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Creative Arts Interventions as Adjunctive Strategies in Clinical and Occupational Medicine: Evidence, Mechanisms, Implementation, and Research Priorities

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Abstract

Creative arts interventions are gaining clinical credibility as adjunctive strategies in medicine, particularly in behavioral health, oncology, dementia care, pain management, palliative care, and occupational health. Their appeal lies in their low pharmacological burden, adaptability across care settings, and capacity to engage affective, cognitive, social, and physiological processes simultaneously. This narrative review synthesizes policy documents, systematic reviews, meta-analyses, selected randomized trials, and implementation-science literature relevant to visual art therapy, therapeutic art-making, music therapy, dance and movement-based interventions, and exposure to visual art in healthcare environments. The review focused on outcomes of direct clinical and service relevance: anxiety, depression, distress, pain, cognition, sleep, quality of life, burnout, feasibility, and implementation.

The strongest contemporary signals support music-based interventions for anxiety and selected pain outcomes; structured art therapy and art-making for distress and quality of life in cancer care; music-based interventions for behavioral and cognitive symptoms in dementia; and arts-based approaches for burnout-related distress among healthcare workers. Receptive exposure to visual art in healthcare environments also appears to contribute to well-being, positive distraction, and more humane care experiences. At the same time, the field remains constrained by heterogeneity of interventions, inconsistent reporting of dose and fidelity, small samples, variable comparators, and conceptual ambiguity in some reviews.

The evidence does not justify framing the arts as a universal remedy. It does support their selective integration into multidisciplinary care when interventions are well specified, aligned with clinically meaningful targets, and delivered with professional governance. Future progress depends on better terminology, stronger trial design, integration of implementation outcomes, and a more critical approach to evidence appraisal.

Keywords: anxiety; burnout; cancer supportive care; creative arts therapies; occupational health.

Introduction

Contemporary medicine increasingly recognizes that recovery is shaped not only by drugs, devices, and procedures, but also by the emotional, relational, and environmental conditions in which care is delivered. In oncology, psychiatry, neurology, rehabilitation, geriatrics, palliative care, and occupational medicine, clinicians confront forms of suffering that are only partly responsive to conventional biomedical management. Anxiety, anticipatory fear, loneliness, fatigue, pain amplification, cognitive decline, identity disruption, sleep disturbance, and burnout all influence symptom burden, adherence, patient experience, and workforce sustainability [1-3].

Creative arts interventions occupy an important place in this broader therapeutic landscape. The term refers here to a family of approaches that includes visual art therapy, therapeutic art-making, music therapy, music listening interventions, dance and movement-based therapies, expressive writing, and the deliberate use of visual art within healthcare environments. These approaches are not interchangeable. Some are formal therapies delivered by trained professionals using structured protocols; others are supportive or environmental interventions. Nevertheless, they share a clinically relevant premise: engagement with the arts may facilitate emotional regulation, attentional shift, cognitive stimulation, meaning-making, social connection, and physiological calming in ways that matter for health outcomes [1,4,6,27].

Interest in this field has grown for three reasons. First, major reviews have reported encouraging results for selected conditions and outcomes, particularly anxiety, distress, quality of life, and dementia-related symptoms. Second, the burden of burnout, moral strain, and psychological distress in healthcare workforces has increased demand for non-pharmacological, human-centered interventions that can sit alongside organizational reform. Third, implementation science has clarified that complex supportive interventions should be evaluated not only for efficacy, but also for feasibility, acceptability, fidelity, equity, and sustainability [4-6,18,21-26,31-33].

This review therefore examines creative arts interventions as adjunctive strategies in clinical and occupational medicine. The central argument is deliberately measured: the current evidence does not justify romantic claims, but it is now strong enough to warrant clinically serious attention, disciplined implementation, and more methodologically mature evaluation [28,29,43,44].

Review approach and methodological note

This manuscript is a narrative review with an explicitly translational purpose. It was informed by structured searches of PubMed/MEDLINE and by targeted hand-searching of major journal platforms and institutional sources, including the Cochrane Library, BMJ, JAMA Network, EClinicalMedicine, Supportive Care in Cancer, Frontiers, PLOS One, and World Health Organization documents. The search emphasis covered January 2018 to April 2026, while allowing earlier seminal sources when they remained conceptually or methodologically relevant [45,46].

Search terms combined arts-related concepts ("music therapy," "art therapy," "creative arts ther-

apy," "visual art," "arts in health") with clinically and occupationally relevant concepts ("anxiety," "depression," "stress," "pain," "cancer," "dementia," "intensive care," "burnout," "healthcare workers," and "implementation"). When several reviews addressed the same question, priority was given to recent meta-analyses, Cochrane reviews, higher-quality systematic reviews, and clinically interpretable randomized evidence [9,21,31,45,46].

This is not a formal systematic review and does not claim exhaustive coverage. However, it is more methodologically explicit than an unsystematic essay. Narrative-review reporting was guided pragmatically by SANRA and informed, where useful, by selected transparency principles from PRISMA-S for describing information sources and search logic, without implying formal checklist compliance [45,46]. The intention is to synthesize clinically useful evidence, identify implementation-relevant lessons, and clarify where the field remains weak.

To keep the synthesis clinically focused, purely educational, community, or policy-oriented arts studies without a clear health or workforce relevance were not emphasized unless they helped frame implementation or methodological issues. Evidence was weighed by study design, recency, reproducibility, and applicability to clinical or occupational decision-making rather than by simple volume of publications.

Why the topic matters to clinical and occupational medicine

The rationale for studying creative arts interventions in medicine is clinical rather than ornamental. Symptoms rarely occur in isolation. Anxiety exacerbates pain perception. Distress amplifies fatigue. Depression undermines motivation and adherence. Sleep disruption worsens cognition and mood. Burnout affects decision-making, empathy, retention, teamwork, and patient safety [2,3,30]. Interventions that can influence several of these domains at once, with minimal pharmacological burden, deserve serious consideration, especially in conditions where suffering is multidimensional and partially refractory to standard treatment.

There is also a service-design rationale. Many arts-based interventions are comparatively low risk, can be delivered individually or in groups, and may be adaptable to ambulatory, inpatient, rehabilitation, palliative, and occupational settings. For some patients, they offer modes of expression and regulation that are less threatening than standard talk-based interventions. For some professionals, they provide forms of reflection and restoration that are more acceptable than conventional stress-management programs [21-25,34]. Their value, therefore, may lie not only in symptom change but also in widening the therapeutic repertoire of medicine.

Anxiety, depression, and stress-related outcomes

The most consistent evidence for creative arts interventions concerns anxiety reduction. Music therapy, in particular, has accumulated a sizable body of controlled and synthesized evidence. A 2025 multilevel meta-analysis reported meaningful reductions in anxiety, while earlier meta-analyses similarly found beneficial effects across diverse patient groups [6-8].

The evidence for depressive symptoms is encouraging but less definitive. A 2025 systematic review

and meta-analysis of randomized trials found that music therapy may improve depressive symptoms, but the certainty of evidence remained limited and the heterogeneity of interventions substantial [5].

Two practical observations follow. First, benefits appear stronger when the intervention is structured and therapeutically intentional rather than loosely defined as generic cultural participation. Second, outcomes appear more robust when measured in populations with a meaningful baseline burden of symptoms, rather than in broadly defined well populations [4-7].

Another reason for caution is outcome measurement itself. Studies in this field often mix validated symptom scales with ad hoc satisfaction measures, immediate mood ratings, and narrative reports. These outcomes are not equivalent, and conflating them can exaggerate apparent effectiveness [28,29,43,44].

Oncology and supportive care

Cancer care is one of the most developed areas for clinical application of creative arts interventions. Several reviews now support the idea that art-making, art therapy, music therapy, and broader creative arts approaches may improve quality of life, emotional well-being, and selected distress-related outcomes in people living with cancer [9-15].

This focus is clinically appropriate. Oncology is not defined solely by tumor response or survival. Patients often contend with uncertainty, altered body image, social isolation, treatment fatigue, anticipatory distress, and existential threat. Arts-based interventions may help create symbolic distance from illness while also allowing expression, agency, and a sense of continuity of self. Structured music interventions may also reduce treatment-related anxiety in radiotherapy and other procedural contexts [9,13]. Art-making interventions appear particularly relevant where verbal expression is limited by emotional overload or where patients wish to process illness without relying exclusively on explanatory language [10-12].

The limitations should be stated clearly. Cancer studies vary widely by diagnosis, treatment phase, intervention dose, therapist training, comparator condition, and outcome measure. Some trials are underpowered, and effect sizes often differ according to whether outcomes are measured immediately after the session, at the end of a program, or during longer follow-up [9-15].

There is also a practical reason why oncology may be particularly receptive to these interventions: supportive cancer care already depends on multidisciplinary work. Psycho-oncology, rehabilitation, palliative care, and survivorship programs all recognize that suffering is not reducible to tumor biology alone, and arts-based interventions fit naturally within that wider supportive-care model [9,14,40].

Pain, procedural medicine, and critical care

Pain is an especially relevant domain because it sits at the intersection of nociception, attention, expectation, memory, mood, and context. Music-based interventions appear promising for selected pain populations, including chronic pain, where recent reviews suggest modest but potentially meaningful benefits for pain intensity, distress, and related symptoms [16,17].

The literature also supports music interventions in highly procedural settings. Recent meta-analytic

evidence indicates that music can reduce anxiety and pain in ophthalmic surgery and may modestly improve peri-procedural physiological responses. Similar pre-procedural effects have been reported in dental settings, where anticipatory anxiety is often high [37,38].

Evidence from critical care is more nuanced. A 2019 systematic review concluded that music therapy was consistently associated with reduced stress and anxiety in critically ill patients [36]. However, newer syntheses suggest that effects may depend strongly on intervention timing, music selection, patient consciousness, and ICU context. In other words, music is not a universally effective standalone intervention for all critically ill patients. It is best regarded as a context-sensitive adjunct that may be useful when sedation, fear, environmental overstimulation, or sleep disruption intensify suffering [35,36].

This domain illustrates both the promise and the methodological challenge of arts-based interventions. When outcomes are immediate, situational, and patient-reported—such as anxiety before a procedure—arts-based interventions may perform particularly well. Demonstrating durable effects on analgesic use, recovery trajectories, or longer-term functioning is more difficult and requires stronger study designs [17,35,36].

Palliative care offers a related perspective. A systematic review and meta-analysis of hypnosis and music interventions in palliative care suggested that these modalities can contribute to symptom relief and well-being, although the underlying literature remains heterogeneous and often small-scale [39].

Dementia, cognitive impairment, and geriatric medicine

Dementia care is another area in which the arts appear clinically relevant. A 2024 meta-review of systematic reviews found that music therapy and related music interventions may improve cognitive functioning, anxiety, and aspects of mood in adults with dementia or cognitive impairment. Recent systematic reviews of randomized trials point in the same general direction [18-20].

These outcomes matter because pharmacological options for behavioral and psychological symptoms of dementia remain limited by modest efficacy and adverse effects. Music-based interventions may offer a non-pharmacological pathway to engagement, soothing, memory activation, and interpersonal contact [18-20].

Even so, the evidence remains uneven. Some studies use individualized music, others generic playlists, and others therapist-led live sessions. Session frequency and duration differ markedly, and follow-up is often short. The field is promising, but not yet methodologically settled [18-20].

For geriatric care more broadly, the lesson is not that music is universally therapeutic, but that personhood-sensitive interventions can still have effect even in advanced cognitive decline. Individualization is likely crucial: preferred music, timing, level of stimulation, and involvement of caregivers all influence response. This reinforces a broader principle in medicine: when interventions engage identity, memory, and emotion, personalization is not a luxury but part of the mechanism itself [18-20,41].

Burnout, distress, and workforce mental health

The rise of burnout and moral strain among healthcare workers has made occupational mental health a central medical and organizational concern. Burnout is associated with emotional exhaustion, depersonalization, reduced professional efficacy, and adverse consequences for workforce stability and care quality. WHO guidance has reinforced the importance of mental health at work as a system-level issue rather than a purely individual one [2,3,30].

The evidence in this area is now more than anecdotal. A 2023 systematic review found that art therapy-based interventions for healthcare workers showed promise for burnout and psychosocial distress, and subsequent studies—including randomized and quasi-experimental work—have strengthened that signal [21-25].

Nevertheless, this evidence requires careful interpretation. Burnout is not simply an individual stress problem; it is also a systems problem shaped by workload, staffing, administrative burden, moral injury, and organizational culture. Arts-based interventions cannot substitute for structural reform, and they should never be presented as such [2,3,30].

From an occupational-medicine perspective, this is important. Workforce mental health influences retention, sickness absence, presenteeism, and patient experience. If arts-based interventions are to be implemented responsibly, they should be embedded within broader prevention and support strategies, not detached from them [2,3,30,32,33].

Implementation in workforce settings requires particular care. Programs imposed from above, delivered without protected time, or disconnected from visible organizational support may be experienced as symbolic rather than helpful. By contrast, interventions that are voluntary, well-signposted, psychologically safe, and outcome-evaluated are more likely to be acceptable and sustainable [21,23,31-33].

The clinical environment as intervention: visual art and humanization of care

Not all arts-related interventions require active participation or formal therapy. The healthcare environment itself can act as a clinical exposure. A 2025 scoping review concluded that viewing visual artwork in healthcare settings may support mental well-being, positive distraction, and, in some studies, physiological calming among patients, staff, and visitors [26].

This line of evidence is particularly relevant to design, patient experience, and the humanization of care. Hospitals and clinics are not neutral spaces. Their sensory and symbolic qualities affect threat perception, orientation, dignity, and comfort, and the broader arts-in-health literature has repeatedly emphasized that environmental design can shape how care is received [26,34,42].

The evidence here should not be overstated. Visual artwork is unlikely to produce large standalone clinical effects, and causality is difficult to separate from broader environmental design variables. Still, even modest benefits may matter in settings where distress, uncertainty, and waiting are part of the patient experience [26,34].

This environmental perspective matters because medicine communicates through architecture as well as through clinicians. A corridor, waiting area,

ward wall, or treatment room can either intensify passivity and fear or convey orientation, calm, and recognition. Visual art cannot correct all design failures, but it can contribute to a broader ecology of humane care in which patients and staff experience the setting as less alienating. In that respect, arts-in-environment work may be one of the most underused yet practical applications of the field [26,29,34,42].

Mechanisms of action: how might the arts work?

The therapeutic effects of creative arts interventions are unlikely to depend on a single pathway. A recent review of neural mechanisms proposed that engagement with the arts may recruit circuits involved in emotional regulation, salience, reward, autobiographical memory, and social cognition [27].

At least six mechanisms appear repeatedly across the literature. First, arts-based activity may support emotional regulation by enabling expression, containment, reappraisal, and symbolic representation. Second, it may interrupt maladaptive attentional loops such as rumination, catastrophic focus, or pain vigilance. Third, it may enhance agency and coherence when illness or burnout has eroded a person's sense of control. Fourth, it may promote social connection and non-verbal attunement. Fifth, it may influence autonomic settling through rhythm, breath entrainment, or calming visual engagement. Sixth, it may support meaning-making in contexts where purely propositional language feels inadequate [1,27].

These mechanisms help explain why the same intervention can affect multiple outcomes simultaneously. A music intervention delivered before surgery may reduce anticipatory anxiety, blunt perceived pain, and improve subjective calm. A staff arts group may improve belonging, emotional processing, and perceived support, even if its effect on formal burnout scores is modest [6,17,18,21-25].

At the same time, mechanistic plausibility does not eliminate the need for rigorous evaluation. A persuasive mechanism is not the same as a proven clinical effect. Future studies should align hypothesized mechanisms with selected endpoints rather than accumulating undifferentiated outcome lists [28,29].

Mechanistic thinking is also useful because it helps determine which outcomes should be prioritized in trials. If the hypothesized pathway is attentional and autonomic regulation, then anxiety, perceived pain, heart rate variability, or sedative requirements may be more informative than generic satisfaction ratings. If the pathway is relational repair in staff teams, then belonging, moral distress, and retention-related outcomes may deserve attention [31-33].

Safety, ethics, and implementation considerations

The generally low-risk profile of creative arts interventions is one of their practical attractions, but low risk does not mean no risk. Some interventions may evoke painful memories, intensify grief, trigger overstimulation, or generate interpersonal vulnerability that requires skilled containment. This matters particularly in oncology, trauma-exposed populations, mental health settings, palliative care, and staff groups with high cumulative stress [31,32].

Implementation should also distinguish clearly between therapy, supportive programming, and envi-

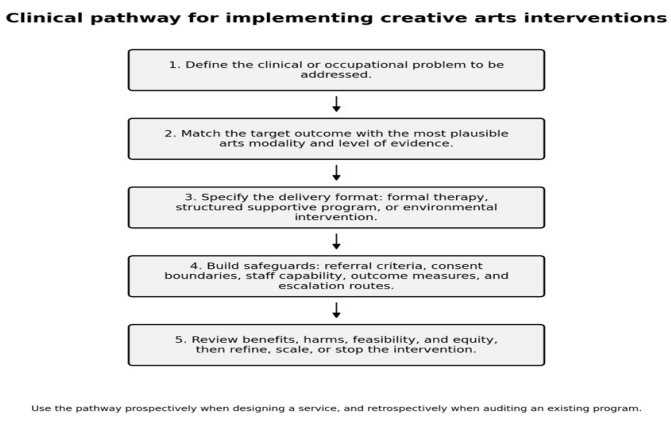
ronmental enrichment. This distinction is not semantic. It affects staffing requirements, consent processes, documentation expectations, safeguarding procedures, and the threshold for clinical supervision [31,32].

Because these interventions are complex and context-sensitive, implementation outcomes deserve explicit attention. Following established implementation-science frameworks, services should examine acceptability, adoption, appropriateness, feasibility, fidelity, cost, penetration, and sustainability rather than focusing on efficacy alone [31-33].

Equity matters as well. Preferences for music, visual symbolism, silence, movement, and emotional disclosure vary across cultures, generations, diagnoses, and care settings. Patient choice and cultural humility should therefore be treated as core design principles rather than optional additions [1,26].

Operationally, safe implementation requires referral criteria, documentation standards, pathways for escalation when difficult material arises, and clarity about how arts-based care interfaces with psychological, psychiatric, nursing, and rehabilitation services [31,32].

Figure 1. Clinical pathway for implementing creative arts interventions in healthcare services.



Note: This figure translates implementation-science principles into a practical decision sequence for service design and audit [31-33].

Research priorities and next-generation study design

The next phase of this field should be defined less by enthusiasm and more by methodological maturity. Several reviews now show promising outcomes, but the field continues to struggle with inconsistent terminology, under-described interventions, small samples, and variable outcome quality. Critiques from within the arts-and-health literature itself have made this point forcefully [28,29,43,44].

Four priorities appear especially important. First, researchers should define interventions precisely, distinguishing therapy from non-therapeutic arts engagement and reporting clinician qualifications, session dose, comparators, co-interventions, and context. Second, harms and unintended effects should be described more explicitly. Third, implementation outcomes should be pre-specified when the intervention is intended for service adoption. Fourth, clinically interpretable endpoints should take priority over broad, non-specific well-being claims [31,33].

A more ambitious research agenda would also examine dose-response relationships, comparative effectiveness against other supportive interventions, subgroup effects, cost-effectiveness, and service-level outcomes such as uptake, retention, and resource implications [32,33].

Ultimately, the field should aim for standards comparable to those expected of other complex supportive interventions in medicine. That means stronger reporting, sharper terminology, more

transparent negative findings, and greater respect for implementation context [31-33].

Economic evaluation should also move closer to the center of the field. Decision-makers rarely adopt supportive interventions on efficacy evidence alone. They need to know what staffing, training, time, and infrastructure are required, and whether the intervention meaningfully improves patient or workforce outcomes relative to cost [31,33].

Conclusion

Creative arts interventions are not a substitute for evidence-based medical treatment, psychotherapy, or organizational reform. They are, however, increasingly credible adjuncts in areas where suffering is multidimensional and where standard biomedical care does not fully address distress, meaning, relationship, or environment [4-6,9-15,18-26]. The most responsible position is therefore neither skepticism by default nor advocacy by slogan. It is disciplined integration. When arts-based interventions are clearly defined, aligned with clinical needs, delivered with appropriate safeguards, and evaluated with methodological seriousness, they can make a real contribution to humane and evidence-aware care [28,29,31-33,43,44].

For clinicians and service leaders, the operational takeaway is straightforward. Start with a specific problem, choose a modality that fits the problem, define who will deliver it, and evaluate not only benefits but also harms, feasibility, equity, and sustainability. That is how this field will move from promising rhetoric to durable clinical value [31-33].

Table 1. Summary of evidence by clinical domain

Domain	Main modalities	Most consistent benefits	Main cautions
Anxiety / depression	Music therapy; visual art therapy; structured art-making	Anxiety reduction; support for depressive symptoms; improved short-term emotional regulation	Heterogeneous protocols; low-to-moderate certainty in several reviews
Oncology supportive care	Music interventions; art therapy; art-making; multimodal creative arts therapy	Reduced distress and anxiety; improved selected quality-of-life domains; better coping	Effects vary by cancer type, treatment phase, and modality
Pain / procedural medicine	Music therapy; music listening; peri-procedural interventions	Lower pain-related distress; reduced procedural anxiety; modest physiological stabilization	Short-term outcomes dominate; dose and timing often underreported
Dementia / cognitive impairment	Music therapy; individualized music; structured music programs	Improved mood, behavior, and selected cognitive outcomes	Short follow-up; variable personalization and delivery
Healthcare worker distress	Art therapy; visual arts groups; creative arts therapy	Reduced distress and burnout-related symptoms; improved reflection and connection	Should not substitute for structural workforce reform
Healthcare environments	Receptive visual art; arts in the built environment	Positive distraction; improved patient and staff experience; humanization of care	Standalone causal effects difficult to isolate

Table 2. Practical framework for implementation in healthcare services

Step	Implementation action	Why it matters
1	Specify the intervention precisely	Avoids conceptual drift and allows meaningful evaluation
2	Match modality to the target outcome	Improves clinical fit and reduces generic programming
3	Clarify who delivers the intervention	Differentiates formal therapy from supportive activity

4	Document dose, frequency, and adaptation	Essential for fidelity and replication
5	Measure both clinical and implementation outcomes	Supports real-world adoption, not only efficacy claims
6	Plan for safety, consent, and cultural fit	Protects patients and staff and improves acceptability
7	Review sustainability and cost	Determines whether the intervention can be maintained in routine care

Table 3. Research and reporting priorities for the next phase of the field

Priority	What should improve	Examples of stronger practice
Terminology	Clearer distinction between therapy, supportive arts activity, and environmental arts	Separate therapist-led art therapy from waiting-room visual art exposure
Trial design	Larger and better controlled studies with transparent comparators	Multicenter RCTs with active comparators and longer follow-up
Reporting	Better description of dose, fidelity, staff training, and tailoring	Use structured reporting checklists and intervention manuals
Implementation	Routine measurement of acceptability, feasibility, fidelity, and sustainability	Hybrid effectiveness-implementation studies
Outcomes	Closer alignment between mechanisms and clinically meaningful endpoints	Pair distress outcomes with plausible mechanistic measures and service outcomes
Critical appraisal	Less overclaiming and more explicit discussion of bias and limitations	Include risk-of-bias language and temper policy recommendations

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Conflicts of Interest

The author declares no conflict of interest.

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