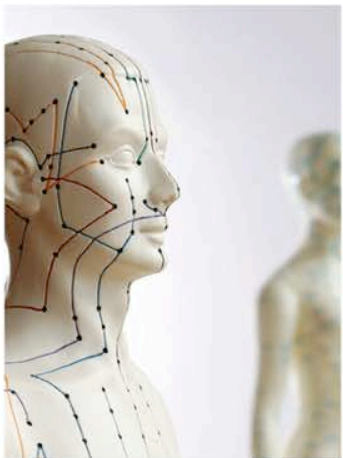




The Role of Acupuncture and Traditional Chinese Medicine in the Management of Diabetes Mellitus

Steve Given, DAOM, L.Ac.



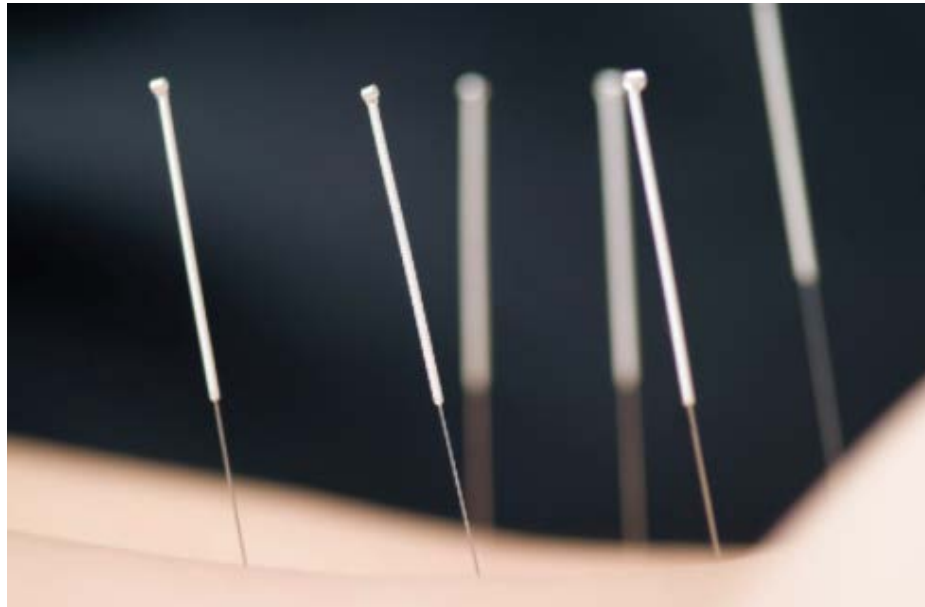
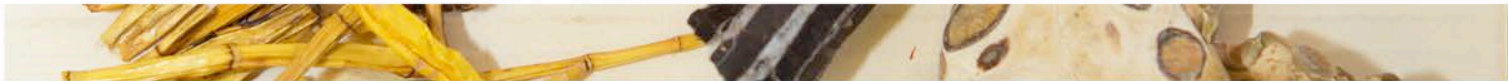
What We Will Cover

- Acupuncture profession in the United States
- Diabetes in Chinese medicine
- Traditional Chinese medical therapies
- Acupuncture and Chinese herbs
- Integrative care



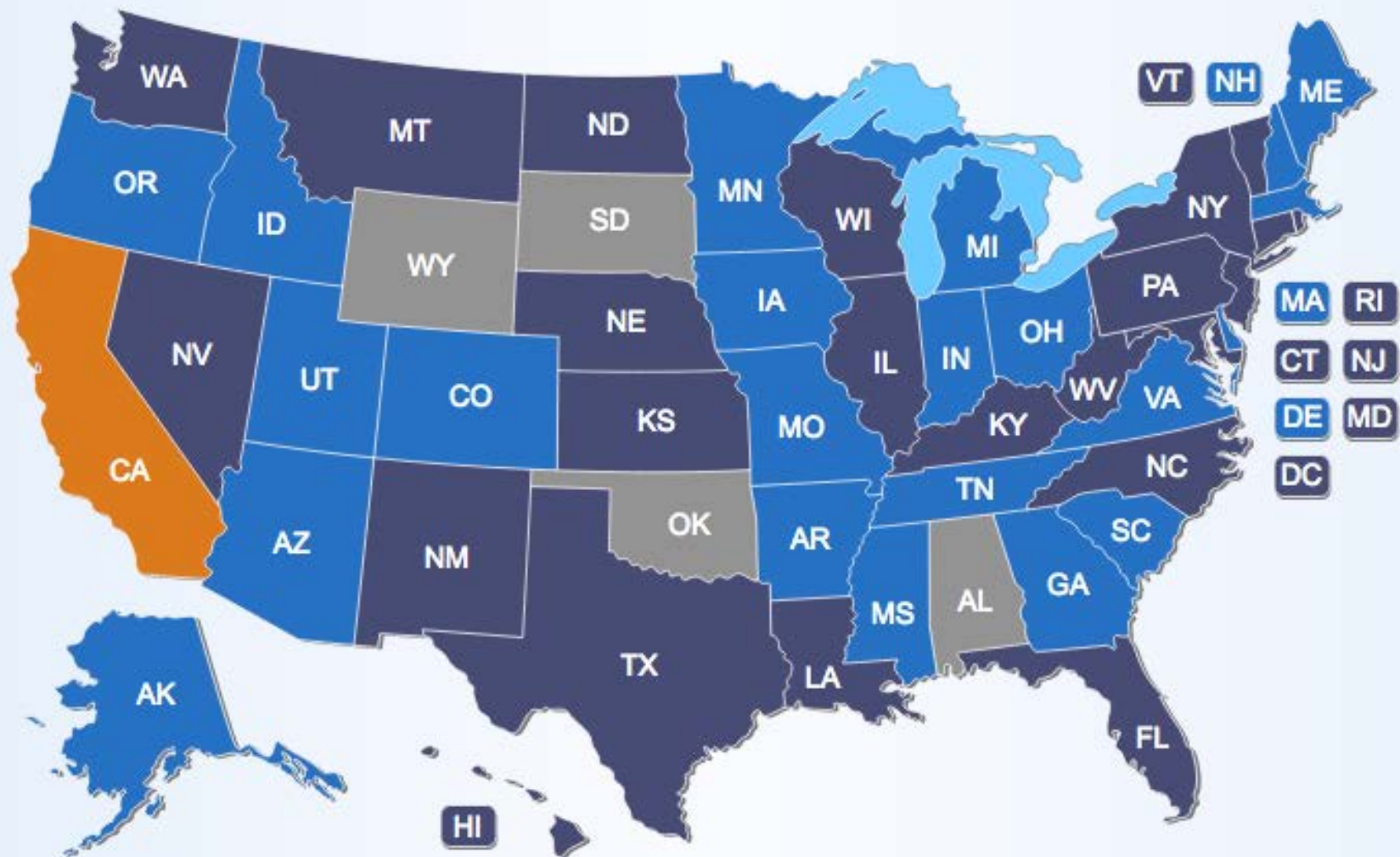
Copyright Statement

Graphics and quotations contained in these slides may be copyrighted and are intended for educational purposes only in the context of this class.



Acupuncture Profession

Image: pinterest.com



● States that require NCCAOM Certification

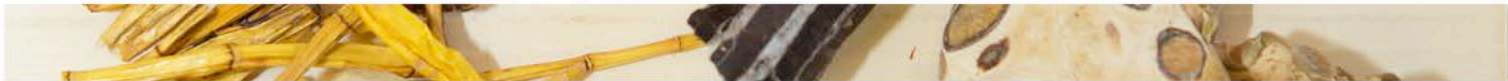
● States with No Acupuncture Practice Act

● States that use NCCAOM Examinations

● California Licensing Examination

* Updated as of 01/01/2017

nccaom.org



Diabetes and Chinese Medicine

Image: en.wikipedia.org



Diabetes Mellitus

- 消渴 (xiāo kě)
 - 消: Disappear; vanish; polyphagia (TCM)
 - 渴: Thirst
- Wasting and thirsting syndrome
 - Diabetes mellitus and diabetes insipidus
 - Usually associated with diabetes mellitus



Traditional Chinese Medicine Includes

- Acupuncture
- Traditional Chinese herbs
- Cupping
- Guasha
- Moxibustion
- Tuina
- Diet therapy
- Taichi
- Gigong
- Lifestyle recommendations

Acupuncture

- Insertion of sterile needles into special points on the body.
- Treats a variety of conditions by interacting with the body's qi.



Chinese Herbs

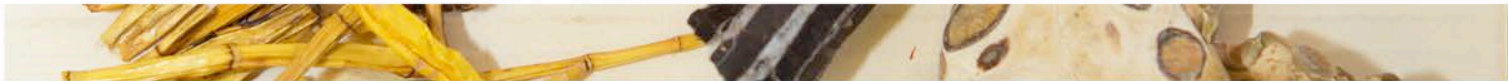
- Evidence of the use of Chinese herbs dates back to the Shang and Zhou dynasties.
- Herbs are used in complex formulas in a manner very different from western herbs.





Acupuncture/TCM and Diabetes

- Neuropathy
- Pain
- Weight loss
- Supportive care for other symptoms



Acupuncture and Neuropathy

Image: UC Davis Health System



Acupuncture and Neuropathy

- Tong Y, Guo H, Han B (2010) Fifteen-day acupuncture treatment relieves *neuropathy*. *Journal of Acupuncture and Meridian Studies*, 3(2), 95-103.
- N = 42 (experimental)/21 (sham)
- Nerve conduction velocity and sensory function were measured.
- Improvement in motor and sensory function demonstrated improvement ($p < 0.5$).



Acupuncture and Neuropathy

- Abuaisha B, Costanzi J, Boulton A (1998) Acupuncture for the treatment of chronic painful peripheral diabetic neuropathy: a long term study. *Diabetes Research and Clinical Practice*, 39(2), 115-121



Acupuncture and Neuropathy

- N=46 (acupuncture analgesia)/29 (standard medical treatment)
- Six courses of acupuncture analgesia over 10 weeks
- 77% of the 44 subjects completing the acupuncture study showed significant improvement ($p < 0.01$)



Acupuncture was more effective than sham for:

- Lower extremity numbness
- Spontaneous pain in lower extremities
- Upper limb rigidity
- Alternations in temperature perception in the lower extremities.

“Our pilot study has, therefore, provided evidence that acupuncture may be clinically useful for the radical treatment of diabetic peripheral neuropathy.”



Acupuncture and Neuropathy

- Zhang C, Ma Y, Yan Y (2010) Clinical effects of acupuncture for diabetic peripheral neuropathy. *Journal of Traditional Chinese Medicine*, 2010: 30(1), 13-14
- N = 32 (treatment arm-acupuncture)/33 (control arm-inositol)
- There was statistically more improvement in acupuncture arm when compared to inositol.



Acupuncture and Weight Loss

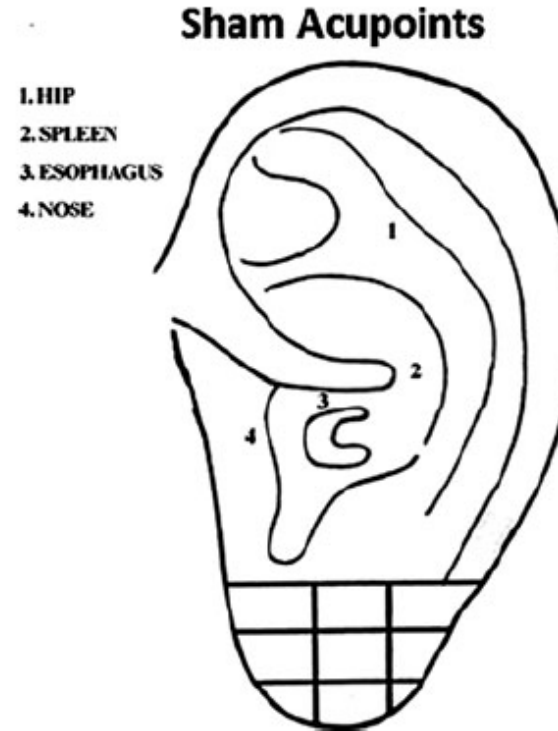
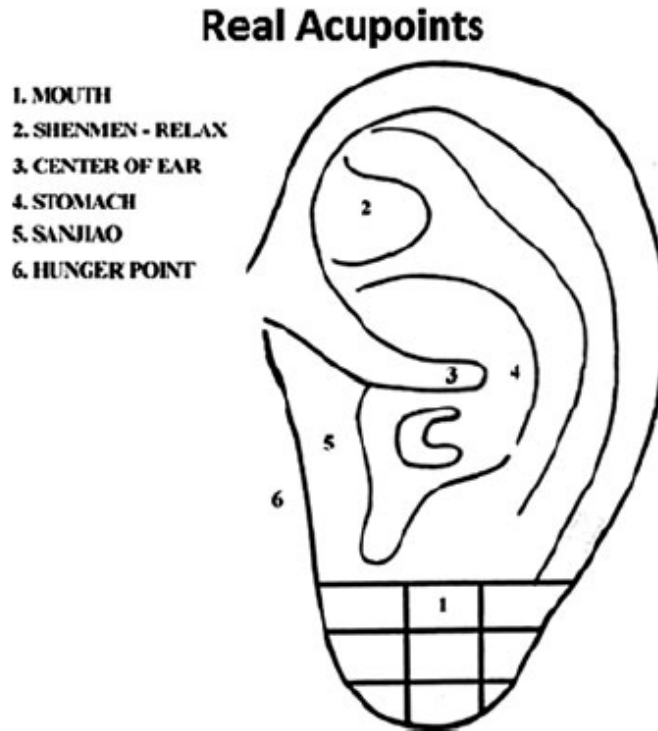
Image: ancillarymedicalsolutions.com



Acupuncture and Weigh Loss

- Abdi et al (2012) Effects of Auricular Acupuncture on Anthropometric, Lipid Profile, Inflammatory and Immune Markers: A randomized Controlled Trial. *Journal of Alternative and Complementary Medicine*, 18(7), 668-677.
- n = 204
- Sham control

Abdi et al (2012) Acupuncture Points



Abdi et al (2012) Partial Results

TABLE 2. COMPARISON OF CLINICAL AND BIOCHEMICAL CHARACTERISTICS OF PARTICIPANTS OF AURICULAR GROUP

<i>Variable</i>	<i>Authentic group</i>			<i>Sham group</i>		
	<i>1st sample</i>	<i>2nd sample</i>	<i>3rd sample</i>	<i>1st sample</i>	<i>2nd sample</i>	<i>3rd sample</i>
Weight (kg)	84.33±1.64	81.35±1.87 α	81.24±2.07 α	81.53±1.81	77.98±1.48 α	77.87±1.76 α
Body fat (%)	37.39±0.64	36.60±0.82 α	36.53±0.90 α,β	36.84±0.57	37.18±0.75	36.62±0.83 α,β
BMI (kg/m ²)	32.15±0.47	30.85±0.51 α	30.90±0.61 α	31.40±0.41	31.04±0.55 α	30.70±0.61 α,β



Abdi et al (2012) Authors' Conclusion

“Auricular acupuncture in combination with diet restriction was effective for weight loss and dyslipidemia. Moreover, it was found that it has immunomodulatory but not anti-inflammatory effects on the immune system by regulation of the levels of anti-Hsp antibodies.”



Acupuncture, Weight Loss and Diabetes

- Firouzjael A et al (2016) Comparative Evaluation of the Therapeutic Effect of Metformin Monotherapy with Metformin and Acupuncture Combined Therapy on Weigh Loss and Insulin Sensitivity in Diabetic Patients. *Nutrition and Diabetes*, 6, e209.
- RCT



Firouzjael et al (2016) Conclusion

“Metformin and acupuncture combined therapy is more effective than metformin only, proving that acupuncture is an insulin sensitizer and is able to improve insulin sensitivity possibly by reducing body weight and inflammation.”



Chinese Herbs

Image: botanicalspirit.com

Di Gu Pi



www.chinesemedicinepractice.co.za



Di Gu Pi (地骨皮)

- *Shen Nong Ben Cao*, 2nd century ACE
- *Lycium barbarum* or *Lycium chinensis* Mill, cortex
- Deficiency heat clearing herb, treating “bone steaming” deficiency heat (gǔ zhēng fā rè, 骨蒸发热)
- Oral ingestion of di gu pi at 8 gm/kg lowered blood glucose in healthy rabbits by 14% between 7 and 8 hours.

Reported in Chen, Chen, 2001.

Ren Shen



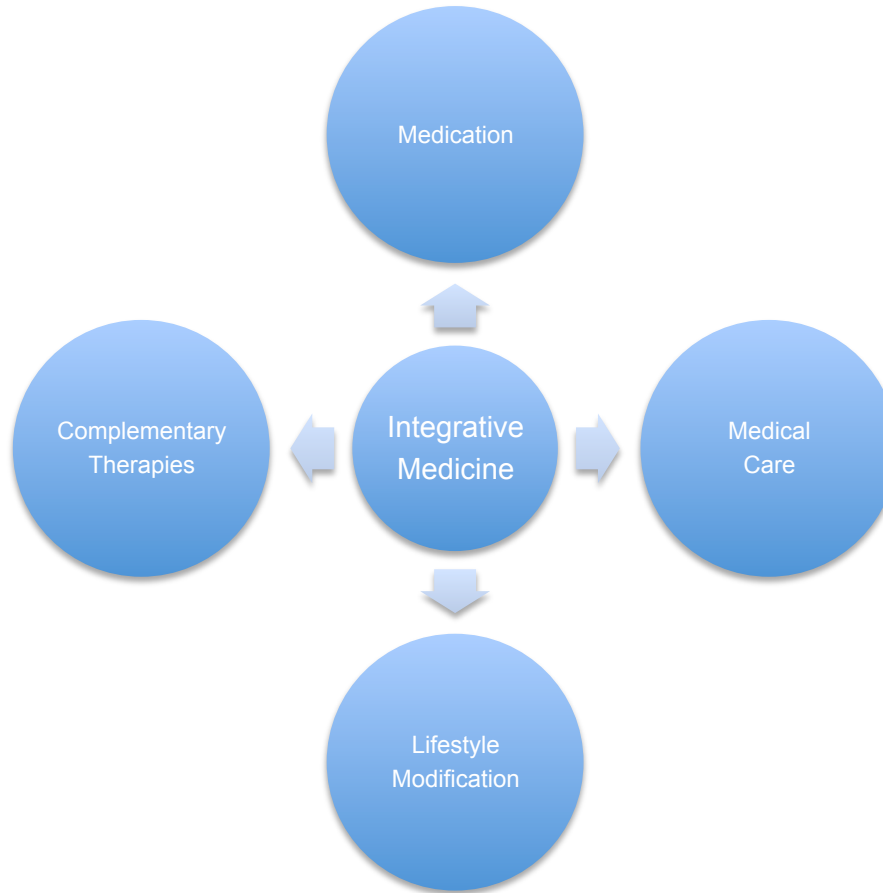
www.botanicalspirit.com



Ren Shen (人參)

- *Shen Nong Ben Cao Jing*, 2nd century ACE
- *Panax ginseng* C.A. Mey, root
- Qi (气, 氣) tonic
- Administration of 0.5 gm bid reported as beneficial for patients with diabetes mellitus. Average reduction in blood glucose was 40 to 50 mg/dl. Therapeutic effect for up to 2 weeks after discontinuation of ren shen.
- Antihyperglycemic effect reported in dogs.

Reported in Chen, Chen, 2001.



Integrative Care



Integrative Care

- Effective communication between all providers
- Patient centered care
- Acupuncture and Chinese medicine are not a substitute for appropriate biomedical care.
- Acupuncture and Chinese medicine are appropriate for symptom management and supportive care along side medication.



Indications for Chinese Medicine - Diabetes

- Neuropathic pain
- Other sources of pain
- Side effects of diabetic medications
 - Bloating, gas, diarrhea, nausea
 - Irritability, rash
- Non-diabetes related symptoms



Contraindications for acupuncture

- Severe anxiety about acupuncture
- Neutropenia (less than 1,500 neutrophils per microliter)
- Rash at the site of insertion



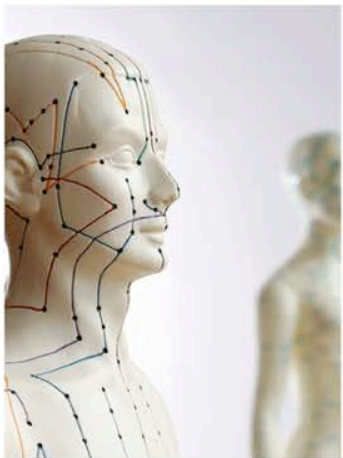
Referral

- Management of symptoms
- Reduction of the side effects of medication
- Reduction in the need of PRN medication in consultation with prescribing provider
- Management of other medical needs



Integrative Medicine

- Redmer J et al (2013) Targeting Diabetes and Integrative Approach. *The Journal of Family Practice*, 62(7)337-344.
- “Recommend acupuncture for patients with T2DM and peripheral neuropathy, bladder dysfunction or symptoms of other comorbidities that have not fully responded to conventional therapies.”



Steve Given, DAOM, L.Ac.
ACTCM at the
California Institute of Integral Studies
415.282.7600, ext. 219
stevegiven@actcm.edu