APPENDIX A. Glossary of Yoga Terms

Ashtanga yoga can refer to 2 different concepts: 1) Raja yoga, the 8-limbed or 8-fold path, which dates to the Yoga Sutras of Patanjali, or 2) the modern style invented by Pattabhi Jois in the 1920s. Both comprise 3 main parts—poses or postures (asanas), a controlled breathing style (pranayama) and meditation—and are ideally taught as a supervised self-practice moving at an individual's own pace and with regular practice highly emphasized. The original 8 "limbs" are briefly described below as the language is used in the modern version, which is more the focus of this report.

1) *Yama* (self-control) deals with ethical behavior, living in harmony and practicing right social conduct. Yoga tradition gives importance to developing a balanced personality.
2) *Niyama* (self-regulation) denotes a set of requirements adopted by the practitioner, specifically purity, contentment, austerity, study, and surrender as a duty.
3) ***Asana*** (physical poses or postures) revolves around sitting, firm but relaxed, for timeless periods. This is achieved through practicing a set of other postures focused on a specific area of the body (sitting, standing, or inverted) for well-being, flexibility, and meditation.
4) *Pranayama* (mastery of breath or vital air) is a 3-step model of controlled breathing (take it inside through the nose, retain it, then discharge it through the mouth), thus honing concentration and ability to focus.
5) *Pratyahara* (control of the senses) is the bridge between the external and internal aspects of yoga. The senses are withdrawn from anything unwholesome, which requires mastery of the flow of prana (energy).
6) *Dharana* (concentration) is the beginning of true meditation. Concentration is achieved by focusing on a single point or object. Stillness and silence are required for deep meditation.
7) *Dhyana* (meditation) advances to meditation, in which consciousness of the act of meditation disappears and the practitioner is conscious only of existence and the object of concentration.
8) *Samadhi* (self-realization) is translated as ecstasy or non-dualistic consciousness—the ultimate aim of yoga practice, in which the mind becomes still and the consciousness of the experiencing subject becomes one with the object of meditation.

Hatha yoga is the branch of traditional yoga that concentrates on physical and mental strength from a specific combination of postures derived from 3 Hindu texts. It strives for physical purification through postures (asanas) and breathing (pranayama), which prepare the student for higher meditation. In the West, it is primarily used for exercise and/or stress-reduction. **Shavasana** (corpse posture or death pose) is an asana that is an essential part of Hatha yoga practice, usually at the end of a session. Lying on the back, the eyes are closed and the whole body is relaxed onto the floor with an awareness of each breath. All parts of the body are scanned for muscular tension, which is consciously released as it is found. **Yoga nidra** is a state of deep,

sleep-like relaxation achieved through meditative techniques. There have been many modern schools of yoga based on Hatha yoga since about 1960:

Bikram yoga classes run for 90 minutes and consist of a series of 26 postures, including 2 breathing exercises. It is ideally practiced in a room heated to 40 °C (104 °F) with 40% humidity.

Hot yoga refers to any yoga practice performed under hot and humid conditions. Often associated with the style devised by Bikram Choudhury, hot yoga is now used to describe any number of yoga styles that use heat to increase an individual's flexibility in the poses.

Iyengar yoga emphasizes detail, precision, anatomical alignment, and use of props in the performance of over 200 postures (asanas) and 14 breathing exercises (pranayama). It is particularly popular in the West where yoga is often used as a form of exercise for flexibility.

Jivamukti yoga is a physical, ethical, and spiritual practice that combines Hatha yoga with adherence to 5 central tenets: shastra (scripture), bhakti (devotion), ahimsa (non-harming), nāda (music), and dhyana (meditation). Social activism is also emphasized.

Kripalu yoga uses inner focus, meditation, yoga poses, breathing, quieting the mind, and relaxation to observe physical, mental, and emotional experience. Kripalu emphasizes "following the flow" of prana, compassionate self-acceptance, and taking what is learned into daily life.

Power yoga moves at a faster, more vigorous pace. It emphasizes the physical aspects of yoga (strength training and flexibility) and is not as focused on breath control or meditation.

Sivananda yoga revolves around more Western principles of preserving health and well-being through stretching, proper diet and exercise, positive thinking, relaxation and yogic breathing. The yoga part of the practice is usually comprised of pranayama, sun salutations, and 12 asanas.

Vinyasa yoga is faster paced. The asanas (postures) are linked together in series that are synchronized with the breath. Generally speaking, upward movements correlate with inhalations, and downward movements with exhalations. The continual movement gives added cardiovascular benefit, which more traditional forms of yoga do not have.

Viniyoga includes asanas, pranayama, bandha, sound, chanting, meditation, personal ritual, and the study of texts. Viniyoga™ is used to refer to an approach to yoga that adapts the various means and methods of practice to the unique condition, needs, and interests of each individual.

YogaFit is a large yoga teacher training and yoga certification program offering retreats, conferences, and branded yoga apparel.

Kundalini yoga —the yoga of awareness— is an ancient Sikh school of yoga related to Hatha yoga. It focuses on awakening kundalini energy through the regular practice of meditation, breathing (pranayama), postures (asanas), and chanting (mantras). The practice uses fewer postures and more "yogic locks" (bandhas), which engage the 7 Chakra. There have been schools and practices based on Kundalini yoga as well.

Kirtan kriya is a chanting or sound-singing exercise from Kundalini yoga.

Sahaja yoga creates the state of self-realization produced by spontaneous Kundalini awakening through thoughtless awareness or mental silence. One does not practice in order to achieve awakening. Awakening occurs spontaneously through the meditation.

Siddha yoga (1950) emphasizes meditation by silently focusing the attention on mantras, chants, and the breath. Siddha Yoga practices help the seeker expand the inner mystical state.

Sudarshan Kriya Yoga (SKY) centers on simple rhythmic breathing practices (from slow and calming to rapid and stimulating) to harmonize the body, mind, and emotions. The technique is designed to lower stress and eliminate negative emotions, leaving the body relaxed.

APPENDIX B. Search Strategies

CONDITION-SPECIFIC SEARCHES (BY DATABASE SEARCHED)

Database: PubMed

Search date: 7/30/14

Set #	Depressive Disorders	Results
1	yoga[mesh] OR yoga[tiab] OR pranayama[tiab]	2278
2	"Depressive Disorder"[Mesh] OR "Dysthymic Disorder"[Mesh] OR "Adjustment Disorders"[Mesh] OR "subsyndromal depression"[tiab] OR "subthreshold depression"[tiab] OR "minor depression"[tiab]	80485
3	(systematic[sb] OR "Meta-Analysis" [Publication Type] OR "Meta-Analysis as Topic"[Mesh] OR "Review" [Publication Type] OR meta-analysis[tiab] OR search*[tiab]) NOT (animals[mh] NOT humans[mh]) NOT (Editorial[ptyp] OR Letter[ptyp] OR Case Reports[ptyp] OR Comment[ptyp])	1778410
4	(randomized controlled trial[pt] OR controlled clinical trial[pt] OR randomized[tiab] OR randomised[tiab] OR randomization[tiab] OR randomisation[tiab] OR placebo[tiab] OR drug therapy[sh] OR randomly[tiab] OR trial[tiab] OR groups[tiab]) NOT (animals[mh] NOT humans[mh]) NOT (Editorial[ptyp] OR Letter[ptyp] OR Case Reports[ptyp] OR Comment[ptyp])	2454824
5	#1 AND #2	37
6	#5 AND #3	9
7	#5 AND #4	21
8	#5 AND (#3 OR #4)	27

Set #	Generalized Anxiety Disorder/Panic Disorder	Results
1	yoga[mesh] OR yoga[tiab] OR pranayama[tiab]	2278
2	(generalized anxiety disorder[tiab] OR Anxiety[Mesh:noexp] OR "Anxiety Disorders"[Mesh:noexp] OR "Panic Disorder"[Mesh] OR "anxiety disorder nos"[tiab] OR "mixed anxiety"[tiab] OR panic[mesh])	
3	(systematic[sb] OR "Meta-Analysis" [Publication Type] OR "Meta-Analysis as Topic"[Mesh] OR "Review" [Publication Type] OR meta-analysis[tiab] OR search*[tiab]) NOT (animals[mh] NOT humans[mh]) NOT (Editorial[ptyp] OR Letter[ptyp] OR Case Reports[ptyp] OR Comment[ptyp])	1778410
4	(randomized controlled trial[pt] OR controlled clinical trial[pt] OR randomized[tiab] OR randomised[tiab] OR randomization[tiab] OR randomisation[tiab] OR placebo[tiab] OR drug therapy[sh] OR randomly[tiab] OR trial[tiab] OR groups[tiab]) NOT (animals[mh] NOT humans[mh]) NOT (Editorial[ptyp] OR Letter[ptyp] OR Case Reports[ptyp] OR Comment[ptyp])	2454824
5	#1 AND #2	123
6	#5 AND #3	22
7	#5 AND #4	62
8	#5 AND (#3 OR #4)	76

Set #	Posttraumatic Stress Disorder	Results
1	yoga[mesh] OR yoga[tiab] OR pranayama[tiab]	2278
2	"Stress Disorders, Traumatic"[Mesh] OR (post[tiab] AND traumatic[tiab] AND stress[tiab] AND disorder[tiab]) OR (post-traumatic[tiab] AND stress[tiab] AND disorder[tiab]) OR ptsd[tiab]	24834
3	(systematic[sb] OR "Meta-Analysis" [Publication Type] OR "Meta-Analysis as Topic"[Mesh] OR "Review" [Publication Type] OR meta-analysis[tiab] OR search*[tiab]) NOT (animals[mh] NOT humans[mh]) NOT (Editorial[ptyp] OR Letter[ptyp] OR Case Reports[ptyp] OR Comment[ptyp])	1778410
4	(randomized controlled trial[pt] OR controlled clinical trial[pt] OR randomized[tiab] OR randomised[tiab] OR randomization[tiab] OR randomisation[tiab] OR placebo[tiab] OR drug therapy[sh] OR randomly[tiab] OR trial[tiab] OR groups[tiab]) NOT (animals[mh] NOT humans[mh]) NOT (Editorial[ptyp] OR Letter[ptyp] OR Case Reports[ptyp] OR Comment[ptyp])	2454824
5	#1 AND #2	20
6	#5 AND #3	9
7	#5 AND #4	3
8	#5 AND (#3 OR #4)	11

Set #	Insomnia	Results
1	yoga[mesh] OR yoga[tiab] OR pranayama[tiab]	2278
2	"Sleep Initiation and Maintenance Disorders"[Mesh] OR insomnia[tiab] OR sleep[tiab]	107887
3	(systematic[sb] OR "Meta-Analysis" [Publication Type] OR "Meta-Analysis as Topic"[Mesh] OR "Review" [Publication Type] OR meta-analysis[tiab] OR search*[tiab]) NOT (animals[mh] NOT humans[mh]) NOT (Editorial[ptyp] OR Letter[ptyp] OR Case Reports[ptyp] OR Comment[ptyp])	1778410
4	(randomized controlled trial[pt] OR controlled clinical trial[pt] OR randomized[tiab] OR randomised[tiab] OR randomization[tiab] OR randomisation[tiab] OR placebo[tiab] OR drug therapy[sh] OR randomly[tiab] OR trial[tiab] OR groups[tiab]) NOT (animals[mh] NOT humans[mh]) NOT (Editorial[ptyp] OR Letter[ptyp] OR Case Reports[ptyp] OR Comment[ptyp])	2454824
5	#1 AND #2	127
6	#5 AND #3	33
7	#5 AND #4	72
8	#5 AND (#3 OR #4)	82

Set #	Low Back Pain	Results
1	yoga[mesh] OR yoga[tiab] OR pranayama[tiab]	2278
2	low back pain[mesh] OR low back pain[tiab] OR lower back pain[tiab] OR lumbago[tiab] OR low backache[tiab] OR low back ache[tiab] OR sciatica[mesh] OR sciatica[tiab]	
3	(systematic[sb] OR "Meta-Analysis" [Publication Type] OR "Meta-Analysis as Topic"[Mesh] OR "Review" [Publication Type] OR meta-analysis[tiab] OR search*[tiab]) NOT (animals[mh] NOT humans[mh]) NOT (Editorial[ptyp] OR Letter[ptyp] OR Case Reports[ptyp] OR Comment[ptyp])	1778410
4	(randomized controlled trial[pt] OR controlled clinical trial[pt] OR randomized[tiab] OR randomised[tiab] OR randomization[tiab] OR randomisation[tiab] OR placebo[tiab] OR drug therapy[sh] OR randomly[tiab] OR trial[tiab] OR groups[tiab]) NOT (animals[mh] NOT humans[mh]) NOT (Editorial[ptyp] OR Letter[ptyp] OR Case Reports[ptyp] OR Comment[ptyp])	2454824
5	#1 AND #2	66
6	#5 AND #3	21
7	#5 AND #4	39
8	#5 AND (#3 OR #4)	46

Set #	Prevention of Falls	Results
1	yoga[mesh] OR yoga[tiab] OR pranayama[tiab]	2278
2	"Accidental Falls"[Mesh] OR fall[tiab] OR falls[tiab]	
3	(systematic[sb] OR "Meta-Analysis" [Publication Type] OR "Meta-Analysis as Topic"[Mesh] OR "Review" [Publication Type] OR meta-analysis[tiab] OR search*[tiab]) NOT (animals[mh] NOT humans[mh]) NOT (Editorial[ptyp] OR Letter[ptyp] OR Case Reports[ptyp] OR Comment[ptyp])	1778410
4	(randomized controlled trial[pt] OR controlled clinical trial[pt] OR randomized[tiab] OR randomised[tiab] OR randomization[tiab] OR randomisation[tiab] OR placebo[tiab] OR drug therapy[sh] OR randomly[tiab] OR trial[tiab] OR groups[tiab]) NOT (animals[mh] NOT humans[mh]) NOT (Editorial[ptyp] OR Letter[ptyp] OR Case Reports[ptyp] OR Comment[ptyp])	2454824
5	#1 AND #2	39
6	#5 AND #3	8
7	#5 AND #4	16
8	#5 AND (#3 OR #4)	22

Database: Embase

Search date: 7/30/14

Set #	Depressive Disorders	Results
1	'yoga'/exp OR yoga:ab,ti OR pranayama:ab,ti	4347
2	'depression'/exp OR 'adjustment disorder'/exp OR 'subsyndromal depression':ab,ti OR 'subthreshold depression':ab,ti OR 'minor depression':ab,ti	462905
3	([cochrane review]/lim OR [meta analysis]/lim OR 'meta analysis (topic)'/exp OR [systematic review]/lim OR search*:ab,ti)	359535
4	'randomized controlled trial'/exp OR 'crossover procedure'/exp OR 'double blind procedure'/exp OR 'single blind procedure'/exp OR random* OR factorial* OR crossover* OR cross NEAR/1 over* OR placebo* OR doubl* NEAR/1 blind* OR singl* NEAR/1 blind* OR assign* OR allocat* OR volunteer*	1549715
5	#1 AND #2	617
6	#5 AND #3	98
7	#5 AND #4	249
8	#5 AND (#3 OR #4) AND [embase]/lim NOT [medline]/lim	137

Set #	Generalized Anxiety Disorder/Panic Disorder	Results
1	'yoga'/exp OR yoga:ab,ti OR OR pranayama:ab,ti	4347
2	'generalized anxiety disorder'/exp OR 'anxiety disorder'/de OR 'anxiety'/de OR 'panic'/exp OR 'generalized anxiety disorder':ab,ti OR 'anxiety disorder nos':ab,ti OR 'mixed anxiety':ab,ti	282704
3	([cochrane review]/lim OR [meta analysis]/lim OR 'meta analysis (topic)'/exp OR [systematic review]/lim OR search*:ab,ti)	359535
4	'randomized controlled trial'/exp OR 'crossover procedure'/exp OR 'double blind procedure'/exp OR 'single blind procedure'/exp OR random* OR factorial* OR crossover* OR cross NEAR/1 over* OR placebo* OR doubl* NEAR/1 blind* OR singl* NEAR/1 blind* OR assign* OR allocat* OR volunteer*	1549715
5	#1 AND #2	644
6	#5 AND #3	86
7	#5 AND #4	240
8	#5 AND (#3 OR #4) AND [embase]/lim NOT [medline]/lim	135

Set #	Posttraumatic Stress Disorder	Results
1	'yoga'/exp OR yoga:ab,ti OR OR pranayama:ab,ti	4347
2	'posttraumatic stress disorder'/exp OR (post:ab,ti AND traumatic:ab,ti AND stress:ab,ti AND disorder:ab,ti) OR (post-traumatic:ab,ti AND stress:ab,ti AND disorder:ab,ti) OR ptsd:ab,ti	34554
3	([cochrane review]/lim OR [meta analysis]/lim OR 'meta analysis (topic)'/exp OR [systematic review]/lim OR search*:ab,ti)	359535

Set #	Posttraumatic Stress Disorder	Results
4	'randomized controlled trial'/exp OR 'crossover procedure'/exp OR 'double blind procedure'/exp OR 'single blind procedure'/exp OR random* OR factorial* OR crossover* OR cross NEAR/1 over* OR placebo* OR doubl* NEAR/1 blind* OR singl* NEAR/1 blind* OR assign* OR allocat* OR volunteer*	1549715
5	#1 AND #2	52
6	#5 AND #3	7
7	#5 AND #4	14
8	#5 AND (#3 OR #4) AND [embase]/lim NOT [medline]/lim	10

Set #	Insomnia	Results
1	'yoga'/exp OR yoga:ab,ti OR OR pranayama:ab,ti	4347
2	'insomnia'/exp OR insomnia:ab,ti OR sleep:ab,ti	170996
3	([cochrane review]/lim OR [meta analysis]/lim OR 'meta analysis (topic)'/exp OR [systematic review]/lim OR search*:ab,ti)	359535
4	'randomized controlled trial'/exp OR 'crossover procedure'/exp OR 'double blind procedure'/exp OR 'single blind procedure'/exp OR random* OR factorial* OR crossover* OR cross NEAR/1 over* OR placebo* OR doubl* NEAR/1 blind* OR singl* NEAR/1 blind* OR assign* OR allocat* OR volunteer*	1549715
5	#1 AND #2	280
6	#5 AND #3	43
7	#5 AND #4	130
8	#5 AND (#3 OR #4) AND [embase]/lim NOT [medline]/lim	66

Set #	Low Back Pain	Results
1	'yoga'/exp OR yoga:ab,ti OR OR pranayama:ab,ti	4347
2	'low back pain'/exp OR 'sciatica'/exp OR 'low back pain':ab,ti OR 'lower back pain':ab,ti OR lumbago:ab,ti OR 'low backache':ab,ti OR 'low back ache':ab,ti OR sciatica:ab,ti	44645
3	([cochrane review]/lim OR [meta analysis]/lim OR 'meta analysis (topic)'/exp OR [systematic review]/lim OR search*:ab,ti)	359535
4	'randomized controlled trial'/exp OR 'crossover procedure'/exp OR 'double blind procedure'/exp OR 'single blind procedure'/exp OR random* OR factorial* OR crossover* OR cross NEAR/1 over* OR placebo* OR doubl* NEAR/1 blind* OR singl* NEAR/1 blind* OR assign* OR allocat* OR volunteer*	1549715
5	#1 AND #2	152
6	#5 AND #3	25
7	#5 AND #4	67
8	#5 AND (#3 OR #4) AND [embase]/lim NOT [medline]/lim	32

Set #	Prevention of Falls	Results
1	'yoga'/exp OR yoga:ab,ti OR OR pranayama:ab,ti	4347
2	'falling'/exp OR fall:ab,ti OR falls:ab,ti	188863
3	([cochrane review]/lim OR [meta analysis]/lim OR 'meta analysis (topic)'/exp OR [systematic review]/lim OR search*:ab,ti)	359535
4	'randomized controlled trial'/exp OR 'crossover procedure'/exp OR 'double blind procedure'/exp OR 'single blind procedure'/exp OR random* OR factorial* OR crossover* OR cross NEAR/1 over* OR placebo* OR doubl* NEAR/1 blind* OR singl* NEAR/1 blind* OR assign* OR allocat* OR volunteer*	1549715
5	#1 AND #2	91
6	#5 AND #3	9
7	#5 AND #4	33
8	#5 AND (#3 OR #4) AND [embase]/lim NOT [medline]/lim	19

Database: Cochrane Database of Systematic Reviews

Search date: 7/30/14

Set #	Depressive Disorders	Results
1	yoga:ab,ti OR pranayama:ab,ti OR MeSH descriptor: [Yoga] explode all trees	541
2	MeSH descriptor: [Depressive Disorder] explode all trees OR MeSH descriptor: [Dysthymic Disorder] explode all trees OR MeSH descriptor: [Adjustment Disorders] explode all trees OR "subsyndromal depression":ab,ti OR "subthreshold depression":ab,ti OR "minor depression":ab,ti	7154
3	#1 AND #2	12
4	#3: CENTRAL Register of Controlled Trials	9
5	#3: Cochrane Database of Systematic Reviews	0

Set #	Generalized Anxiety Disorder/Panic Disorder	Results
1	yoga:ab,ti OR pranayama:ab,ti OR MeSH descriptor: [Yoga] explode all trees	541
2	generalized anxiety disorder:ab,ti OR "anxiety disorder nos":ab,ti OR "mixed anxiety":ab,ti OR MeSH descriptor: [Anxiety] this term only OR MeSH descriptor: [Anxiety Disorders] explode all trees OR MeSH descriptor: [Panic Disorder] explode all trees OR MeSH descriptor: [Panic] explode all trees	9149
3	#1 AND #2	36
4	#3: CENTRAL Register of Controlled Trials	30
5	#3: Cochrane Database of Systematic Reviews	3

Set #	Posttraumatic Stress Disorder	Results
1	yoga:ab,ti OR pranayama:ab,ti OR MeSH descriptor: [Yoga] explode all trees	541
2	MeSH descriptor: [Stress Disorders, Traumatic] explode all trees OR (post:ab,ti AND traumatic:ab,ti AND stress:ab,ti AND disorder:ab,ti) OR (post-traumatic:ab,ti AND stress:ab,ti AND disorder:ab,ti) OR ptsd:ab,ti	1324
3	#1 AND #2	3
4	#3: CENTRAL Register of Controlled Trials	3
5	#3: Cochrane Database of Systematic Reviews	0

Set #	Insomnia	Results
1	yoga:ab,ti OR pranayama:ab,ti OR MeSH descriptor: [Yoga] explode all trees	541
2	MeSH descriptor: [Sleep Initiation and Maintenance Disorders] explode all trees OR insomnia:ab,ti OR sleep:ab,ti	11833
3	#1 AND #2	38
4	#3: CENTRAL Register of Controlled Trials	34
5	#3: Cochrane Database of Systematic Reviews	4

Set #	Low Back Pain	Results
1	yoga:ab,ti OR pranayama:ab,ti OR MeSH descriptor: [Yoga] explode all trees	541
2	MeSH descriptor: [Low Back Pain] explode all trees OR MeSH descriptor: [Sciatica] explode all trees OR low back pain:ab,ti OR lower back pain:ab,ti OR lumbago:ab,ti OR low backache:ab,ti OR low back ache:ab,ti OR sciatica:ab,ti	4916
3	#1 AND #2	30
4	#3: CENTRAL Register of Controlled Trials	19
5	#3: Cochrane Database of Systematic Reviews	6

Set #	Prevention of Falls	Results
1	yoga:ab,ti OR pranayama:ab,ti OR MeSH descriptor: [Yoga] explode all trees	541
2	“Accidental Falls”[Mesh] OR fall:ab,ti OR falls:ab,ti	12672
3	#1 AND #2	16
4	#3: CENTRAL Register of Controlled Trials	15
5	#3: Cochrane Database of Systematic Reviews	1

SEARCHES ON ADVERSE EFFECTS OF YOGA

Database: PubMed

Search date: 7/30/14

Set #	Systematic Reviews	Results
1	yoga[mesh] OR yoga[tiab] OR pranayama[tiab]	2279
2	Case reports[publication type] OR case[tiab] OR cases[tiab] OR adverse[tiab]	3564356
3	Hematoma[mesh] OR hematoma[tiab] OR purpura[mesh] OR purpura[tiab] OR rupture[mesh] OR rupture[tiab] OR myositis[mesh] OR myositis[tiab] OR lymphocele[mesh] OR lymphocele[tiab] OR occlusion[tiab] OR embolism[mesh] OR embolism[tiab] OR thrombosis[mesh] OR thrombosis[tiab] OR stroke[mesh] OR stroke[tiab] OR psychotic disorders[mesh] OR psychosis[tiab] OR psychotic[tiab] OR pneumothorax[mesh] OR pneumothorax[tiab] OR glaucoma[mesh] OR glaucoma[tiab] OR neuropathy[tiab] OR footdrop[tiab]	787681
4	#2 OR #3	4072575
5	#1 AND #4	281
6	#5 AND (systematic[sb] OR “Meta-Analysis” [Publication Type] OR “Meta-Analysis as Topic”[Mesh] OR “Review” [Publication Type] OR meta-analysis[tiab] OR search*[tiab])	71
7	#6, Limits: English, 2008 - present	45

Set #	Primary Studies	Results
1	yoga[mesh] OR yoga[tiab] OR pranayama[tiab]	2279
2	Case reports[publication type] OR case[tiab] OR cases[tiab] OR adverse[tiab]	3564356
3	Hematoma[mesh] OR hematoma[tiab] OR purpura[mesh] OR purpura[tiab] OR rupture[mesh] OR rupture[tiab] OR myositis[mesh] OR myositis[tiab] OR lymphocele[mesh] OR lymphocele[tiab] OR occlusion[tiab] OR embolism[mesh] OR embolism[tiab] OR thrombosis[mesh] OR thrombosis[tiab] OR stroke[mesh] OR stroke[tiab] OR psychotic disorders[mesh] OR psychosis[tiab] OR psychotic[tiab] OR pneumothorax[mesh] OR pneumothorax[tiab] OR glaucoma[mesh] OR glaucoma[tiab] OR neuropathy[tiab] OR footdrop[tiab]	787681
4	#2 OR #3	4072575
5	#1 AND #4	281
6	#5, Limits: English, 2011 - present	112
7	#6 NOT (systematic[sb] OR “Meta-Analysis” [Publication Type] OR “Meta-Analysis as Topic”[Mesh] OR “Review” [Publication Type] OR meta-analysis[tiab] OR search*[tiab]) (Note – removing duplicates from systematic review search)	80

SEARCH OF ALLIED AND COMPLEMENTARY MEDICINE DATABASE (AMED)

Database: AMED

Search date: 7/30/14

Set #	General Yoga Search	Results
1	(DE “YOGA”) OR TI (yoga OR pranayama) OR AB (yoga OR pranayama), Limits: journal article	195

APPENDIX C. Data Abstraction Elements

Study ID:

- First author first and last name
- Year of publication
- Ref ID

Objectives:

- Stated objectives

Methods:

- First search date
- Last search date
- Databases searched
- Language restrictions
- Country restrictions
- Inclusion criteria:
    - RCTs
    - Observational studies
    - Clinical condition(s)
    - Yoga intervention(s)
    - Comparator(s)
    - Outcome timing
- Exclusion criteria
- Primary studies quality rated?
- Comments on methods

Analyses:

- Meta-analysis done? (Y/N)
- Meta-analysis software
- Qualitative analysis
- Publication bias assessed?
- Analyses for heterogeneity
- Sensitivity analyses?
- List relevant outcomes
- Comments on analysis

Results:

- Total number (#) of included studies
- # of eligible yoga studies
- # of yoga RCTs
- RCT size
- # patients in RCTs
- # of yoga observational studies
- Observational studies size
- # patients in observational studies

- # of other study designs
- # yoga studies from USA
- # primary studies in Veterans
- Patient characteristics
- Outcome timing
- Yoga intervention(s) elements
- Yoga intervention styles
- Yoga intensity
- Outcomes:
    - Symptom Severity
    - Function/HRQOL
    - Adverse effects
    - Patient satisfaction
    - Resource utilization
    - Any effect on cost
    - Other
- Quality ratings in studies in systematic review
- Comments on results

Conclusions:

- Authors' conclusions
- Comments on conclusions

Other:

- Funding source
- Quality rating of SR
- Conflicts of interest
- Limitations
- Other comments

APPENDIX D. Criteria Used in Quality AssessmenT of Systematic Reviews

For reviews, first determine whether it is a systematic review. To be a systematic review, it must include a methods section that describes (1) a search strategy and (2) an a priori approach to synthesizing the data. For reviews determined to meet the systematic review criteria, assess methodological quality, following the instructions below.

General instructions: The purpose of this rating tool is to evaluate the scientific quality of systematic reviews. It is not intended to measure the literary quality, importance, relevance, originality, or other attributes of systematic reviews.

Step 1: Grade each criterion listed below as "Yes," "No," "Can't tell" or "Not Applicable" (N/A). Factors to consider when making an assessment are listed under each criterion. Where appropriate (particularly when assigning a "No" or "Can't tell" score), please provide a brief rationale for your decision (in parentheses).

1. Is a focused clinical question clearly stated?
At a minimum, the question should be developed a priori and should clearly identify population and outcomes. The study question does not have to be in PICO format (Population, Intervention, Comparisons, Outcomes).

[] Yes [] No [] Can't tell [] N/A

2. Are the search methods used to identify relevant studies clearly described?
Search methods described in enough detail to permit replication. (The report must include search date, databases used, and search terms. Keywords and/or MeSH terms must be stated and where feasible the search strategy should be provided.)

[] Yes [] No [] Can't tell [] N/A

3. Was a comprehensive literature search performed?
At least 2 electronic sources should be searched and electronic searches should be supplemented by consulting: reference lists from prior reviews, textbooks, or included studies; specialized registries *(eg,* Cochrane registries); or queries to experts in the field.

[] Yes [] No [] Can't tell [] N/A

4. Was selection bias avoided?
Study reports the number of studies identified through searches, the numbers excluded, and gives appropriate reasons for excluding, based on explicit inclusion/exclusion criteria.

[] Yes [] No [] Can't tell [] N/A

5. Was there duplicate study selection and data extraction?
Did two or more raters make inclusion/exclusion decisions, abstract data, and assess study quality – either independently or with one rater over-reading the first raters result? Was an appropriate method used to resolve disagreements *(eg,* a consensus procedure)?

[] Yes [] No [] Can't tell [] N/A

6. Were the characteristics of the included studies provided?
In an aggregated form such as a table, data from the original studies should be provided on the participants, interventions, and outcomes. The ranges of characteristics in all the studies analyzed *(eg,* age, race, sex, relevant socioeconomic data, disease status, duration, severity or other diseases) should be reported.

[] Yes [] No [] Can't tell [] N/A

7. Was the scientific quality of the included studies assessed and documented?
A priori methods of assessment should be provided and criteria used to assess study quality specified in enough detail to permit replication.

[] Yes [] No [] Can't tell [] N/A

8. Were the methods used to combine the findings of studies appropriate?
For pooled results, an accepted quantitative method of pooling should be used *(ie,* more than simple addition; eg, random-effects or fixed-effect model). For pooled results, a qualitative and quantitative assessment of homogeneity (Cochran's Q and/or I2) should be performed. If only qualitative analyses are completed, the study should describe the reasons that quantitative analyses were not completed.

[] Yes [] No [] Can't tell [] N/A

9. Was the scientific quality of the included studies used appropriately in formulating conclusions?
The results of the methodological rigor and scientific quality should be considered in the analysis *(eg,* subgroup analyses) and the conclusions of the review, and explicitly stated in formulating recommendations.

[] Yes [] No [] Can't tell [] N/A

10. Was publication bias assessed?
Publication bias tested using funnel plots, test statistics *(eg,* Egger's regression test), and/or search of trials registry for unpublished studies.

[] Yes [] No [] Can't tell [] N/A

11. Was the conflict of interest stated?
Potential sources of support should be clearly acknowledged in both the systematic review and the included studies.

[] Yes [] No [] Can't tell [] N/A

12. Are the stated conclusions supported by the data presented?
Were the conclusions made by the author(s) supported by the data and/or analyses reported in the systematic review?

[] Yes [] No [] Can't tell [] N/A

APPENDIX E. Peer Review Comments/Author Responses

Reviewer	Comment	Response
Question 1: Are the objectives, scope, and methods for this review clearly described?		
1	Yes	Acknowledged
2	Yes	Acknowledged
3	Yes. The methods implemented, though clearly stated, may not be appropriate as they are utilizing a pill vs. placebo paradigm to evaluate research where that paradigm may not be useful.	We chose to prioritize RCTs as the study design best suited to evaluating treatment effects. We included studies evaluating yoga against any comparator.
4	Yes	Acknowledged
5	Yes. I thought it was reasonable to focus on the most recent review and include large RCTs.	Acknowledged; thank you.
6	Reviewer gave all comments generally; included under Question 4, below	(See below, under Question 4)
Question 2: Is there any indication of bias in our synthesis of the evidence?		
1	No. This is an excellent effort to look at all the data available on Yoga for these disorders.	Thank you.
1	My only concern, having done two reviews myself, is why two people did not do the data extraction? I think it eliminates bias. In the reviews I did, two separate researchers extracted the data (found articles) from the data bases.	We have revised the document to clarify that 2 reviewers independently identified potentially eligible studies at both the title-and-abstract screening stage and the full-text screening stage, and that 2 investigators were involved in data extraction for each included study.
1	I take a little exception to having one of the studies I was involved with labeled as “low” (Cabral reviewed under anxiety, PTSD) in terms of the quality of the review, as I personally know great pains were taken to have 2 independent people go through the research available to find the papers targeted by our search criteria.	We applied criteria described in Appendix D to ascribe a quality rating score to each included systematic review. The authors of the review by Cabral et al stated a focused clinical question, avoided selection bias, reported the characteristics of the included studies, and disclosed potential conflicts of interest, but our assessment was that this review did not meet other quality criteria that we consider to be required for a “good” or “fair” quality rating.
1	I am unclear about why MBSR was not included in the review. Is its focus on “Meditation” what causes it to be excluded? I am aware of a comprehensive MBSR program being provided at my VA so think it would be very useful for MBSR articles to be included.	We considered including MBSR in the review because it typically includes breathing exercises that share features or general principles with yoga. We decided, however, that including all practices that share features with yoga (including MBSR, all meditation practices, and focused breathing exercises) would significantly shift the focus of the review away from yoga, thereby resulting in findings that would not be directly applicable to the key questions. This approach is consistent with reviews of yoga and reviews of MBSR, which typically do not include yoga interventions. We added this rationale to the Methods section.
2	No	Acknowledged

Reviewer	Comment	Response
3	Yes. The bias is in the inclusion exclusion criteria, not in the synthesis of the evidence. To exclude 79 out of 89 articles may indicate that the established criteria used did not fit this area of research – at least not at this early stage in yoga research. The report is potentially overlooking valuable evidence that was excluded based on numbers, not on quality of science that might be beneficial in leading the field forward.	We acknowledge that some of the published literature that pertains to yoga is not included or reflected in our review. For the purpose of this mapping report, the stakeholders and investigators decided to apply inclusion criteria a priori, which led to the exclusion of studies that were not recent RCTs or systematic reviews. The quality of the science of some of these excluded studies may have been relatively high, but we set out to map the published literature as reflected by systematic reviews and recent RCTs.
4	No	Acknowledged
5	No. Although the authors did a good job in this, I am aware that at least some of the systematic reviews inaccurately describe the quality of the primary studies. I don't think this has affected the outcomes.	We carefully described the systematic review authors' approach to quality assessment of primary studies and included this characteristic in our quality ratings of the systematic review. The 2 reviews that evaluated the majority of the primary trials had good approaches to quality assessment.
6	Reviewer gave all comments generally; included under Question 4, below	(See below, under Question 4)
Question 3: Are there any published or unpublished studies that we may have overlooked?		
1	Yes. Yoga as an adjunctive treatment for posttraumatic stress disorder: a randomized controlled trial. van der Kolk BA, Stone L, West J, Rhodes A, Emerson D, Suvak M, Spinazzola J. J Clin Psychiatry. 2014 Jun;75(6):e559-65. doi: 10.4088/JCP.13m08561. PMID:25004196	We updated the literature search through July 30, 2014. The updated search identified this study, which would have been eligible except that it had a sample size <100 (n=64). As stated below (see Question 4, response to comment from Reviewer 3), although we did not evaluate RCTs with n<100 published after 2011, we have now identified and cited these studies. Given the small number of otherwise eligible RCTs with n<100 identified (n=10), omission of these studies would not change any conclusions.
2	No. Not that I'm aware of.	Acknowledged
3	No	Acknowledged
4	Yes. See #4 below and attached pdf. (Meyer et al. 2012)	(See below, under Question 4)
5	No. I don't know of any. There are some trials currently being conducted, so some of these gaps may be diminished in the next few years.	Acknowledged
6	Reviewer gave all comments generally; included under Question 4, below	(See below, under Question 4)
Question 4: Please write additional suggestions or comments below. If applicable, please indicate the page and line numbers from the draft report.		
1	No comments	Acknowledged
2	No comments	Acknowledged
3	I would suggest looking at smaller RCT and pre-2011 RCTs to see if that changes the outcome of the report in the areas of effectiveness, applicability, and informing research gaps.	The systematic reviews included in this review did not exclude primary studies by sample size; we therefore expect most of the pertinent pre-2011 RCTs to be reflected in this review. Although we did not evaluate RCTs with n<100 published after 2011, we have now identified and cited these studies. Given the small number of otherwise eligible RCTs with n<100 identified (n=10), omission of these studies would not change any conclusions.

Reviewer	Comment	Response
4	For Fig. ES-1 and Fig 2, the ordinate is so large that the N=11 for PTSD looks like zero. I suggest a log scale or a break in the scale between 10 and 500. Ordinate also can end at 1000; no N was higher.	Thank you for this recommendation. We have revised the figures accordingly.
4	p 4 bottom and p 5 top: define "bias" early in the document. You indicate on p 37 that you did not formally assess publication bias, yet you comment on it in multiple places in the document as being low, etc. This seems contradictory.	We have revised the report to clarify that we are reporting the systematic review authors' assessment of the primary studies' risk of bias or publication bias. We assessed the quality of the systematic reviews.
4	Table ES-1 and Table 2: Iyengar (with a y).	Acknowledged and corrected
4	Is there a reason that Meyer et al, J Neuropsychiatr Clin Neurosci 24:152-164, 2012 was not cited?	This publication was identified by our literature search but was excluded at the full-text review stage because we considered it to be a general review, and not a systematic review. We reviewed this again based on the reviewer's comments, and we continue to think that this publication does not meet eligibility criteria for that reason.
5	There are some on-going trials (see clinical trials.gov) that will provide better quality evidence on yoga for chronic back pain and for veterans. These would be important additions to the literature. There is also at least one large trial of yoga for depression ongoing. I think that mentioning these is worthwhile. But, I am unclear about studies of yoga for older adults. These are general trials – at some point, if there is a lot of heterogeneity in the trials, a more careful assessment of the differences in the vigor of the yoga postures would be helpful as that has a clear potential impact on the outcomes.	We appreciate the comment and have now conducted a search of ClinicalTrials.gov to identify studies evaluating yoga that were categorized as ongoing or completed, but for which we could not identify a publication reporting outcomes. We have now reported the results of this search in the report and have added an appendix that lists these studies (Appendix F).
6	1. It was stated that there was high bias in the studies looking at yoga for depression and that no tool was used to determine the amount of bias so I am wondering how the determination of bias was made.	We have revised the report to clarify that we assessed the quality of the systematic reviews according to the criteria reported in Appendix D, but that we did not assess bias (or study quality) of the primary studies included in the systematic reviews. The assessment of bias for those studies was conducted and reported by the authors of the systematic reviews.
6	2. It was stated that subjects received 10-20 hours of yoga and follow up was done over 5-12 weeks. Am I right to assume that the total amount of yoga was 10-20 hours total as opposed to per week and that the period of intervention and follow up was 5-12 weeks?	Thank you for catching this inconsistency. We have revised the text to clarify that this is total hours of yoga instruction and have calculated a median and range for the time interval of intervention and follow-up.

Reviewer	Comment	Response
6	3. Exercise was mentioned as one of the controls and I was wondering if it is possible to draw any general conclusions of yoga vs. exercise. The reason I am interested is that when talking about self-care I have suggested that yoga and tai chi could be considered forms of low impact exercise and that it may be reasonable to substitute them in situations where other forms of low impact exercise are used. Having studies that suggest yoga is at least no worse than exercise would be helpful.	In the depression studies, yoga was compared to aerobic exercise in 2 studies, and the decline in depressive symptoms was greater in the yoga groups. Three of the 10 low back pain studies used exercise as a comparator. The report has been revised to reflect these analyses.
6	4. Could the types of adverse effects seen with yoga be described? While the patient population doesn't fit the VA it would be nice to know what sort of potential risks are known as this would be important in deciding trial or pilot design.	We have revised the report to add more detailed information about the types of injuries reported and which postures were involved in certain injuries. However, we are limited in what we can provide by the lack of information regarding yoga types and postures in the original case reports and series.
6	5. For a paper entitled Evidence Map for Yoga there doesn't appear to be an actual map. The closest thing I see is figure 2. Did I miss something?	We considered a variety of different approaches for summarizing our findings. In so doing, we reviewed other published mapping reports. We found (and concluded) that tables and figures that do not look like maps appear to be the most useful way of summarizing the number, type, and nature of published systematic reviews and RCTs (pending the introduction of more creative and potentially better ways of summarizing and displaying these types of findings).
6	6. It is disappointing that there was only one study looking at balance and nothing at falls and that only low back pain and depression had sufficient studies for evaluation. Given the length of time RCTs take it may be prudent for VA to do some demonstration projects and have them set up in a way that the results could be analyzed to hopefully answer some of the questions of efficacy and safety in a VA population. Back pain certainly would seem to be the most promising area based on the findings. The thought of combing modalities such as CBT and yoga is something worth emphasizing more strongly. I'm not sure what to make of the depression studies in terms of what hint it gives to VA as to where to go next. The fact that the meditation component of yoga was part of the evaluation makes me wonder if for this particular condition focusing on meditation and depression for further study may be a better place to start. Hope this helps. I think it gives a lot of food for thought on next steps in terms of how to approach the integration of CAM services and the need to have some demonstration projects/ pilots to assess applicability and efficacy in the VA population.	We listed major research gaps along with proposed study designs that could address these gaps. For LBP and depressive disorders, we recommended larger RCTs, or pragmatic comparative effectiveness trials. Demonstration studies would be more appropriate when transferring a proven intervention to new populations, when RCTs are not feasible, or to evaluate the barriers and facilitators to implementing a new intervention. We agree that demonstration projects may be appropriate for LBP studies, and a hybrid type 2 design that evaluates effectiveness and factors related to successful implementation could be particularly useful. We have revised the Discussion to add this.

Reviewer	Comment	Response
Optional Dissemination and Implementation Questions		
Question 5: Are there any clinical performance measures, programs, quality improvement measures, patient care services, or conferences that will be directly affected by this report? If so, please provide detail.		
1	Patient Centered Quality Improvement initiatives.	Acknowledged. Thank you.
2	I would like to have the report presented at the National Integrative Health Community of Practice Call, held on the second Tuesday of each month at 11:00 ET	We are available to do this on October 14th or December 9th.
3	Yes. This report could inform local VA who have yoga programs where to target recruitment of participants and expected areas for improvement. It will also provide background information for individuals interested in applying for grants studying yoga as treatment. It illustrates areas where more research is needed.	Acknowledged; thank you.
4	No comments	Acknowledged
5	I don't know.	Acknowledged
6	Reviewer gave all comments generally; included under Question 4, above	(See above, under Question 4)
Question 6: Please provide any recommendations on how this report can be revised to more directly address or assist implementation needs.		
1	This is a very "Academic." Report.	We have revised the Executive Summary so that it is easier to read and understand.
1	The bottom line for administrators, clinicians, internal, external VA Stakeholders, and American taxpayers, is should the VA spend money on Yoga treatments to be offered through the VA, or through some type of voucher system?	We appreciate this question, but it is our understanding that we, as authors of this mapping report, are not in a position to make specific recommendations or to attempt to answer policy-related questions.
1	How does one guarantee the quality of the yoga provided with over 1000 flavors of yoga…?	The information reported by the studies included in our review does not provide information to address this important question.
1	Who provides the yoga?	We have revised the report by including as much detail about who provided the yoga in each study as was reported by the authors of the systematic reviews.
1	Given shortages of nurses, doctors and other licensed professionals, national press attention for long wait times, should the VA spend millions of dollars on Yoga, Yoga Research, or more doctors and other licensed clinicians?	Again, we appreciate this very important question, but the ESP does not make specific recommendations on policy-related questions.
1	Since the people at the VA who make decisions about money and how to spend it, don't have time and thus, are not inclined to read such a dense academic report as this, there should be a one page Reader's Digest version. It should be understandable to people like VA stakeholders as well.	We have revised the Executive Summary (including Table ES-1) so that it is easier to read and understand. In addition, the VA Center for Dissemination and Education will develop an eBrief for widespread dissemination.

Reviewer	Comment	Response
1	The Yoga Industry is like the Drug Company Industry. Having 25 years' experience in clinical trials and working with the pharmaceutical industry, as well as watching the explosion of the Yoga Industry over the past decade, I believe my thoughts are valid. Some medications are good, others, not as good. Some forms of Yoga may be good, others, not so good… Many people in the Yoga Industry would be interested in knowing what "flavor" or "flavors" of yoga they could possibly market to attract customers outside the VA, or contract with the VA to "sell" to new customers. And once the VA decides, who teaches the yoga? Who gets the big Yoga Contract?	We appreciate these comments. We do not think that we are in a position to address these questions in the mapping report. However, our report describes the yoga styles and features of yoga interventions *(eg,* breathing, postures, meditation) used in trials to date.
1	Having dealt with the pragmatics of trying to develop yoga programs at the VA, I am deeply aware of the many challenges, such as integrating people who are not licensed clinicians into a medical world. After doing this myself for seven years, I am very much convinced that if yoga is beneficial, and I believe it helps some people, it would be optimal if licensed clinicians could to be trained to provide yoga within the VA. I don't know if this level of pragmatic concern can somehow be transmitted with your report, but millions of dollars are at play here.	We appreciate the importance of this comment and question. Our report includes as much detail as possible (based on what was reported in the systematic reviews) about the training or qualifications of the yoga instructors in the included studies so as to provide information that may help, albeit indirectly, inform policy regarding the potential importance of licensure/training/credentialing of yoga instructors. We have summarized the instructors' qualifications across all studies in the Discussion.
2	No comment	Acknowledged
3	Summarize effectiveness findings and place in easy to access table.	We have revised Table ES-1 so that the effectiveness findings are easier to read and understand.
4	No comments	Acknowledged
5	I think this is a reasonable summary of the literature, but little data exist to help us understand the value of yoga for veteran populations at this point.	We agree that the lack of studies conducted specifically in Veterans and in samples comprised of generally healthy middle-aged adults limits applicability to Veterans. We now discuss this limitation in the Discussion.
6	Reviewer gave all comments generally; included under Question 4, above	(See above, under Question 4)

Reviewer	Comment	Response
Question 7: Please provide us with contact details of any additional individuals/stakeholders who should be made aware of this report.		
1	Heads of VACO Patient Centered Care Initiatives—these folks are spending millions of dollars on a variety of programs like yoga. Heads of Integrative health and Healing Departments. At Los Angeles, Sandra Robertson, MSN, Kristen Tillisch, MD, Rashmi Mullur, MD I recommend sending your report to NIMH and VA research heads so that it can help direct future research funding initiatives	Acknowledged. Thank you for this recommendation.
2	I would like to share the report with the new Office of Patient Centered Care and Cultural Transformation's Integrative health Coordinating center.	We think this is a good idea. We will contact the VA ESP Coordinating Center in Portland, OR, to facilitate this.
3	The Office of Patient Centered Care, the VA Office of Research, National Center for Complementary and Alternative Medicine, the War Related Illness and Injury Study Center (my program), the National Center for PTSD	Acknowledged
4	No comments	Acknowledged
5	No comments	Acknowledged
6	Reviewer gave all comments generally; included under Question 4, above.	(See above, under Question 4)

Abbreviations: CAM=complementary and alternative medicine; CBT=cognitive-behavioral therapy; ES=Executive Summary; ESP=Evidence-based Synthesis Program; LBP=low back pain; MBSR=mindfulness-based stress reduction; NIMH=National Institute of Mental Health; PTSD=posttraumatic stress disorder; RCT(s)=randomized controlled trial(s); VA=Veterans Affairs; VACO=Veterans Affairs Central Office

APPENDIX F. Potentially Relevant Trials Identified in Clinical-trials.gov

Title	Status	ClinicalTrials.gov Identifier
Low Back Pain		
The Effect of Yoga in Chronic Low Back Pain	Completed, no publication; n=10	NCT01963871
Yoga vs. Physical Therapy vs. Education for Chronic Low Back Pain in Minority Populations	Ongoing; planned n=230	NCT01343927
Prevention of Falls		
Yoga Exercise for Improving Balance in Patients With Subacute & Chronic Stroke	Completed, no publication; n=40	NCT01806922
Mental Illness: Depressive Disorders		
Yoga in Unipolar and Bipolar Disorders	Completed, no publication; n=90	NCT00482482
Treating Depression With Yoga	Completed, no publication; n=40	NCT01210651
Holistic Approaches to Depression	Ongoing; planned n=150	NCT01384916
Mental Illness: Anxiety Disorders (GAD and PD)		
GATE: Generalized Anxiety - A Treatment Evaluation	Ongoing; planned n=230	NCT01912287
Mental Illness: PTSD		
Evaluation of a Yoga Intervention for Post-Traumatic Stress Disorder (EYIPTSD)	Completed, no publication; n=108	NCT00962403
Complementary and Alternative Interventions for Veterans With Posttraumatic Stress Disorder	Ongoing; planned n=200	NCT01512303
Mindful Yoga Therapy for Veterans With PTSD and Pain	Ongoing; planned n=30	NCT01957371
Mindful Yoga Therapy as an Adjunctive Treatment for PTSD Among OEF/OIF Veterans	Ongoing; planned n=30	NCT01521442
Insomnia		
Evaluation of Yoga for Sleep Disturbances in Post Traumatic Stress Disorder (PTSD)	Completed, no publication; n=50	NCT01556074
Yoga as a Treatment for Insomnia	Completed, no publication; n=48	NCT00033865
Yoga or Educational Wellness Class for Women With Stage I, Stage II, or Stage III Breast Cancer Undergoing Chemotherapy	Completed, no publication; n=40	NCT00994279
Improving Sleep and Quality of Life in Adults With HIV Disease	Completed, no publication; n=20	NCT01073423

Abbreviations: GAD=generalized anxiety disorder; HIV= human immunodeficiency virus; OEF/OIF=Operation Enduring Freedom/Operation Iraqi Freedom; PD=panic disorder; PTSD=posttraumatic stress disorder

APPENDIX G. Quality of Included Systematic Reviews

Quality Criterion	Lower Back Pain			Prevention of Falls	Mental Illness and Insomnia				Adverse Effects
	Cramer, 2013[1]	Holtzman, 2013[2]	Posadzki, 2011[3]	Jeter, 2014[4]	Balasubra-maniam, 2013[5]	Cabral, 2011[6]	Cramer, 2013[7]	da Silva, 2009[8]	Cramer, 2013[9]
1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
2	Yes	Yes	Yes/No?	Yes	Yes	No	Yes	No	Yes
3	Yes	Yes	Yes	Yes	No	No	Yes	No	Yes
4	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
5	Yes	Can't tell	Yes	No	Can't tell	Can't tell	Yes	Can't tell	Can't tell
6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes*
7	Yes	Yes	Yes	Yes	Yes	No	Yes	No	N/A
8	Yes	Yes	N/A or Yes?	N/A	Can't tell	No	Yes	Can't tell	N/A
9	Yes	Yes	Yes	Yes	Yes	No	Yes	No	N/A
10	Yes	No	No or Can't tell?	No	Yes	No	Can't tell	No	N/A
11	Yes	No	Yes	Yes	Can't tell	Yes	Yes	No	Yes
12	Yes	Yes	Yes	Yes	Yes	No	Yes	Can't tell	Yes
Overall	Good	Good	Good	Good	Fair	Poor	Good	Poor	Good

*Demographic information limited.
Abbreviation: N/A=not applicable

References to Appendix G:

1. Cramer H, Lauche R, Haller H, Dobos G. A systematic review and meta-analysis of yoga for low back pain. *Clin J Pain.* 2013;29(5):450-460.
2. Holtzman S, Beggs RT. Yoga for chronic low back pain: a meta-analysis of randomized controlled trials. *Pain Res Manag.* 2013;18(5):267-272.
3. Posadzki P, Ernst E. Yoga for low back pain: a systematic review of randomized clinical trials. *Clin Rheumatol.* 2011;30(9):1257-1262.
4. Jeter PE, Nkodo AF, Moonaz SH, Dagnelie G. A systematic review of yoga for balance in a healthy population. *J Altern Complement Med.* 2014;20(4):221-232.
5. Balasubramaniam M, Telles S, Doraiswamy PM. Yoga on our minds: a systematic review of yoga for neuropsychiatric disorders. *Front Psychiatry.* 2013;3:117.
6. Cabral P, Meyer HB, Ames D. Effectiveness of yoga therapy as a complementary treatment for major psychiatric disorders: a meta-analysis. *Prim Care Companion CNS Disord.* 2011;13(4):PCC.10r01068.
7. Cramer H, Lauche R, Langhorst J, Dobos G. Yoga for depression: a systematic review and meta-analysis. *Depress Anxiety.* 2013;30(11):1068-1083.
8. da Silva TL, Ravindran LN, Ravindran AV. Yoga in the treatment of mood and anxiety disorders: a review. *Asian J Psychiatr.* 2009;2(1):6-16.
9. Cramer H, Krucoff C, Dobos G. Adverse events associated with yoga: a systematic review of published case reports and case series. *PLoS One.* 2013;8(10):e75515.

APPENDIX H. Otherwise Eligible Randomized Controlled Trials with N<100

Study (by Condition)	Number of Participants
Low Back Pain	
Saper, 2013[1]	N=95
Singh, 2013[2]	N=60
Tekur, 2012[3]	N=80
Prevention of Falls	
Tiedemann, 2013[4]	N=54
*Saravanakumar, 2014[5]	N=unknown (full text of publication not available)
Mental Illness: Depressive Disorders	
Kinser, 2013[6]	N=27
Sarubin, 2014[7]	N=60
Mental Illness: Anxiety Disorders (GAD and PD)	
Gupta, 2013[8]	N=12
Mental Illness: PTSD	
Mitchell, 2014[9]	N=38
van der Kolk, 2014[10]	N=64
Insomnia	
(No studies)	–

*Abstract promising, but does not report number of participants. An introduction available online (http://www.contemporarynurse.com/archives/vol/48/issue/1/article/5489/the-influence-of-tai-chi-and-yoga-on-balance-and) states, "We present the preliminary results from assessments in a small randomised cohort of older adults in a residential care facility". We were unable to obtain a copy of the full text of the article.
Abbreviations: GAD=generalized anxiety disorder; PD=panic disorder; PTSD=posttraumatic stress disorder

References to Appendix H:

1. Saper RB, Boah AR, Keosaian J, Cerrada C, Weinberg J, Sherman KJ. Comparing once- versus twice-weekly yoga classes for chronic low back pain in predominantly low income minorities: a randomized dosing trial. Evid Based Complement Alternat Med. 2013;2013:658030.
2. Singh AK, Singh OP. A preliminary clinical evaluation of external snehan and asanas in the patients of sciatica. Int J Yoga. 2013;6(1):71-75.
3. Tekur P, Nagarathna R, Chametcha S, Hankey A, Nagendra HR. A comprehensive yoga programs improves pain, anxiety and depression in chronic low back pain patients more than exercise: an RCT. Complement Ther Med. 2012;20(3):107-118.
4. Tiedemann A, O'Rourke S, Sesto R, Sherrington C. A 12-week Iyengar yoga program improved balance and mobility in older community-dwelling people: a pilot randomized controlled trial. J Gerontol A Biol Sci Med Sci. 2013;68(9):1068-1075.
5. Saravanakumar P, Higgins IJ, Van Der Riet PJ, Marquez J, Sibbritt D. The influence of tai chi and yoga on balance and falls in a residential care setting: a randomised controlled trial. Contemp Nurse. 2014:5231-5255.
6. Kinser PA, Bourguignon C, Whaley D, Hauenstein E, Taylor AG. Feasibility, acceptability, and effects of gentle Hatha yoga for women with major depression: findings from a randomized controlled mixed-

methods study. Arch Psychiatr Nurs. 2013;27(3):137-147.
7. Sarubin N, Nothdurfter C, Schule C, et al. The influence of Hatha yoga as an add-on treatment in major depression on hypothalamic-pituitary-adrenal-axis activity: a randomized trial. J Psychiatr Res. 2014;53(1):76-83.
8. Gupta K, Mamidi P. A pilot study on certain yogic and naturopathic procedures in generalized anxiety disorder. International Journal of Research in Ayurveda and Pharmacy. 2013;4(6):858-861.
9. Mitchell KS, Dick AM, DiMartino DM, et al. A pilot study of a randomized controlled trial of yoga as an intervention for PTSD symptoms in women. J Trauma Stress. 2014;27(2):121-128.
10. van der Kolk BA, Stone L, West J, et al. Yoga as an adjunctive treatment for posttraumatic stress disorder: a randomized controlled trial. J Clin Psychiatry. 2014;75(6):e559-565.

APPENDIX I. Primary Studies Included in Systematic Reviews of Yoga for Low Back Pain

Primary Study (all RCTs)	Holtzman, 2013[1]	Cramer, 2013[2]	Posadzki, 2011[3]
Cox, 2010[4]	-	X	X
Galantino, 2004[5]	X	X	X
Pushpika Attanayake, 2010[6]	-	X	-
Saper, 2009[7]	X	X	X
Sherman, 2005[8]	X	X	X
Sherman, 2011[9]	X	-	-
Tekur, 2008[10]	X	X	X
Tekur, 2010[11]	-	X	-
Tilbrook, 2011[12]	X	X	-
Williams, 2005[13]	X	X	X
Williams, 2009[14]	X	X	X

Abbreviation: RCTs=randomized controlled trials

References to Appendix I:

1. Holtzman S, Beggs RT. Yoga for chronic low back pain: a meta-analysis of randomized controlled trials. Pain Res Manag. 2013;18(5):267-272.

2. Cramer H, Lauche R, Haller H, Dobos G. A systematic review and meta-analysis of yoga for low back pain. Clin J Pain. 2013;29(5):450-460.

3. Posadzki P, Ernst E. Yoga for low back pain: a systematic review of randomized clinical trials. Clin Rheumatol. 2011;30(9):1257-1262.

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APPENDIX J. Study Characteristics—Randomized Controlled Trials of Yoga for Low Back Pain

Study	Country	N	Condition	Yoga Style	Yoga Elements	Yoga Duration; Yoga Hours per Week	Comparator	Age; Sex	Included in Meta-analysis?
Cox, 2010[1]	UK	20	LBP at least 3 mo; RMDQ>4; no spinal surgery	Specialized Iyengar for back pain (relaxation, postures)	Meditation, breathing, postures	12 wk, 75 min weekly, homework regular practice + booklet "the back book" + usual care	WLC + booklet "the back book" + usual care for 12 wk	45 65% female	Yes, short-term pain, back-specific disability and HRQOL
Galantino, 2004[2]	USA	22	LBP at least 6 mo; min of 2 conservative treatments without long term relief	Hatha yoga (stretching postures, asanas, breathing, relaxation, meditation)	Meditation, breathing, postures	6 wk, 60 min 2x/wk	WLC; usual care allowed for 6 wk	30-65 77.3% female	Yes, short-term back-specific disability
Pushpika Attanayake, 2010[3]	India	12	LBP at least 3 wk; no specific causes, no neurological symptoms; no major concomitant illness	Asanas, prayer, chanting, pranayama	Meditation, breathing, postures	3 wk, 60 min/wk + lifestyle and dietary changes	Lifestyle and dietary changes (exercise, prayer, chanting); 3 wk	30-49 NR	No, excluded due to high bias
Saper, 2009[4]	USA	30	Muscular LBP at least 12 wk; pain intensity 2 wk before >4 (0-10 NRS); no back surgery within last 3 yr	Hatha yoga (breathing, asanas, relaxation)	Meditation, breathing, postures	12 wk, 75 min/wk	WLC, routine care allowed + book for 12 wk	44(13) 83% female	Yes, long- and short-term pain, back-specific disability, and HRQOL
Sherman, 2005[5]	USA	101	Muscular LBP at least 12 wk	Viniyoga (breathing, postures, relaxation)	Breathing, postures	12 wk, 75 min/wk	1. Exercise (education, aerobics and strengthen-ing) 12 wk, 75 min/wk 2. Book (exercise, fitness, lifestyle advice) for home use 12 wk	44(12) 66% female	No

Study	Country	N	Condition	Yoga Style	Yoga Elements	Yoga Duration; Yoga Hours per Week	Comparator	Age; Sex	Included in Meta-analysis?
Sherman, 2011[6]	USA	228	Muscular LBP at least 12 wk; bothersome >3 (0-10 NRS)	Viniyoga (breathing, postures, relaxation)	Breathing, postures	12 wk 75 min/wk	1. Exercise (education, aerobic and strengthen-ing) 12 wk, 75 min/wk 2. Book (exercise, fitness, lifestyle advice) for home use 12 wk	48.1 (9.8) NR	Yes, short- and long-term pain and back-specific disability
Tekur, 2008[7] and Tekur, 2010[8]	India	80	LBP at least 3 mo; inpatients in a healthcare center; no radiating pain to the leg or organic pathology	Yoga (meditation, chanting, physical practice, lectures)	Meditation, breathing, postures	1 wk, daily practice + vegetarian diet	PT exercise 1 wk, daily practice + vegetarian diet	49 (3.6) 45% female	Yes, short-term back-specific disability and HRQOL. Results from Tekur, 2008[7] and Tekur, 2010[8] combined.
Tilbrook, 2011[9]	UK	313	LBP at least 3 mo RMDQ >4, no spine surgery	Yoga (asanas, pranaya-mas, relaxation, mental focus, philosophy	Meditation, breathing, postures	12 wk, 75 min/wk	WLC + back pain education book 12 wk	46.3 (1.5) 70.3% female	Yes, long- and short-term pain, back-specific disability and HRQOL
Williams, 2005[10]	USA	60	LBP at least 3 mo, no organic origin	Iyengar yoga	Postures	16 wk, 90 min/wk; 30 min practice 5 days/wk + weekly newsletters on back care and 2 x 60-min lectures with handouts	Education control; weekly newsletters on back care, 2 x 60-min lectures, handouts on PT for 16 wk	48 (2) 68.2% female	Yes, short- and long-term pain and back-specific disability
Williams, 2009[11]	USA	90	LBP at least 3 mo. no organic origin	Iyengar yoga	Postures	24 wk, 90 min 2x/wk; homework 30 min daily	Self-directed SMC 24 wk	48 (11.1) 76.7% female	Yes, short- and long-term pain and back-specific disability

Abbreviations: HRQOL=health-related quality of life; LBP=low back pain; min=minute(s); mo=month(s); NR=not reported; NRS=Numeric Rating Scale; PT=physical therapy; RMDQ=Roland-Morris Disability Questionnaire; SMC=standard medical care; wk=week(s); WLC=wait list control; yr=year(s)

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APPENDIX K. Primary Studies Included in Systematic Reviews of Yoga for Depressive Disorders

Primary Study	Balasubramiam, 2013[1]	Cabral, 2011[2]	da Silva, 2009[3]	Cramer, 2013[4]
RCTs				
Broota, 1990[5]	-	-	X	X
Butler, 2008[6]	-	X	X	X
*Field, 2012[7]	-	-	-	X
Field, 2012[8]	-	-	-	X
Janakiramaiah, 2000[9]	-	X	X	X
Khumar, 1993[10]	-	-	X	X
*Krishnamurthy, 2007[11]	X	-	X	-
Lavretsky, 2013[12]	-	-	-	X
Rohini, 2000[13]	-	-	X	X
Shahidi, 2011[14]	X	-	-	X
Sharma, 2005[15]	-	-	X	X
Veale, 1992[16]	-	-	-	X
*Vedamurthachar, 2006[17]	X	X	-	-
Woolery, 2004[18]	-	-	X	X
Nonrandomized studies				
Gangadhar, 2000[19]	-	-	X	-
Janakiramaiah, 1998[20]	-	-	X	-
Kozasa, 2008[21]	-	X	-	-
Lavey, 2005[22]	-	-	X	-
Michalsen, 2005[23]	-	X	X	-
Miller, 2005[24]	-	-	X	-
Naga Venkatesha Murthy, 1997[25]	-	-	X	-
Naga Venkatesha Murthy, 1998[26]	-	-	X	-
Oretzky, 2007[27]	-	-	X	-
Shapiro, 2007[28]	-	-	X	-
Vedamurthachar, 2006[17]	X	X	-	-

*Did not require depression for study entry but measured and reported depression severity.
Abbreviation: RCTs=randomized controlled trials

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APPENDIX L. Study Characteristics—Randomized Controlled Trials of Yoga for Depressive Disorders

Study	Country	N	Condition	Yoga Style	Yoga Elements	Yoga Duration; Yoga (hrs/wk; time/session)	Comparator	Age; Sex	Included in Meta-analysis?
Broota, 1990[1]	India	30	Clinician diagnosis	Broota Relaxation Technique	Breathing, postures	3 days 20-25 min x 3 days	PMR	19-49 NR	No
Butler, 2008[2]	USA	46	DSM-IV; Dysthymia, chronic MDD, or double depression	Hatha	Meditation, breathing, postures	8 wk 1 x 4-hr retreat; 8 x 2-hr group sessions; 1 booster session; home practice of 30 min, 6 days/wk	Group therapy with hypnosis	50.4 (14.8) 74% female	Yes
Field, 2012[3]	USA	92	DSM-IV, Prenatal	NR	Postures	12 wk 20 min/wk	Social support group	24.4 100% female	No
Field, 2012[4]	USA	84	DSM-IV, Prenatal	NR	Postures	12 wk 20 min/wk	Massage; Standard prenatal care	26.6 100% female	Yes
Janakira-maiah, 2000[5]	India	45	DSM-IV, HRSD ≥17	SKY	Meditation, breathing	4 wk 45 min/day x 6 days/wk (4.5 hr/wk)	ECT, Imipramine	36.3 44% female	No
Khumar, 1993[6]	India	50	"Severe depression"	Shavasana	Breathing	30 days 30 min/day x 30 days (3.5 hr/wk)	WLC	20-25 100% female, students	Yes
Lavretsky, 2013[7]	USA	45	HRSD 5 to 17	Kirtan Kriya	Meditation, breathing	8 wk 12 min/day, 7 days/wk (1.4 hr/wk)	Relaxation music	60.3 (14.8) 95% female	Yes
Rohini, 2000[8]	India	30	DSM-IV, HRSD ≥18	SKY	Meditation, breathing	4 wk Daily, but min/session NR	Partial SKY	31.9 (10.10) NR	Yes
Shahidi, 2011[9]	Iran	70	GDS ≥10	Laughter	Breathing, postures	5 wk 10 x 30 min/session	Aerobic exercise; Unspecified control	66.56 100% female	Yes
Sharma, 2005[10]	India	30	DSM-IV MDD	Sahaj	Meditation	8 wk 30 min/session, 3 x/wk (1.5 hr/wk)	Sitting quietly	31.7 (8.6) 37% female	Yes

Study	Country	N	Condition	Yoga Style	Yoga Elements	Yoga Duration; Yoga (hrs/wk; time/session)	Comparator	Age; Sex	Included in Meta-analysis?
Veale, 1992[11]	UK	89	CIS ≥17; CIS severity ≥2	NR	Postures	12 wk 3 session/wk; time/session NR	High-intensity aerobic exercise	35.5 64% female	Yes
Woolery, 2004[12]	USA	28	BDI 10-15	Iyengar	Postures	5 wk 1 hr/session; 2x/wk (2 hr/wk)	WLC	21.5 (3.23) 79% female	Yes

Abbreviations: BDI=Beck Depression Inventory; CIS=Clinical Interview Schedule; DSM-IV=*Diagnostic and Statistical Manual of Mental Disorders*, 4th edition; ECT=electroconvulsive therapy; GDS=Geriatric Depression Scale; hr=hour(s); HRSD=Hamilton Rating Scale for Depression; MDD=major depressive disorder; min=minute(s); NR=not reported; PMR=progressive muscle relaxation; SKY=Sudarshan Kriya Yoga; wk=week(s); WLC=wait list control

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APPENDIX M. STUDY CHARACTERISTICS—NONRANDOMIZED STUDIES OF YOGA FOR DEPRESSIVE DISORDERS

All studies included in the table below were evaluated in the systematic review by da Silva et al.[1]

Study	Design	Country	Participants	Condition	Yoga Style
Gangadhar, 2000[2]	Non-RCT: Single-arm, open trial	NR	20	MDD	SKY
Janakiramaiah, 1998[3]	Non-RCT: Single-arm, open trial	NR	46	Dysthymia	SKY
Lavey, 2005[4]	Non-RCT: Single-arm, open trial	NR	113	Mood and non-mood disorders	Hatha
Miller, 2005[5]	Non-RCT: Case series	NR	3	Depression and/or GAD	NR
Naga Venkatesha Murthy, 1997[6]	Non-RCT: Single-arm, open trial	NR	39	MDD or dysthymia	SKY
Naga Venkatesha Murthy, 1998[7]	Non-RCT: Single-arm, open trial	NR	30	MDD or dysthymia	SKY
Oretzky, 2007[8]	Non-RCT: Comparative, controlled trial	NR	58	MDD	Vinyasa
Shapiro, 2007[9]	Non-RCT: Single-arm, open trial	NR	21	MDD	Iyengar
			Total = 330		

Abbreviations: GAD=generalized anxiety disorder; MDD=major depressive disorder; NR=not reported; RCT=randomized controlled trial; SKY=Sudarshana Kriya Yoga

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