

**Non-Surgical Therapy of Infertility: Complimentary/Alternative Therapy**  
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**Landmark Urology and Complementary Medicine**

- I. Definition and Application of Alternative/Complementary Medicine<sup>5;10;29;42;50</sup>
  - A. "Tacks Rules"<sup>4</sup>
  - B. Risks/Benefits<sup>29</sup>
  
- II. Basic Concepts
  - A. High Risk Groups<sup>1;33;38</sup>
  - B. ROS-TAC<sup>1;38;39</sup>
  - C. Confounding Influences<sup>35;40</sup>
  
- III. General Applications
  - A. Testicle/Spermatogenesis<sup>20;33</sup>
    - 1. avoid gonadotoxins
      - a. excessive alcohol<sup>7;12</sup>
      - b. smoking<sup>33</sup>
      - c. anabolic steroids<sup>45</sup>
      - d. certain OTC drugs<sup>31</sup>
    - 2. antioxidants<sup>39</sup>
      - a. vitamin E<sup>48</sup>
      - b. Selenium<sup>48</sup>
  - B. Epididymis
    - 1. inflammation<sup>11;35;44</sup>
    - 2. avoid certain OTC drugs<sup>31</sup>
  - C. Prostate/Seminal Vesicle
    - 1. inflammation/infection<sup>1;11</sup>
    - 2. antioxidants<sup>12;17;22;23;30;35;37;44</sup>
  - D. Measures To Decrease ROS<sup>1;33;38;39</sup>
    - 1. Antioxidants
      - a. vitamin E<sup>6;8;39;43</sup>
      - b. vitamin C<sup>11;25;35</sup>
  - E. Measures To Decrease Sperm DNA damage<sup>1;8;11;12;21;27;33;41</sup>
    - 1. antioxidants
      - a. vitamin C<sup>11;12;16;18;21</sup>
      - b. vitamin E<sup>12;24;35</sup>
      - c. isoflavone<sup>41</sup>
    - 2. in-vitro fertilization<sup>1;38;39</sup>
      - a. antioxidants
        - (1) L-carnitine<sup>14;40</sup>
        - (2) vitamin E<sup>2;12;19;21</sup>
        - (3) vitamin C<sup>12;21</sup>
        - (4) N-acetyl cysteine<sup>8;21;34</sup>
        - (5) isoflavone<sup>41</sup>
  
- IV. Specific Applications To Improve Semen Quality

- A. Sperm Morphology
  - 1. avoid gonadotoxins
    - a. excessive alcohol intake<sup>13</sup>
    - b. illicit drugs<sup>33</sup>
    - c. smoking<sup>8;11;13;16;27;33</sup>
    - d. anabolic steroids<sup>13;33</sup>
  - 2. antioxidants
    - a. vitamin C<sup>11</sup>
    - b. selenium<sup>48</sup>
    - c. zinc<sup>26</sup>
    - d. vitamin E<sup>23;35</sup>
- B. Sperm Motility<sup>1;33;39</sup>
  - 1. antioxidants
    - a. L-carnitine<sup>9;14;28;40;47</sup>
    - b. vitamin C<sup>11;12;35;36</sup>
    - c. vitamin E<sup>12;23;35;36;43;44</sup>
    - d. selenium<sup>36;48</sup>
    - e. vitamin A<sup>36</sup>
    - f. zinc<sup>26</sup>
- C. Sperm Count
  - 1. Lifestyle<sup>3</sup>
  - 2. avoid gonadotoxins
    - a. excessive alcohol<sup>3</sup>
    - b. smoking<sup>33;45</sup>
    - c. anabolic steroids<sup>33;45</sup>
    - d. certain OTC drugs<sup>31</sup>
  - 3. antioxidants
    - a. vitamin C<sup>11</sup>
    - b. L-carnitine<sup>9;28;46;47</sup>
    - c. zinc<sup>26;32;49</sup>
    - d. vitamin E<sup>6;23;24;35;39</sup>
    - e. selenium<sup>36;48</sup>
- D. Sperm Capitation/Acrosome Reaction/Oocyte Fusion
  - 1. avoid gonadotoxins
    - a. smoking<sup>15</sup>
  - 2. antioxidants
    - a. vitamin E<sup>23</sup>

V. On The Horizon<sup>1;39;40</sup>

VI. Conclusion

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