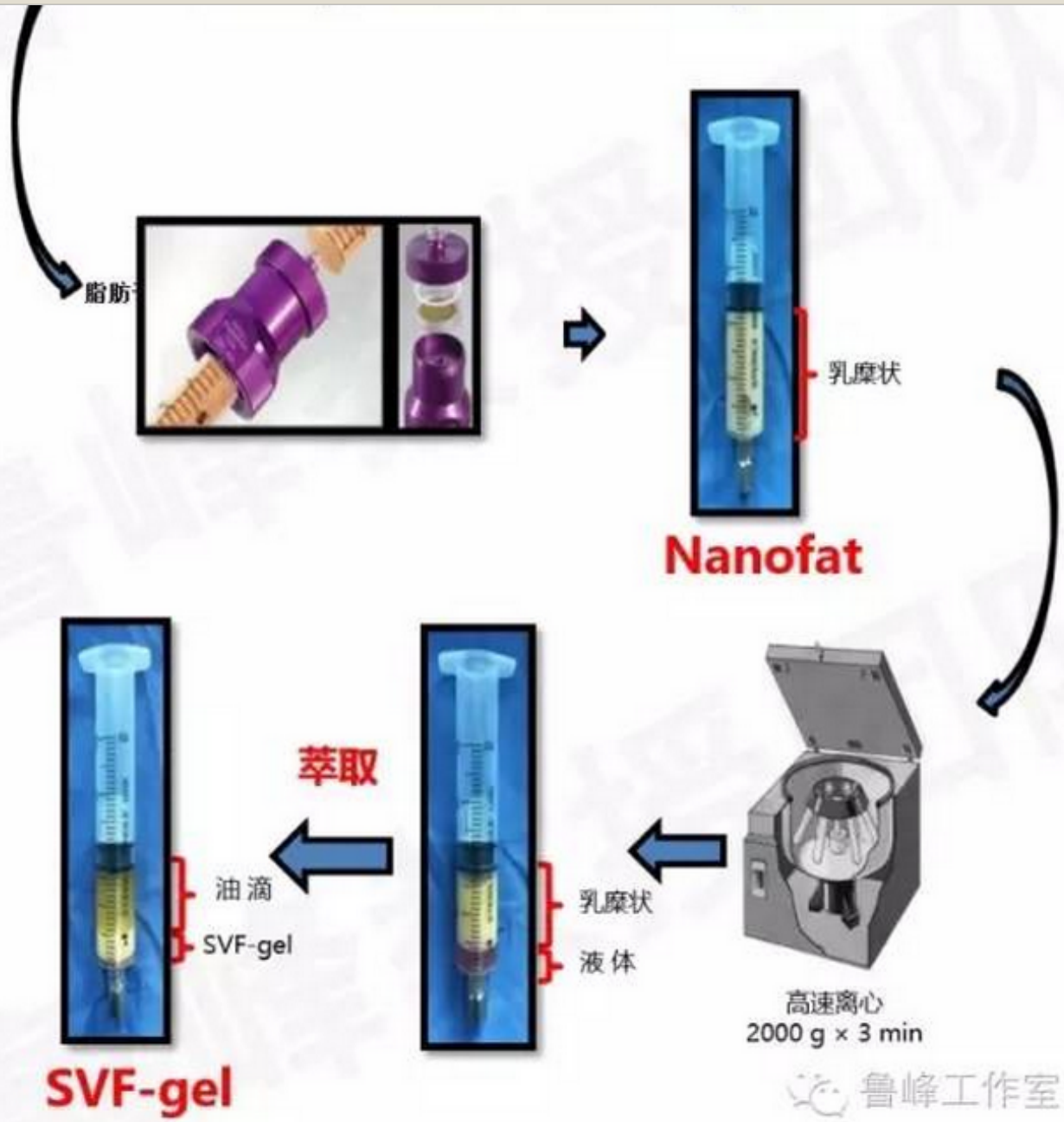
也就是差不多平均每10ml纳米脂肪只能提取1ml脂肪胶（SVF-GEL）

而脂肪胶则呈现出类似玻尿酸的凝胶状外观，看起来有点像果冻。

脂肪干细胞胶 (SVF GEL) 制作流程

SVF-GEL 制备流程





The Preparation of SVF-gel

The flowchart illustrates the preparation of SVF-gel through several stages:

- STEP 1:** Tissue Harvesting (Liposuction)
- STEP 2:** Tissue Washing (Wash with PBS)
- STEP 3:** Tissue Processing (Wash with PBS)
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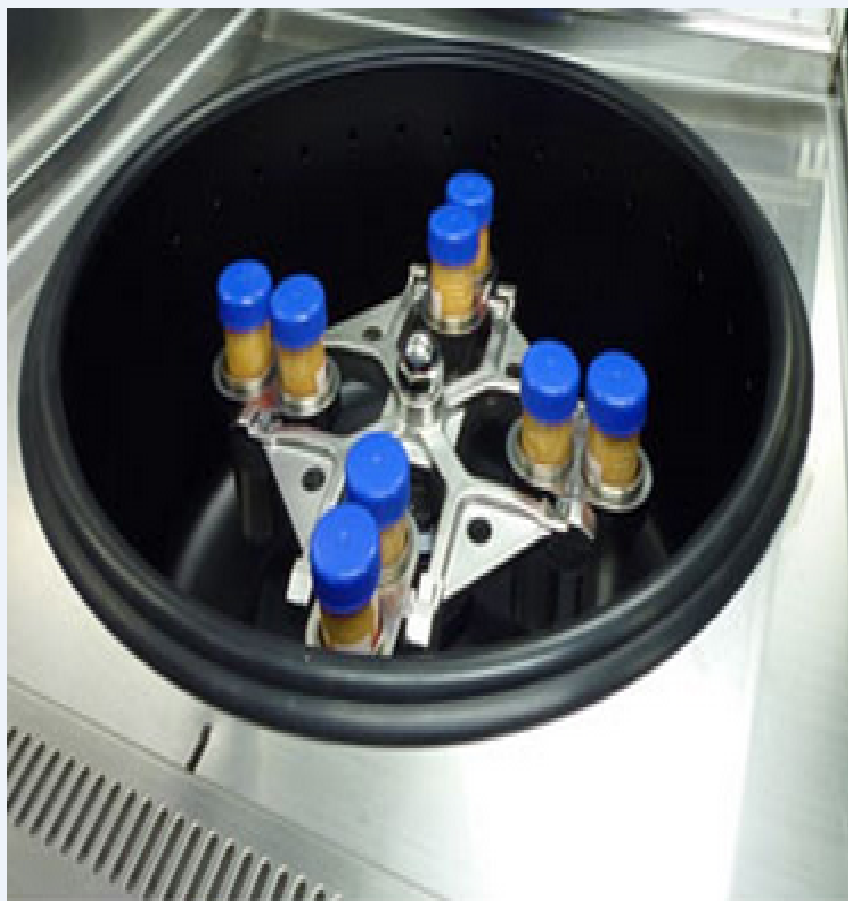
SHANGHAI PPT DESIGN

New product — SVF-gel

The image displays four syringes illustrating different fat processing techniques:

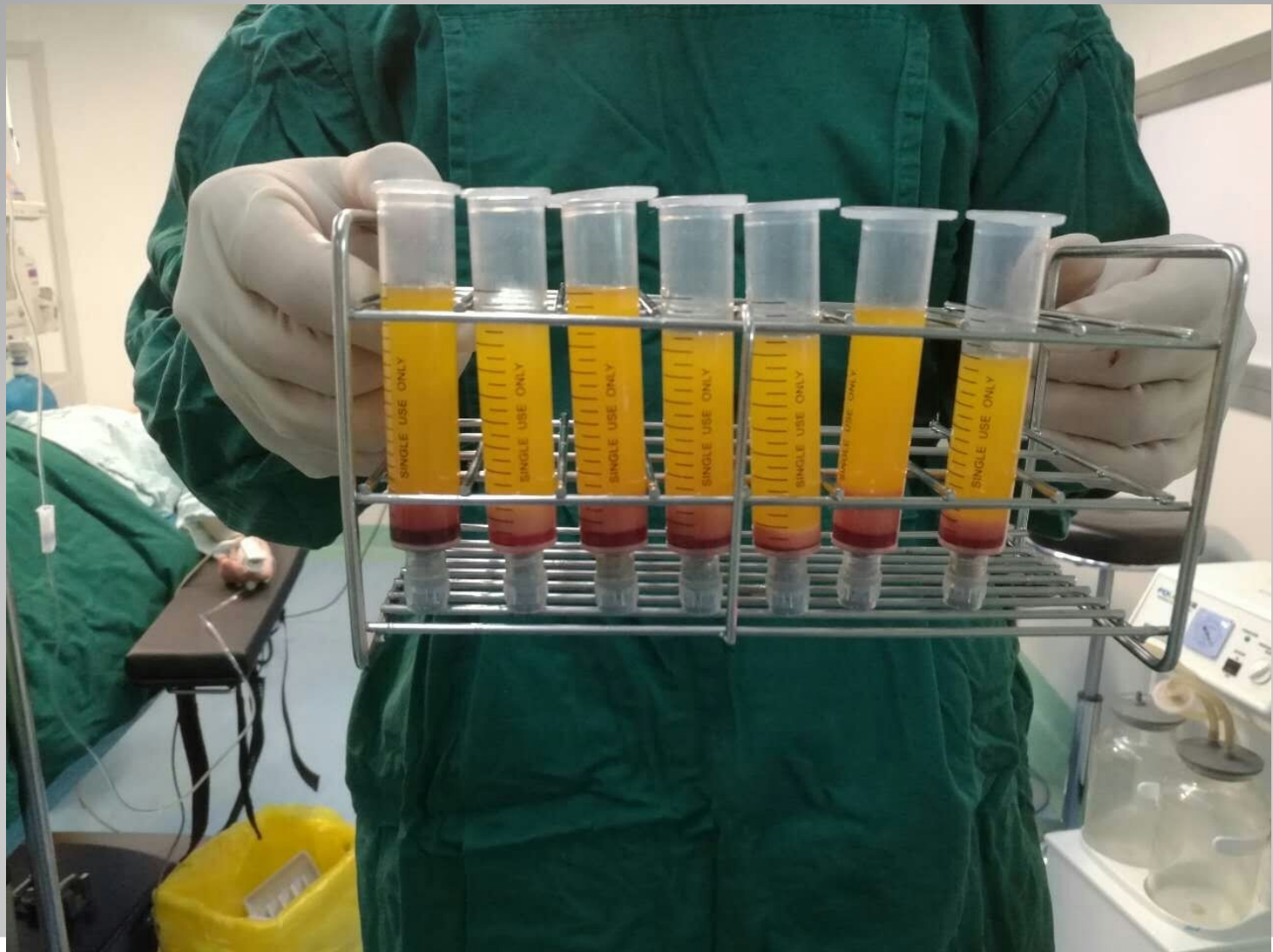
- Uncentrifuged Microfat:** Shows a syringe with a clear, yellowish liquid.
- Coleman technique - Microfat:** Shows a syringe with a clear, yellowish liquid.
- Nanofat:** Shows a syringe with a clear, yellowish liquid.
- SVF-gel:** Shows a syringe with a clear, yellowish liquid.

Xiao Y, Lu E, et al. *Plast Reconstr Surg*. Unkel, Germany



经过提纯分离后的脂肪干细胞胶





以上内容仅为本文档的试下载部分，为可阅读页数的一半内容。如要下载或阅读全文，请访问：<https://d.book118.com/575224044011011232>