

A scenic view of a mountain valley. In the foreground, there is a river flowing through a field of colorful flowers, including purple and yellow blooms. The middle ground shows a wide valley with a riverbed. In the background, there are large, rugged mountains with patches of snow and a blue sky with white clouds.

**Non-surgical Therapy of Infertility
Complementary/Alternative Therapy**

**Society for the Study of Male Reproduction
Chicago, IL
April 26, 2003**

Mark W. McClure, MD, FACS

CAM_

- Complementary Medicine
- Alternative Medicine

_McClure M: An overview of holistic medicine and complementary and alternative medicine for the prevention and treatment of BPH, prostatitis, and prostate cancer. *World J Urol* 2002;20:273-284.

Holistic Medicine

- ‘*Holos*’ – Greek root for ‘whole’
- ‘*Hael*’ – Greet root to make whole

Dr. Sidney Baker's

“Tacks Rules”

— Sidney M Baker, *Detoxification & Healing: The Key to Optimal Health*, Keats Publishing, Inc., 1997, p. 1

First Rule

“If you’re sitting on a tack,

it takes a lot of aspirin to make it feel good”

Second Rule

“If you’re sitting on two tacks,

removing *just one* does not result

in a 50 percent improvement”

Traditional Chinese Medicine

- Basic Tenets _

- Clinical Studies _ _

_Crimmel AS, Conner CS, Monga M: Withered Yang:A Review of Traditional Chinese Medical Treatment of Male Infertility and Erectile Dysfunction. *J Androl* 2001;22:173-182.

_Balk J: Acupuncture for the Treatment of Infertility. *Alternative Medicine Alert* 2001;4:80-83.

_Siterman S., Eltes F, Wolfson V, Lederman H, Bartoov B: Effect of acupuncture on sperm parameters of males suffering from subfertility related to low sperm quality. *Arch Androl* 1997;39:155-161.

High Risk Group_

- Destructive Lifestyle
- Anatomical Abnormalities
- Increased Oxidant Stress_

_Agarwal A, Saleh A: Role of antioxidants in male infertility: rationale, significance, and treatment. *Urol Clin N Am* 2002;29:817-827.

_Sharma RK, Pasquaiotto FF, Nelson DR, Thomas AJJr, Agarwal A: The reactive oxygen species-total antioxidant capacity score is a new measure of oxidative stress to predict male infertility. *Hum Reprod* 1999;14:2801-2807.

High Risk Group

Destructive Lifestyle_

- ✓ smoking
- ✓ excessive alcohol
- ✓ drugs
- ✓ extreme exercise_

_Nudell DM, Monoski MM, Lipshultz LI: Common medications and drugs: how they affect male fertility. *Urol Clin N Am* 2002;29:965-973.

_Arce JC, Souza MJ: Exercise and male factor infertility. *Sports Med* 1993;15:146-169.

High Risk Group

Varicocele

_Hendrin BN, Kolettis PN, Sharma RK, Thomas AJ Jr, Agarwal A: Varicocele Is Associated With Elevated Spermatozoal Reactive Oxygen Species Production And Diminished Seminal Plasma Antioxidant Capacity. *J Urol* 1999;161:1831-1834.

_Sharma RK, Pasquaiotto FF, Nelson DR, Thomas AJ Jr, Agarwal A: The reactive oxygen species-total antioxidant capacity score is a new measure of oxidative stress to predict male infertility. *Hum Reprod* 1999;14:2801-2807.

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Increased Oxidant Stress _ _

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General Applications

- Spermatogenesis
 - ✓ Avoid gonadotoxins
 - ✓ antioxidants

General Applications

- Epididymis

- ✓ Avoid gonadotoxins

- ✓ Reduce Inflammation

General Applications

- Prostate/Seminal Vesicles
 - ✓ Reduce Inflammation/Infection
 - ✓ Take Antioxidants

Measures To Reduce ROS

- Reduce Inflammation
- Take Antioxidants
 - ✓ Vitamin E
 - ✓ Vitamin C

Measures To Decrease Sperm DNA Damage

- Antioxidants – vitamins A, C
- *In-vitro fertilization*
 - ✓ L-carnitine
 - ✓ Vitamins E, C

Measures to Improve Sperm Morphology

- Avoid Gonadotoxins
- Antioxidants
 - ✓ Vitamin C
 - ✓ Vitamin E
 - ✓ Selenium
 - ✓ Zinc

Measures to Improve Sperm Motility

Antioxidants

- ✓ L-carnitine
- ✓ Vitamin C
- ✓ Vitamin E
- ✓ Selenium

Measures to Improve Sperm Count

- Avoid Gonadotoxins
- Antioxidants
 - ✓ Vitamins C, E
 - ✓ L-carnitine
 - ✓ Zinc
 - ✓ Selenium

Measures to Improve:

- Sperm Capitation
- Acrosome Reaction
- Oocyte Fusion

- Avoid Gonadotoxins
- Vitamin E

Confounding Influences

- Dosing
- Other Variables

On The Horizon

ROS/TAC_

_Agarwal A, Saleh A: Role of antioxidants in male infertility: rationale, significance, and treatment. *Urol Clin N Am* 2002;29:817-827.

A photograph of a walrus lying on a dark, textured rock. The walrus is facing left, with its two long, white tusks prominently displayed. The walrus's body is a reddish-brown color with a wrinkled, leathery texture. The background consists of more rocks and some sparse, dry vegetation. The text "Any Questions?" is overlaid in the center of the image in a white, serif font.

Any Questions?