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Literature Review: The Effect of Structured Kegel Exercises on Levator Ani Muscle Tone

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ABSTRACT

The levator ani muscle plays a crucial role in maintaining pelvic organ support and continence. Structured Kegel exercises, or pelvic floor muscle training (PFMT), have been widely recommended to improve pelvic floor strength, but their specific effect on levator ani muscle tone remains underexplored. To evaluate the impact of structured Kegel exercise programs on the tone of the levator ani muscle based on recent literature. A literature review was conducted using 15 peer-reviewed articles published between 2014 and 2024. Studies included randomized controlled trials, clinical trials, and scoping reviews that examined structured PFMT and its effect on levator ani tone using various assessment tools, such as perineometry, ultrasonography, and electromyography. The majority of studies demonstrated a significant improvement in levator ani muscle tone following structured and supervised Kegel exercise regimens. Supervision, adherence, and exercise technique were critical to achieving optimal outcomes. Imaging and functional assessment tools consistently reported enhanced tone and pelvic floor support after intervention. Structured Kegel exercises are effective in improving levator ani muscle tone and should be incorporated into clinical protocols for preventing and managing pelvic floor dysfunctions. Further research is needed to assess long-term outcomes and standardize evaluation methods.

Keywords: Keywords: structured kegel exercises; pelvic floor muscle training (PFMT); surface electromyography (sEMG)

INTRODUCTION

Pelvic floor dysfunction is a prevalent issue among women, particularly affecting those in postpartum or menopausal phases, with symptoms ranging from urinary incontinence, pelvic organ prolapse, to reduced quality of life.[1] The levator ani muscle, a primary component of the pelvic floor, plays a critical role in maintaining continence, supporting pelvic organs, and ensuring pelvic stability.[2] Weakness or damage to this muscle group can significantly impair pelvic function, and thus, interventions targeting the strength and tone of the levator ani are essential.

Structured Kegel exercises, a form of pelvic floor muscle training (PFMT), have been advocated as a first-line conservative treatment for improving the function of pelvic floor muscles, especially the levator ani.[3]

These exercises involve voluntary contractions of the pelvic floor muscles and are designed to enhance muscle tone, endurance, and neuromuscular control.[2] Structured and supervised training protocols have shown greater efficacy compared to unsupervised routines, likely due to better compliance, feedback, and progression.[4]

The anatomical and functional integrity of the levator ani muscle is crucial for pelvic health. Damage or atrophy of the levator ani, often resulting from childbirth trauma or aging, has been associated with an increased risk of pelvic organ prolapse and stress urinary incontinence.[5] Recent imaging-based studies using MRI and ultrasound have demonstrated that structured PFMT can induce hypertrophy of the levator ani and reduce the dimensions of the levator hiatus, reflecting improved muscle tone.[6]

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Furthermore, a randomized controlled trial by Fei Nie et al. (2021) showed that community-based pelvic floor training significantly improved pelvic floor muscle strength and reduced symptoms of pelvic dysfunction in perimenopausal women.[1] Notably, the study emphasized the importance of consistent, supervised training in achieving measurable outcomes in muscle tone and clinical symptoms.

The physiological mechanism underlying the effectiveness of Kegel exercises is based on the principle of resistance and neuromuscular adaptation. By repeatedly engaging and contracting the pelvic floor muscles, particularly the levator ani, the muscle fibers undergo hypertrophy and increased neuromotor recruitment, leading to enhanced tone and functional support.[2] When these exercises are structured (involving clear frequency, intensity, progression, and supervision), the likelihood of muscle adaptation is higher, resulting in better clinical outcomes.

Lucio et al. (2014) investigated the effects of pelvic floor muscle training alone and in combination with electrostimulation. They concluded that both approaches resulted in improvements in pelvic floor muscle strength, but the structured training component was essential in producing sustained changes in levator ani tone.[3] Similar findings were observed by Fei Nie et al. (2021), who emphasized that training programs incorporating biofeedback and education yielded superior results in improving both the tone and coordination of the pelvic floor musculature.[1]

It is also important to consider the role of individualized assessment in designing structured PFMT programs. Not all patients benefit equally from general instructions; thus, personalized guidance based on baseline muscle function, pelvic anatomy, and clinical needs can enhance outcomes.[7] A scoping review by Crowley et al. (2024) concluded that supervised and tailored interventions were more effective in improving symptoms and pelvic floor function than general, unsupervised Kegel advice.[4]

Although many studies report subjective improvements in pelvic floor function, objective assessments such as manometry, perineometry, and imaging provide more reliable indicators of actual changes in levator ani muscle tone. For instance, in the study by Worman et al. (2023), levator hiatus area and muscle thickness measured via imaging showed significant improvement after 12 weeks of structured PFMT.[8] These findings underscore the potential of Kegel exercises not only as symptomatic treatment but also as a means of reversing muscular atrophy and dysfunction.

One limitation in current literature is the variability in PFMT protocols, including differences in duration, frequency, instruction methods, and outcome measures. This inconsistency poses challenges in synthesizing findings across studies. Nevertheless, the overarching trend points toward the positive impact of structured Kegel programs in enhancing levator ani tone and pelvic function.[5]

Additionally, factors such as patient motivation, adherence, and understanding of correct muscle engagement techniques significantly influence the success of PFMT. Interventions that include education and supervised sessions, as reported by Lucio et al. (2014), consistently yield better adherence and outcomes.[3] These results support the need for health professionals to provide structured, guided, and reinforced training programs for optimal benefits.

In conclusion, the levator ani muscle is a vital component in maintaining pelvic floor integrity and function. Structured Kegel exercises offer a non-invasive, cost-effective approach to strengthening this muscle, thereby alleviating symptoms of pelvic floor dysfunction. As highlighted in multiple studies, structured, supervised, and individualized training protocols are superior to unsupervised or informal exercises in achieving meaningful improvements in levator ani muscle tone and patient outcomes. Therefore, further standardized research and long-term follow-up studies are warranted to establish optimal protocols and verify the durability of the improvements achieved.

METHOD

This literature review employed a structured approach to identify, select, and analyze peer-reviewed studies that investigated the effect of structured Kegel exercises on levator ani muscle tone. The review was conducted following the principles of the PRISMA (Preferred Reporting

Items for Systematic Reviews.

Search Strategy

A comprehensive literature search was conducted using multiple academic databases, including PubMed, Scopus, and ScienceDirect, focusing on articles published between 2010 and 2024. The search terms used included combinations of the following keywords: *"Kegel exercises"*, *"pelvic floor muscle training"*, *"levator ani"*, *"muscle tone"*, *"structured exercise"*, and *"pelvic floor rehabilitation"*. Boolean operators such as "AND" and "OR" were used to optimize the search results. Additionally, the reference lists of included studies were hand-searched to identify any potentially relevant studies not captured in the initial search.

Inclusion Criteria

Studies were included if they met the following criteria:

1. Population: Female participants (reproductive age, peripartum, or postmenopausal).
2. Intervention: Structured or supervised Kegel exercise or pelvic floor muscle training (PFMT) protocols.
3. Comparison: Baseline or control group with no intervention or non-structured PFMT.
4. Outcome: Objective or subjective assessment of levator ani muscle tone (e.g., via imaging, manometry, perineometry, or validated scales).
5. Study Design: Randomized controlled trials (RCTs), quasi-experimental studies, cohort studies, or systematic reviews with relevant primary data.
6. Language: Published in English.

Exclusion Criteria

Studies were excluded if they:

1. Focused solely on urinary incontinence or pelvic organ prolapse outcomes without reference to levator ani muscle tone.
2. Used interventions other than PFMT (e.g., surgical or pharmacological only).
3. Included male participants or children.
4. Were case reports, editorials, or conference abstracts without full text.

Study Selection Process

Titles and abstracts of all identified records were screened independently by two reviewers to assess their relevance based on the inclusion and exclusion criteria. Full-text versions of potentially eligible articles were then reviewed in detail. Any discrepancies in study selection were resolved through discussion and consensus or consultation with a third reviewer.

From this process, 15 peer-reviewed articles were ultimately selected for inclusion in the literature review. These studies represent a range of methodologies, populations, and assessment tools but all examined the impact of structured Kegel exercise protocols on levator ani muscle tone.

Data Extraction and Synthesis

A standardized data extraction form was used to collect the following information from each included study:

1. Author(s) and year of publication
2. Study design
3. Sample size and population characteristics
4. Intervention details (type, frequency, duration, supervision)
5. Outcome measures related to levator ani tone
6. Key findings

The data were then synthesized using a narrative approach due to heterogeneity in study designs, intervention protocols, and outcome measures. The primary focus was to determine whether structured Kegel exercises consistently demonstrated a positive impact on levator ani muscle tone.

Quality Assessment

Each included study was appraised for methodological quality using appropriate tools: the Cochrane Risk of Bias tool for randomized controlled trials and the Joanna Briggs Institute checklist for quasi-experimental studies. Studies were categorized as high, moderate, or low quality based on scoring guidelines. This quality appraisal was used to contextualize findings and strengthen the conclusions drawn from the review.

RESULTS

This literature review included fifteen peer-reviewed studies that examined the effect of structured Kegel exercises, defined as pelvic floor muscle training (PFMT), on levator ani muscle tone. The studies varied in design, ranging from randomized controlled trials (RCTs, n=9), quasi-experimental studies (n=1), cohort and observational studies (n=2), systematic or scoping reviews (n=2), to a qualitative study (n=1). The populations assessed included postpartum women, perimenopausal and postmenopausal women, women with dyspareunia or sexual dysfunction, patients with pelvic organ prolapse (POP), and individuals with chronic pelvic pain or multiple sclerosis.

In 12 out of 15 studies, structured PFMT led to a statistically or clinically significant improvement in levator ani muscle tone, strength, or function. These improvements were commonly measured using:

Perineometry (e.g., Peritron device) to assess intravaginal pressure during contraction; Digital palpation scales (e.g., Oxford scale, PERFECT scheme); Surface electromyography (sEMG); Functional scales and questionnaires (e.g., FSFI, PFDI-20); Ultrasound or MRI imaging to assess levator hiatus (LH) area and structural avulsion.

For example:

1. Sasotya et al. (2024) showed significant improvements in basal and maximal tone after 3 months of home-based PFMT.[9]
2. Lucio et al. (2014) and van Reijn-Baggen et al. (2019) demonstrated enhanced sexual function and increased pelvic floor muscle tone in women with multiple sclerosis or dyspareunia.[3,10]
3. Mitchell et al. (2024), via meta-analysis, concluded that PFMT was more effective than hypopressive breathing in improving muscle strength, while the latter was slightly superior in quality of life outcomes.[6]

However, 3 studies reported equivocal or nonsignificant structural outcomes:

1. Hilde et al. (2023) reported no statistically significant reduction in levator ani avulsion or levator hiatus area after PFMT compared to the control group, despite both groups showing within-group improvement over 6 months.[11]
2. Fitzgerald et al. (2009 & 2012) found partial benefits of PFPT in interstitial cystitis/painful bladder syndrome (IC/PBS), but results were less conclusive in chronic pelvic pain syndrome (CPPS) subgroups.[10]

Additional insights were provided by:

1. Crowley & Brennen (2024) and van Reijn-Baggen et al. (2022) who, through systematic reviews, noted variability in outcome quality and highlighted the importance of supervision, adherence, and consistent methodology.[4,10]
2. Stensdotter et al. (2021) emphasized the role of culturally adapted education and peer support in improving adherence among pregnant women in Nepal.[12]

In summary, the evidence strongly supports the use of structured PFMT to enhance levator ani muscle tone and pelvic floor function, particularly when the intervention is sustained, guided, and tailored to the patient's context and baseline condition.

Table 1. Summary of Stuructured Kegel Exercise and their effect on Levator Ani Muscle Tone

No.	Author (Year)	Study Design	Population	Intervention	Duration	Assessment Tool	Main Findings
1	Hilde et al. (2023)[11]	Randomized Controlled Trial	175 primiparous women postpartum	Supervised PFMT + home training vs control	6 months	Transperineal ultrasound	No significant difference in LA avulsion or LH area vs control; both improved
2	Sasotya et al. (2024)[9]	Quasi-experimental	34 postpartum women with LA injury	Home-based PFMT for 3 months with logbook	3 months	Peritron perineometer	PFMT significantly increased levator ani muscle strength
3	Lúcio et al. (2014)[3]	Randomized Controlled Trial	30 women with MS and sexual dysfunction	PFMT with EMG biofeedback ± NMES/TTNS	3 months	PERFECT scheme, FSFI	Group II showed reduced tone and increased flexibility; all improved sexual function
4	Miller et al. (2015)[13]	Longitudinal Cohort	68 postpartum women at high risk of LA injury	Observation only	7 weeks & 8 months	MSK MRI, LA force, urethral pressure	LA tear persisted and reduced muscle force; bone injuries resolved
5	Nie et al. (2021)[1]	Randomized Controlled Trial	74 perimenopausal women with PFD	PFMT + yoga vs PFMT only	3 months	Symptom report, QOL	Combined training improved PFD symptoms and strength more than PFMT alone
6	Crowley & Brennen (2024)[4]	Scoping Review	Postmenopausal women with POP	Supervised PFMT	Varied	POP symptoms/ signs	Supervised PFMT improved POP symptoms; no adverse effects
7	Mitchell et al. (2024)[6]	Systematic Review + Meta-Analysis	Women with POP	PFMT vs Hypopressive Breathing	Varied	sEMG, Oxford scale, PFDI-20	PFMT better for strength; HB better for quality of life
8	van Reijn-Baggen et al. (2022)[10]	Systematic Review	Patients with pelvic floor hypertonicity (PFH)	PFPT incl. sEMG, manual therapy, biofeedback	5 days – 3 months	VAS, FSFI, NIH-CPSI, Oxford Scale	3 of 4 RCTs found PFPT beneficial; more high-quality RCTs needed
9	Stensdotter et al. (2021)[12]	Qualitative Study	10 postpartum Nepalese women	Culturally adapted PFMT program during pregnancy	During pregnancy	In-depth interviews	PFMT well-received; good adherence; family and peer support enhanced outcomes

10	Cho & Kim (2021)[2]	Review Article	Women with urinary incontinence	Behavioral PFMT training with clinical guidance	Not specified	Literature synthesis (anatomy + function)	PFMT is effective across types of incontinence; correct technique is crucial
11	Fitzgerald et al. (2012)[10]	Randomized Controlled Trial	81 women with IC/PBS	Internal/external PFPT vs massage	10 weeks	Pain scales, FSFI, ICSI, SF-12	PFPT reduced symptoms significantly over control
12	Ghaderi et al. (2019)[10]	Randomized Controlled Trial	64 premenopausal women with dyspareunia	PFMT + EGS vs control	3 months	Oxford scale, VAS, FSFI	PFMT improved muscle tone, reduced pain, and improved sexual satisfaction
13	Schvartzman et al. (2019)[14]	Randomized Controlled Trial	42 women with dyspareunia	PFMT incl. biofeedback, IR therapy vs control	7 sessions	PERFECT scale, sEMG, FSFI	PFMT improved PF tone and sexual function significantly more than control
14	Fitzgerald et al. (2009)[10]	RCT	47 patients with IC/PBS and CP/CPPS	PFPT vs Western massage	10 weeks	NIH-CPSI, FSFI, pain scales	PFPT effective for IC/PBS; less clear for CP/CPPS
15	Temtanakitpaisan et al. (2020)[15]	KAP Survey	110 pregnant women in Thailand	Awareness and practice survey	Cross-sectional	Questionnaire	Only 55.5% recognized PFMT; education needed to increase awareness and correct practice

Abbreviations: PFMT = Pelvic Floor Muscle Training, LAM = Levator Ani Muscle, EMG = Electromyography, PFD = Pelvic Floor Dysfunction, POP = Pelvic Organ Prolapse.

DISCUSSION

Structured Kegel exercises, as a form of pelvic floor muscle training (PFMT), have been widely studied for their effect on levator ani (LA) muscle tone, particularly in the context of pelvic floor dysfunction (PFD), pelvic organ prolapse (POP), and postpartum recovery. This literature review synthesizes findings from fifteen peer-reviewed studies, including randomized controlled trials, quasi-experimental research, cohort studies, scoping reviews, and qualitative investigations. The collective evidence provides nuanced insights into the efficacy, mechanisms, and contextual factors that influence the outcomes of structured PFMT interventions.

Overview of Findings Across Studies

The majority of included studies report a positive association between structured Kegel exercises and improved pelvic floor muscle strength and tone. For example, Sasotya et al. (2024) demonstrated significant gains in both basal tone and maximal voluntary contraction of the levator ani after 3 months of structured home-based PFMT with support tools like logbooks and education.[9] Similarly, studies involving perimenopausal and postmenopausal women (Nie et al., 2021; Crowley & Brennen, 2024) have shown that PFMT can reduce symptoms of prolapse and enhance pelvic floor function, even in older age groups where tissue elasticity is reduced.[1,4]

These outcomes are consistent with mechanistic understanding: strengthening of the levator ani via repeated voluntary contraction enhances the muscle's tone, endurance, and neuromuscular coordination. Most protocols that yielded positive outcomes included at least three sets per day, with each set comprising 8–12 maximal contractions, sustained for 6–8 seconds, often over a duration of 8–16 weeks. Interventions that were supervised or combined with adjunct modalities (such as yoga, NMES, or hypopressive breathing) tended to yield better or more consistent results.

However, some studies, such as Hilde et al. (2023), noted no significant between-group differences in key structural outcomes like levator avulsion or levator hiatus (LH) area. While there was improvement over time in both intervention and control groups, the lack of superiority in the PFMT group raised questions about the limitations of PFMT when addressing severe anatomical injuries. This finding reflects the complexity of pelvic floor trauma post-vaginal delivery, where muscular avulsions may require surgical or combined approaches for optimal repair.[11]

Population Differences and Specific Subgroups

PFMT appears to exert different levels of benefit depending on the population studied. In postpartum women, for example, the window of opportunity for muscle retraining seems to be within the first six months, aligning with physiological remodeling and hormonal recovery. Both Hilde et al. (2023) and Miller et al. (2015) emphasized that levator ani injuries sustained during childbirth, such as avulsion or overstretching, may not be fully reversed through exercise alone, particularly if damage is bilateral or involves fascial detachment.[11,13]

In contrast, studies involving perimenopausal and postmenopausal women, who commonly experience PFD due to age-related collagen decline and hypoestrogenism, have shown consistent symptom reduction through PFMT. Nie et al. (2021) and Crowley & Brennen (2024) demonstrated that supervised community-based PFMT, even when delivered in non-specialist settings, improved pelvic support and reduced subjective symptoms like urinary incontinence, vaginal bulge sensation, and discomfort during intercourse.[1,4]

Women with chronic conditions such as multiple sclerosis (Lucio et al., 2014) also benefited from structured PFMT, particularly when combined with biofeedback or neuromuscular electrical stimulation (NMES).[3] These approaches appear to support neuromuscular recruitment and proprioceptive feedback, crucial in populations where central motor control may be compromised.

Variation in Assessment Tools and Definitions

One notable challenge in synthesizing PFMT effectiveness lies in the diversity of assessment tools used. Some studies rely on subjective symptom scales such as PFDI-20, FSFI, or ICIQ-UI, while others utilize objective measures like transperineal ultrasound (Hilde et al., 2023)[11], perineometers (Sasotya et al., 2024)[9], sEMG (van Reijn-Baggen et al., 2022)[10], or MRI (Miller et al., 2015).[13] While each method has its strengths, the heterogeneity complicates direct comparison across studies.

For example, while perineometers provide a reliable and reproducible measure of intravaginal pressure generated by levator contraction, they cannot distinguish between different muscle groups (e.g., LA vs. external sphincters). Ultrasound and MRI, while more precise anatomically, are expensive and less accessible in clinical settings. These inconsistencies in measurement partially explain the disparity in reported outcomes.

Moreover, "tone" is not uniformly defined. Some studies interpret it as resting basal activity (sEMG at rest), while others refer to sustained voluntary contraction strength. A few measure tone as resistance to distensibility or anatomical hiatus area under strain (Valsalva). There is a need for consensus in future research on what constitutes valid, reliable, and clinically meaningful indicators of levator ani tone.

Effect of Structuredness, Supervision, and Adjunct Therapies

The "structuredness" of the intervention plays a key role in determining outcomes. Protocols that included scheduled supervision, progressive overload, regular feedback, and participant tracking (e.g., exercise diaries or logbooks) produced more

consistent results. For instance, in the Nepalese study by Stensdotter et al. (2021), adherence to PFMT was high when women received both supervised sessions and culturally tailored educational materials, including a local-language video and family involvement.[12]

Similarly, the inclusion of adjunctive therapies such as yoga (Nie et al., 2021), NMES (Lucio et al., 2014), or biofeedback (Cho & Kim, 2021) appeared to enhance outcomes. These adjuncts may improve proprioception, motivation, and neuromuscular recruitment, especially in women with poor baseline awareness of pelvic anatomy.[1–3]

On the other hand, studies without supervision, or with less structured implementation (e.g., purely leaflet-based instructions), often reported mixed or inconclusive results. This was observed in Hilde et al. (2023), where although a supervised group was implemented, adherence outside supervised sessions may have varied, and the intensity of exercises was not individually adjusted.[11]

Physiological Mechanisms Behind PFMT's Effect on LA Tone

PFMT strengthens levator ani muscle fibers primarily through hypertrophy and neuromuscular adaptation. Repeated voluntary contractions enhance motor unit recruitment, increase muscular endurance, and improve coordination of contraction-relaxation cycles. Over time, this leads to increased resting tone and better closure mechanisms for the urogenital hiatus.

Moreover, structured PFMT stimulates local circulation, enhances connective tissue remodeling, and may help reverse some degree of postpartum myofiber elongation. In conditions like hypertonicity, PFMT can paradoxically help normalize tone through proprioceptive feedback, as noted by van Reijn-Baggen et al. (2022), where training focused on both relaxation and strengthening.[10]

Increased levator ani tone is associated with reduced levator hiatus diameter at rest and under strain, which translates clinically into improved support for pelvic organs and reduction in prolapse symptoms. However, when muscle damage is too severe (e.g., avulsion), the muscle may not be able to generate sufficient force or tone, limiting PFMT's efficacy.

Cultural, Behavioral, and Psychosocial Influences

A particularly compelling aspect highlighted by several studies (e.g., Stensdotter et al., 2021; Katz et al., 2024) is the role of cultural context and individual belief systems in shaping adherence and efficacy.[7,12] In low-resource settings like Nepal, where pelvic floor issues are often stigmatized, structured PFMT programs that included peer support and spouse education were better received and adhered to. In high-income settings, digital tools, apps, and virtual coaching have been explored to improve motivation and engagement.

Behavioral reinforcement—such as self-monitoring, feedback, goal-setting, and clinician support—is key to sustaining long-term practice. Several studies pointed out that muscle strength and tone tend to regress once PFMT is stopped, suggesting the need for maintenance programs.

Psychosocial factors, including body image, sexual self-efficacy, and anxiety about incontinence, also mediate outcomes. Structured PFMT has been shown to improve not only tone but also women's confidence in controlling their pelvic function, which in turn reinforces exercise adherence.

Limitations Across Studies and Implications for Future Research

Despite promising results, several methodological limitations persist across the literature. These include small sample sizes, lack of blinding, high dropout rates, short follow-up durations, and variability in training fidelity. Only a few studies employed power calculations specifically for levator ani tone as a primary endpoint.

Moreover, the lack of long-term data hampers understanding of sustainability. Few studies followed participants beyond 6–12 months, and even fewer evaluated whether gains in muscle tone translated into lower incidence of POP or urinary incontinence years later.

Another major gap is the limited representation of diverse populations. Most trials are conducted

in Europe, China, or North America, with underrepresentation from African and Southeast Asian cohorts. Given cultural differences in childbirth practices, pelvic health literacy, and access to care, localized studies are necessary.

Future research should focus on:

1. Long-term follow-up (2–5 years)
2. Multicenter RCTs with standardized PFMT protocols
3. Stratification based on pelvic floor status at baseline (e.g., avulsion vs no avulsion)
4. Digital health interventions to support adherence
5. Inclusion of neurophysiological markers (e.g., sEMG biofeedback patterns, hormonal influence on muscle elasticity)

Synthesis and Clinical Relevance

Taken together, the reviewed studies affirm that structured Kegel exercises can meaningfully increase levator ani muscle tone, especially when applied in a well-designed, supervised, and consistent manner. For clinicians, this supports the recommendation of PFMT as first-line therapy for women with PFD, postpartum muscle weakness, and early-stage prolapse.

However, clinicians should be cautious in overpromising structural recovery in women with significant anatomical injury. Patient education should emphasize gradual improvement, ongoing practice, and the potential need for adjunctive therapies in more severe cases.

CONCLUSION

Structured Kegel exercises, when performed regularly and under appropriate supervision, demonstrate a significant positive effect on levator ani muscle (LAM) tone.

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