**TABLE 1.** **Overview of Clinical Studies Evaluating the Efficacy of Cellulite Treatments**

| *Therapy* | *Year* | *Study Design* | *Control* | *Participants, N* | *Treatment*  *Target* | *Effect on Cellulite Severity* | *Evidence\** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| *Topical creams* | | | | | | | |
| Caffeine/retinol20 | 2011 | RCT | P | 78 | Adipose Dermis | +++ | 1b |
| Sulfo-carrabiose21 | 2011 | RCT | P | 25 | Adipose Dermis | +++ | 1b |
| Retinoic acid18 | 2012 | RCT | P | 35 | Adipose Dermis | +++ | 1b |
| Caffeine/retinol19 | 2014 | RCT | P | 44 | Adipose Dermis | +++ | 1b |
| Caffeine15 | 2015 | OS | UC | 14 | Adipose Dermis | ++ | 2b |
| Caffeine17 | 2018 | RCT | P | 21 | Adipose Dermis | +++ | 1b |
| Caffeine/escin16 | 2018 | OS | UC | 20 | Adipose Dermis | ++ | 2b |
| *Massage* | | | | | | | |
| Endermologie®22 | 2009 | OS | UC | 33 | Dermis Subcutaneous tissue | ++ | 2b |
| Endermologie23 | 2013 | OS | UC | 118 | Dermis Subcutaneous tissue | ++ | 2b |
| *AWT/ESWT* | | | | | | | |
| AWT, focused/radial24 | 2015 | RCT | U | 15 | Adipose | + | 2b |
| ESWT, focused25 | 2013 | RCT | P | 53 | Dermis | +++ | 1b |
| AWT, radial26 | 2013 | RCT | P | 16 | Dermis | +++ | 1b |
| ESWT, radial27 | 2014 | RCT | UC | 14 | Dermis | + | 2b |
| AWT, focused/radial28 | 2017 | OS | UC | 30 | Adipose  Dermis | ++ | 2b |
| *RF* | | | | | | | |
| RF, bipolar29 | 2009 | OS | UC | 50 | Adipose  Dermis | + | 4 |
| RF, tripolar30 | 2012 | RCT | P | 45 | Adipose  Dermis  Septae | +++ | 1b |
| *Laser- and light-based devices* | | | | | | | |
| IR31 | 2013 | RCT | U | 25 | Dermis | – | 2b |
| LLLT32 | 2013 | RCT | P | 68 | Dermis | +++ | 1b |
| 1064-nm Nd:YAG laser33 | 2012 | RCT | U | 22 | Dermis | + | 2b |
| 1440-nm Nd:YAG laser34 | 2011 | OS | U | 10 | Adipose  Dermis  Septae | + | 4 |
| 1440-nm Nd:YAG laser35 | 2013 | OS | UC | 57 | Adipose  Dermis  Septae | ++ | 2b |
| 1440-nm Nd:YAG laser36,62 | 2013 | OS | UC | 15 | Adipose  Dermis  Septae | ++ | 4 |
| 1440-nm Nd:YAG laser37 | 2013 | OS | UC | 25 | Adipose  Dermis  Septae | + | 4 |
| *Subcision* | | | | | | | |
| Subcision, manual38 | 2018 | OS | UC | 200 | Septae | + | 4 |
| Subcision, vacuum-assisted39-41 | 2015-2018 | OS | UC | 55 | Septae | ++ | 2b |
| Subcision, vacuum-assisted42 | 2018 | OS | UC | 16 | Septae | + | 4 |
| Subcision, vacuum-assisted43 | 2018 | R | UC | 23 | Septae | + | 4 |
| *Injectables* | | | | | | | |
| CCH44 | 2015 | RCT | P | 150 | Septae | +++ | 1b |
| CCH45 | 2019 | RCT | P | 375 | Septae | +++ | 1b |

\*Levels of evidence: 1a = systematic review of RCTs; 1b = individual RCT (with narrow confidence intervals); 1c = all or none study; 2a = systematic review of cohort studies; 2b = individual cohort study (including low-quality RCTs); 2c = “outcomes” research; 3a = systematic review of case-control studies; 3b = individual case-control study; 4 = case series; 5 = expert opinion without explicit critical appraisal or based on physiology bench research or “first principles.”

AWT = acoustic wave therapy; CCH = collagenase clostridium histolyticum; ESWT = extracorporeal shock wave therapy; IR = infrared; LLLT = low-level laser therapy; Nd:YAG = neodymium‑doped yttrium-aluminum-garnet; OS = observational study; P = placebo; R = retrospective; RCT = randomized controlled trial; RF = radiofrequency; U = untreated; UC = uncontrolled.

+ = nonsignificant improvement; ++ = significant improvement for uncontrolled studies; +++ = significant improvement over control; – = no improvement from baseline.