



DANCE FOR CHRONIC PAIN REPORT

JANUARY 2023

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Acknowledgements

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Link to promotional film: <https://artlift.org/why-art-matters/evidence-of-impact/>

Summary

As part of NHS Gloucestershire Integrated Care Board's 'Test & Learn' programme, Artlift has been co-producing approaches to Arts on Prescription for adults living with chronic pain since 2018. It evolved from a pilot intervention with men aged 30-50 in 2015. In 2021-22, the team started exploring ways of integrating movement into multi-artform courses.

Artlift co-produced the current programme with the Pain Management Service at Gloucestershire Royal Hospital, NHS commissioners, Social Prescribers, GPs, and people living with chronic pain.

The co-Lead Researchers for this project were a part of development and testing of a 'Dance Unstuck' toolkit (2015-'19) alongside Dance Educator and Choreographer [Jürg Koch](#). This set of approaches based on the principles of [Universal Design of Instruction](#) was designed to enable access to dance for a diversity of disabled dancers. To date, they've been tested on formal, codified movement (ballet, South Asian dance) and on carnival movement.

This Research project brought together Artlift ex-participants and professionals living with chronic pain who are open to exploring what works, their own personalised movement possibilities and how we could work together to bring down potential barriers to engagement (e.g. potential misperceptions around the impact of movement on pain levels and fatigue).

We co-produced six research sessions to run in Autumn 2022 (see [Appendix 1](#) for notes of co-production session, August 2022). We explored the impact on pain management and fatigue of selected Dance Unstuck tools, 5-Dimensional Flow exercises, different music, percussive instruments, props, breathing, meditation, and vocal exercises. We also explored different space set-up, including use of mobility aids and/or furniture to aid access to different exercises.

Longer-term aims of the research and development are to:

- Continue to identify and test approaches and exercises suitable for adults with chronic pain
- Test this in an online as well as face-to-face context
- Co-produce resources and guides, and share learning, so approaches impact more widely
- Co-produce promotional materials and agree the approach to communications most likely to persuade adults with chronic pain to try movement / dance.

Initial research findings indicate it is possible for participants with chronic pain to build confidence in their personal movement range and experience the benefits of a dance programme. To achieve this, it was concluded:

- participants must feel safe, with permission and support to explore their own individual movement possibilities and range.
- the Artist Facilitator must be adept at building trust in a well held space, and using descriptive, open language
- Universal Design of Instruction, 5-Dimensional Flow, breathing and meditation exercises, music, props and imaginative use of mobility aids, furniture and space are all useful tools.
- Once participants are confident exploring their own individualised movement vocabulary, there are further benefits in partnership and group work.

The research sessions helped people living with chronic pain and fatigue access dance and movement through their own individualised movement vocabulary despite having been told (or convinced themselves) dance was no longer accessible to them.

The sessions helped exploration and extension of movement range, supported mobility and core strength, built confidence, supported a 'grief' process (letting go of what people used to be able to achieve physically) and helped co-producers rediscover a sense of joy.

Following this research, and implementation of recommendations, a pilot project into which adults living with chronic pain can be referred (or refer themselves) will now be co-designed and co-promoted.

Introduction

Aims

- Identify approaches and exercises suitable for adults with chronic pain
- Test this in a face-to-face context
- Co-produce resources and guides, and share learning, so approaches impact more widely
- Co-produce promotional materials and agree the approach to communications most likely to persuade adults with chronic pain to try movement / dance

Background

Artlift has been part of the NHS Gloucestershire's (ICB) 'Test & Learn' programme, co-producing approaches to Arts on Prescription courses for adults living with chronic pain since 2018 (following an initial pilot intervention with men aged 30-50 in 2015). In 2021-22 the team started testing ways of integrating movement elements into multi-artform courses.

Artlift co-produced the current programme with Gloucestershire Hospitals NHS Foundation Trust's Pain Management team, NHS Gloucestershire ICB commissioners, Social Prescribers, GPs, and people living with chronic pain.

Following co-producers' discussion around some of the challenges of integrating movement into broader multi-arts courses, it was agreed to explore a dance/movement specific offer.

This resulting research project brought together Artlift ex-participants and professionals living with chronic pain open to exploring what works, their own personalised movement possibilities and how we could work together to bring down potential barriers to engagement (e.g. potential misperceptions around the impact of movement on pain levels and fatigue).

A co-production session was held in summer 2022 including 5 contributors who have lived with chronic pain. From this, a 6-session research project was co-designed.

It was agreed to test various approaches and tools including:

- a) The Dance Unstuck toolkit:

The Co-Leads worked from 2015 –'19 on development and testing of this toolkit on different movement genres from ballet to carnival. Dance Unstuck was designed to create access for as wide a diversity of disabled participants as possible. Pioneered by Dance Educator and Choreographer [Jürg Koch](#), it is based on the principles of [Universal Design of Instruction](#).

- b) [Five Dimensional Flow](#) exercises, which is based on the principles of meditation (from stillness to movement), moving joints and spine from the core, and draws on simple to complex breath control in stationary postures and whilst moving.

The co-production group also saw value in exploring voice, breathing exercises and meditation as warm-ups / cool downs and/or as catalysts and control mechanisms for movement.

Additionally, they requested that music of African and South Asian origin be used.

They agreed that the optimum time for sessions would be late morning and that they should be no longer than 2 hours, structured to include breaks and/or with discussion sections interspersed with movement sections.

The co-production group also agreed some sessions / exercises should be filmed with a view to creating a short promotional video to encourage others to try dance.

Project Design

Phase 2 R&D (Oct – Dec 2022)

A series of six sessions were co-facilitated by Annet Richards-Binns & Cath Wilkins, with additional planning input and a voice session led by paid professional artist Steve Skinley, who lives with chronic pain. Three more participants living with pain joined the co-production group alongside an NHS Glos Chronic Pain Project Manager and a Pain Management team Senior Physiotherapist.

Session content included exploration of how use of certain Dance Unstuck and 5 Dimensional Flow tools, music, percussion, props, mobility aids, space set-up/furniture, and how breathing, meditation and vocal techniques impact on pain management. Sessions were shaped around the following aims:

1. Enable participants to find their individualised movement possibilities / dance vocabulary (using improvising, setting, exploration of the 'form' and 'function' of movements/exercises, and establishing each participant's action range)
2. Understand if/how use of instruments, percussion, props, space/furniture and/or mobility aids impact on movement possibilities (including practicing 'transposing', exploration of spatial and temporal ranges for each participant)
3. Find effective ways of using the breath and/or voice to impact positively on pain management before, whilst and after moving/dancing
4. Enable participants to find their personalised 100% in dance/movement (including practicing 'cataloguing' – setting their own personalised movement vocabulary – and exploring the positive impact of working with partners practicing 'mirroring with a difference')
5. Agree what needs to be in place before and after a course to remove mental and/or physical barriers to participation (promotional phrases, words, and tactics; criteria, ground rules, information and guidance, venue set up, etc)
6. Establish how different dance and music genres and styles impact on energy, pain levels and/or quality of movement, with a focus on rhythmic, 'upbeat' and popular styles (with likely appeal to a broad demographic) with different cultural influences, e.g. African, Latin.

Co-producers also shared links to inspiring films in between sessions, e.g. footage of disabled professionals using their mobility aids in different ways.

Session Schedules

Session 1 Aim: For participants to start to find their own individualised dance vocabulary.

Research Questions:

- Is improvisation a safe and effective tool through which to explore our personal movement possibilities?
- How can we access the usual elements of a dance class through our own movement possibilities? How does each element impact on our bodies / pain / fatigue?

Time	Aim & Activity
11.30am	Arrive - Introductions, check-in & benchmark how we're feeling
11.50pm	Connect to breath: breathing exercise
12.00pm	Warm up & explore our own movement possibilities - use descriptive words to help us improvise into different movements
12.30pm	BREAK
12.40pm	Explore our action range & translate into our own movement possibilities – start with 3 usual elements of a dance class (squat/bend, kick/swing, 'jump'/elevate)
1.10pm	Cool down – breathing & gentle stretching
1.20pm	Reflect & Close – check out & reflect on how we're feeling

Session 2 Aim: To continue to explore individualised dance vocabulary.

Research Questions:

- (ongoing) How can we access the usual elements of a dance class through our own movement possibilities? How does each element impact on our bodies / pain / fatigue?
- Could the 5-Dimensional Flow approach help us safely explore our spinal / trunk movement possibilities and/or impact positively on pain management?
- What happens when we perform the different elements in different styles / to different music?

Time	Aim
11.30am	Arrive - check-in & benchmark how we're feeling
11.45pm	Connect to breath: breathing exercise
11.55pm	Explore benefits of 5 dimensional flow (spine & trunk exercises) – how does it impact on our movement range & usual aspects of a dance class (turn/twist/circle, 'glide'/slide & flexion/extension)
12.30pm	BREAK
12.40pm	Explore 'form' – see how the style/aesthetics of different music/dance genres impact on our movement possibilities and energy (using props where appropriate)
1.10pm	Cool down – breathing & meditation
1.20pm	Reflect & Close – check out & reflect on how we're feeling

Session 3 Aim: To understand our range & how to use what's around us.

Research Questions:

- How does understanding / setting our personal spatial range help us to access dance safely / effectively?
- How does using what's around us (props, instruments, furniture, mobility aids) impact on our movement possibilities and pain management?

Time	Aim
11.30am	Arrive - check-in & benchmark how we're feeling
11.45pm	Connect to breath – inc. tonal work
11.55pm	Practice 'transposing' – try our movement phrases in different contexts: using different body parts or seated instead of standing, etc.
12.30pm	BREAK
12.40pm	Continue 'transposing' exploration – try our phrases using different mobility aids furniture, boxes, chairs, props...
12.55pm	Explore our spatial range – see what our current, fullest movement range is (e.g. reach up, fold down, etc) & where our starting & end point is in the space. See how a ' scenario ' or characterisation helps / changes our movement.
1.15pm	Cool down – break / meditation exercise
1.25pm	Reflect & Close – check out & reflect on how we're feeling

Session 4 Aim: To understand how music and voice impacts.

Research Questions:

- How can playing with tempo help us to access dance safely / effectively?
- What role can the voice or instruments play in helping us to access and control movements?

Time	Aim
11.30am	Arrive - check-in & benchmark how we're feeling
11.45pm	Connect to breath – dynamic breath / vocal exercise
11.55pm	Explore impact of using voice – play with transposing movement into voice & vice versa. Call & response game.
12.30pm	BREAK
12.40pm	Find out how tempo & using instruments helps access &/or pain management – explore most fluid, slowest versions of our phrases playing with music tempo & see what different instruments do to our movement.
1.15pm	Cool down – guided meditation exercise
1.25pm	Reflect & Close – check out & reflect on how we're feeling

Session 5 Aim: How does working together impact?

Research Questions:

- How does working in pairs impact on our movement possibilities?
- Does dancing with others impact on our pain management (more or less positively)?

Time	Aim
11.30am	Arrive - check-in & benchmark how we're feeling
11.45pm	Connect to breath –breathing exercise & body percussion
11.55pm	'Catalogue' our individualised dance vocabulary – revisit our own versions of each dance class element & work together to select our 'best' versions
12.30pm	BREAK
12.40pm	Develop translation skills - use 'Mirroring with a difference' in pairs to translate someone else's phrase into our own movement possibilities.
1.10pm	Cool down - Belly & nostril breathing
1.25pm	Reflect & Close – check out & reflect on how we're feeling

Session 6 Aim: How does working together impact?

Research Questions:

- Does using the 'drop, join, replace' tool help us to access a group dance?
- What have we learnt / what has developed in our individual movement possibilities?
- Which approaches, movements, or styles best supported our pain management (if any)?

Time	Aim
11.30am	Arrive - check-in & benchmark how we're feeling
11.45pm	Connect to breath –breathing exercise
11.55pm	Practice making choices in how we engage – try different versions of each other's phrases using 'Drop, Join, Replace'
12.30pm	BREAK
12.40pm	Capture learning – group discussion to reflect on what worked well, what didn't, what's needed next, and what we might say to others to persuade them to try dance

1.00pm	Have fun! – freestyle with Annet
1.15pm	Cool down – breathing exercise of choice!
1.25pm	Reflect & Close – check out & reflect on how we're feeling

Evaluation Framework

To gauge impact on pain and fatigue management:

- Artlift's existing 'Pain Scale' tool in the first and final session to gauge pre and post levels of ability to manage day to day life, e.g. sleep patterns.
- We also recorded a score of 0-5 where 0 is no pain/fatigue and 5 is high pain/fatigue at the start and end of each session.

To monitor the relative merits of each approach / what is being learnt (about each person's movement possibilities and how it impacts on pain levels):

- Individualised simple check-in & out exercise where participants were asked for one word to describe how they felt at the start and end of each session.
- Brief group discussion at end of each session to identify:
 - What had the most positive impact and why
 - What felt uncomfortable / like it impacted negatively on pain (and what could be done differently to prevent that)
 - What participants may want or need to explore further
- Capture team observations of their own and participant progress through:
 - Filming and reviewing exercises
 - Research assistant observation and logging of impact of each exercise
 - Research assistant helping each participant to catalogue their movement range, noting how it changes from one week to another
 - Post-session and end of programme team debriefs

Findings

Start and end of sessions: breathing, meditation, stretching

All participants reported that breathing exercises helped them feel physically and mentally better - that taking in oxygen helped slow the heart rate, reduce stress, energise, improve circulation and relax muscles. Two participants commented that one exercise where oxygen exchange is significantly impacted by an encouragement to breathe into the back of the lungs caused their throats to feel 'tingly' but this did not put them off and was something they became accustomed to over the weeks.

'Enjoyed breathing properly as it gave me a high and a buzz, I don't feel stressed anymore.'

'Circulation has increased and my hands felt warm by the end of the exercise.'

All participants commented that they felt calmer because of breathing and meditating at the start and end of each session and that they were able to use some of the breathing techniques through the week to help with pain management.

'Found that breathing helped with anxiety management, have enjoyed learning and becoming more aware of this and has used breathing techniques to manage tremors throughout the week.'

In the initial weeks participants were nervous to take part in activities and nervous to take part in the stretching elements of the warmups as they were unsure of their full movement range. Confidence and willingness to explore movement range increased noticeably over the weeks.

This increased confidence was supported by the artist providing reassurance and permission to stay within participants' own comfort zones. Observations and feedback around increased range of movement gave participants a sense of satisfaction and joy.

By the final sessions it was observed that all participants had significantly increased their confidence to take part, relax, and explore their own individual experiences of the warmup and cool down activities. At the end of the final week, the following comments were made by participants.

'Found the breathing exercises invaluable, helped with focus and gave the body what it needed for the session ahead.'

'Didn't particularly notice meditation exercises but did feel serene afterwards.'

'The meditation provided the chance to go somewhere else other than daily life.'

Individualisation & Movement Vocabulary

Improvisation

When exploring whether improvisation is a safe and effective tool through which to explore our personal movement possibilities, the following observations were made:

- Improvisation gave people a large amount of control around how much they wanted to explore movement range. However, this freedom did occasionally result in individuals either not thinking about different ways to try something (e.g. using a different body part) or over-exertion (e.g. spending too long doing an exercise standing). Working in pairs and/or with observation from the session leaders and Research Assistant helped in getting the right balance.
- A key observation of participants in this group was that they all drew on their personal backgrounds to find a way to access this activity. For example, one participant had been a runner and personal trainer and took a very physiological approach to individualising their movement by finding alternative muscles that could achieve movements whereas another participant with a musical background decided to improvise in direct response to the music and felt their way through their movement range.

To manage the risk of injury it is important to establish safe boundaries and ensure trained practitioners manage the space carefully.

Use of carefully chosen descriptive words as prompts worked well, alongside having Dance Facilitators unpack how words can be interpreted in different ways (e.g. 'swirl' can mean moving a wrist whilst seated rather than being a standing turn). This enabled participants to take creative approaches to traditional elements of a dance / exercise class and to access exercises and activities they might otherwise not have been able to engage with.

Partner and group work with others facing similar barriers around pain helped to build confidence and inspired individuals to try different ways of approaching tasks. Dance Facilitators explaining 'translation' into different bodies / body parts and mirroring 'with a difference' opened up new possibilities and an acceptance of what can be created. This helped move focus away from negative comparisons with past capabilities and/or of 'failing' to achieve how someone with normative movement possibilities may approach an exercise or movement phrase.

Participants noted they were able to make decisions when to work with / through their pain, and made the following comments following the session which focussed on improvisation:

'Whilst certain actions caused pain which pulled me back, I still wanted to keep going.'

Found the improvisation experience 'liberating'

'After the creative tasks I can identify where the pain is more specifically which is helpful.'

5-Dimensional Flow

When exploring whether the 5-Dimensional Flow approach can help people to safely explore spinal movement possibilities and/or impact positively on pain management the following observations were made.

The 5D Flow approach allowed participants to experience feedback from their own bodies about pain, enabled participants to begin preventing disassociation with pain therefore increasing self-awareness about their bodies and increasing their ability to manage their own pain and work safely within their limits. One participant highlighted that this increased awareness was in turn likely to reduce unexpected and heightened future pain as a 'backlash' to activity.

Introducing and using 5D Flow increased awareness and acted as a strong foundation/warmup activity preparing bodies and mindsets for future more challenging activities within the session. Essential Spinal Flow enabled participants to gently explore their movement range from their core – lateral, rotation, etc.

Participants felt positive around the exercise being seated and building in grades as this allowed freedom to develop movements at their own pace and within their own limits.

The Dance Facilitator's ability to guide the stages and to build rapport with participants so they felt safe to explore movements at their own pace was crucial to the success of this activity.

'Connected body and brain together'

'Felt safe'

Movement Range, Resources & Surroundings

Spatial Range

The combination of slow build up to larger movements needing more coordination (which started 'small' in breathing, gentle spinal, guided stretching exercises for example), alongside reminders to work within participants' own movement possibilities, increased confidence significantly.

Dance Unstuck tools to help exploration of a person's personal 'high reach' or travel distance across a room for example enabled participants to better understand their individual 'range', also understanding and accepting that this may change from day to day, dependent on pain and fatigue levels. Once participants had built understanding and confidence around their own 'action' and 'spatial' range, they were better able to engage in subsequent activities.

'I was surprised at how confident I was this week particularly to go off-piste with the activities so to speak'

Confidence to approach the usual elements of a dance class through translation into participants' individual movement possibilities requires trust in the Dance Facilitator(s) – a guided, safe and gradual build in initial sessions.

Time to reflect on how each element impacts on our bodies, pain and fatigue levels, and sometimes emotionally, is important.

Feeling safe within the group dynamic is also important. In this session, this occurred by individual participants first building trust with the Dance Facilitator and therefore feeling confident the space would be held and then building trust with other participants. Pair work aided this.

For example, a conversation occurred between two participants when Participant A was feeling unsure of their ability to achieve a movement. Participant B responded that they had felt the same but felt able to individualise the movement and demonstrated how. This helped participants to appreciate the freedom and permission to individualise and come to understand their own range.

Participants therefore felt safe and were able to focus on their own needs and be confident and able to edit activities to suit themselves whilst still feeling connected and part of the group and activity, e.g. one week, a participant felt it most accessible to do an exercise lying down whilst others were seated. This impacted positively on what at the start of the session was severe pain and limitation. It enabled participants to work within their movement possibilities on any particular day (often different from the prior week) and to work safely within the boundaries of their own physicality.

Props

When exploring how using surroundings (props, instruments, furniture, mobility aids), the following was observed and noted by participants about the impact on movement possibilities and pain management:

- Using different props allowed participants to play, extending or changing the feel of movements. For example, ribbons on sticks enabled a small movement to have a larger impact, wristbands with bells on changed the rhythm of the way people moved.
- There were different personal reactions to props - some felt childish whereas others enjoyed the freedom to play they prompted.
- All participants agreed it was helpful to watch the Dance Facilitator demonstrate how props could be used.

Being able to explore use of different mobility aids to access different activities in the sessions broadened thinking and approach to movement possibilities. E.g. a wheelchair provided opportunity to travel in different ways across a space. Albeit participants shared negative perceptions of their mobility aids, it was recognised choice of aid could make a useful difference to participation in certain exercises / activities in the dance space.

Most, irrespective of movement possibilities, tended by default to participate in most exercises seated. Encouragement and demonstration of options in different contexts was needed. This requires time, building of strength and confidence over a longer time/more sessions. However, during research sessions, participants did explore for example leaning on the back of a chair instead of working seated or using sticks; leaning on a table or wall / lying down instead of working seated.

Participants found the introduction of moving 'in character' or 'in a scenario' (e.g. you're going to miss your plane) fun and, for some, liberating. One participant commented that the combination of exploring getting into character such as an elderly person simultaneously to exploring mobility aids was a lot to take in and it may have been helpful to separate these two activities.

One participant expressed interest in further exploring weight and temperature of props.

It is important to carefully plan sessions so only one or two concepts / challenges are introduced at a time as it becomes too much for participants to take on board multiple instructions / challenges as well as dealing with their pain / fatigue.

Additional participant feedback comments after the props and movement aids activities:

'Used the wall as a prop and leant against it, enjoyed that it was cold.'

'Enjoyed having the ribbon prop as I didn't feel a need to move as the prop moved for me.'

'It was liberating to hide behind the props. Holding something tactile it made you want to move the ribbon to give it movement and to use your hand. Could do a small action and create a large impact.'

'I found it difficult to engage today as didn't feel safe to move beyond the support of a mobility aid.'
(This was in part due to an exceptionally high level of pain in this week.)

'I was envious of the freedom of movement another participant had when using a wheelchair.'
(Participant suggested that she may have felt more confident to move further if she had had an additional prop such as a table.)

'Like having a prop as it keeps your hands moving, this is why I crochet.'

'Enjoyed interpreting scenarios using a wheelchair as felt free to move faster across the space.'

'It was an additional feature to coordinate but I found the bells helpful. My brain seemed to work harder and followed easier using the bells' (N.B. this participant is a musician)

'Trying the same sequence with different suggestions for how to interpret was helpful. Found the use of scenarios such as 'move as though you are your grandparent' or 'move as though you are an animal' helpful and positive for exploring movement range.'

Music & Voice

Music Genres

In the different sessions African, Bollywood and Contemporary genres of music and no music were used. Participants reported personal preferences and noted differing responses to no music as well as different genres of music.

Participants reflected that having music on during the breathing warm up and 5D Flow Activity had a significant positive impact.

One participant reported that this made a huge difference to her and that she felt significantly less self-conscious when there was music playing and was able to have more fun. This was reflected in observations made of at least two of the participants who evidenced increased freedom of movement, musical appreciation and enjoyment. Closing eyes during music playing was also commented as reducing self-consciousness by multiple participants.

Music also helped participants with breathing as one participant commented that she was able to breath in time to the music and this had a positive impact on stress levels.

'Loved the music, especially the didgeridoo and increasingly felt able to go with it'.

'Preferred the second as enjoy having a strong drumbeat.'

Tempo

Different tempos evoked different responses in terms of speed and noises chosen in the voice-oriented activities but ultimately the group found their own pace of movement and sped this up and down under their own direction. When using instruments tempo was edited in response to mirroring other participants in a group setting rather than in response to the tempo of background music.

Voice

In considering what role the voice can play in helping to access and control movements, participants reflected that some people make sounds to accompany actions in daily life – this is personal and closely aligned with pain. Many of these movements are however automatic rather than decided upon; perhaps this explains why sounds happen in response to movement rather than as a direct choice.

This may also explain why noises made by participants in the given activity typically came after movements were explored or chosen. The only outlier to this was one participant who appeared to find sounds easier to explore than movements, but this may be due to his personal background as a musician.

Annet, the exercise co-facilitator, commented that 'finding the sounds was like collaborating with the music'.

Partnership & Group work

Partner work

Working in pairs led to mirroring and translating different ways of doing the same movement, for example performing the same action but with different body parts or within different movement ranges. This collaborative approach appeared to lead to a wider exploration of movement.

Similarly to working individually, across all sessions participants became increasingly swift at individualising and translating movements to the point that it almost happened automatically to an observer. This process began to be integrated into partner work as the sessions progressed and participants came to know themselves in relation to others in the group.

'Working with someone else was inspiring to be confident to explore yourself but also challenging as you had to notice and respond to more things at once i.e. external instruction, another person, your own creativity and pain.'

In week 5 by chance each participant partnered with a member of the group who wasn't a co-producer living with chronic pain. The following observations were made:

1. Steve and partner Helen (Helen Ryder, Physiotherapist) agreed a movement sequence together and were mirroring each other but they were differentiating the amount of movement e.g. one remained standing and the other partially stood on a chair to show the difference in movement range which could be accomplished.
2. Kim and partner Joy (Joy Lavender NHS Project Manager) were mirroring almost exactly and had incorporated physical touch into their performance whereas working together in an earlier week they had performed side by side.

- Exploring movements to different tempos led both Joanna and partner Grace to play with the movements freely and to explore pace and a change in character for example using hands and fingers to tell stories. It was noted that time was needed to 'set' / repeat movements before sharing in performance with others.

Group work

When dancing as a group participants appeared to respond to each other more than to the music as they had been inclined to do when dancing alone. For example, in one activity participants edited the tempo of their movements in response to each other rather than any change in tempo of the music.

Different music genres did seem to result in different levels of movement from the group. For example, Bollywood music led to a greater degree of movement and interaction than African music. **It would be worth exploring differences in music genres and asking personal music preferences of any future groups.**

With regards to whether dancing with others impacts more or less positively on pain management participants commented as follows:

'It felt as though you were less under surveillance when you were dancing as a group.'

'Got carried away because of the amount of colours in the Bollywood music and the nature of the group being more active in response to the increased amount of movement. This resulted in a heightened level of pain although this did quickly reduce upon returning to a resting position.'

'In the group activity I was just enjoying myself and having learned to individualise and being given permission has enabled this.'

Practicalities

Arrival & Departure: Welcoming participants into the space, offering them a seat, drink etc. was cited as valuable in helping people to settle into the space before commencing any activity. Identifying the aims of the session and checking in with people about their week also contributed to people feeling present in the session. Similarly checking in at the end helped people to close the session and feel ready for the week ahead.

Delivery: It was clear that not giving too many instructions simultaneously supported clear session outcomes and enabled participants to participate with a sense of progress/achievement.

Offering reassurance that people could take part 'to the degree of their comfort' as well as granting permission to explore individual movement range was important to ensuring a safe space.

Facilitator demonstrations of activities were useful but all agreed it was important to highlight that this was only one way of doing the activity and participants should be encouraged to translate it within their own movement possibilities. It was agreed that **participants would need to have explored and familiarised themselves with their individualised movement vocabulary before being able to translate a demonstration into their particular movement possibilities.**

Survey Scores & Outcomes

The following methods of collecting feedback were used:

- pain scale surveys completed prior to and after all 6 sessions
- short mid-week online surveys allowing feedback on how participants were feeling 2-3 days after each session, and post-session reflections on what could be improved / done differently.
- Brief check ins and check outs at the beginning and end of each session – initially done on a wall chart, then verbally which felt easier.
- A facilitated, filmed discussion in the final session.
- Debrief meetings with professionals in the co-production group.

Pain Scale Surveys

The 5 research co-producers living with chronic pain completed the 'Pain Scale' survey used for Artlift's broader Living Well with Chronic Pain programme.

This survey includes 10 statements such as 'I can enjoy things, despite the pain', 'I can still do many of the things I enjoy doing, such as hobbies or leisure activities, despite the pain' and 'I can cope with my pain without medication'.

The 4 complete sets (as one person was unable to finish the course and, therefore, did not do the 'post' survey) revealed an average increase of 47.5% in the co-producer's ability to manage / live well with pain. Average score rose from 14 to 26.7.

Mid-Week Surveys

Whilst some co-producers struggled to complete these in between each weekly session, the 2-3 responses per week provided the following useful feedback:

- There were no significant changes in pain levels 2-3 days after each session – all chose either 'no change', 'slightly more' or 'slightly less' pain each week. Over the first 5 sessions, each of those answers was selected totally equitably – each of the responses having been selected 4 times each.
- The most selected responses to the question regarding fatigue levels 2-3 days after each session, were 'significantly less' and 'no change'. Only after the first session were increased levels of fatigue experienced, and only by 2 participants.

Participants' reflections on reasons for increased fatigue in week 1 were around introduction of a new activity and usual patterns following exertion of any type:

'Always get more tired when I start a new regime, was a very busy week also'

'I constantly pace myself to manage pain and fatigue and am pleased that the adjustments made to build this into my schedule have worked'

'Mentally I felt more positive and uplifted, but later in the day after the session I felt quite tired and pain levels increased. But I think this was because I had used muscles I forgot I had'

In later sessions, negative impacts of the session included a pulled neck and 'too many squats', which highlighted the need for a trained assistant to carefully monitor levels of exertion in sessions.

Positive impacts were attributed to reduced stress, improved mood, mobility and self-confidence, and increased core / muscle strength. The impact of breathing exercises, which topped and tailed each session, as well as the voice work and music were also mentioned:

'The flare I was having has been receding - I think the session on Monday contributed to a reduction in my stress levels which I have noticed can sometimes help a flare to reduce'

'My mood was lifted by the session and that has stayed with me-I also feel as if I have had fewer issues with balance/wobbles over the past few days'

'Joints felt less stiff after session'

'overcoming the creative challenges set was good for self-confidence'

'The breathing exercises have been a great help since the session. I've started to use them in my daily life, which has help reduce my stress level, increased my ability to ride through the pain and my mental outlook seems to be more positive'

'I think the recognition of the impact of pain on my voice will help in the long run'

Participants were asked for suggestions regarding ways of improving the sessions, which included:

- More music / Latin music
- Following a recognition that the sessions allowed processing of 3 different types of pain:
 - (a) allowing 3 words (rather than the 1 we invited at session check-in and check-out) – see quote below
 - (b) continuing to incorporate repetition to support confidence building.

'..there are three types of pain that (for me) emerge and so need managing in these sessions – physical pain, the emotional stuff (often distressing) that is stored in the body that expressive movement appears to release and also memories of recent slurs received about the way my body works... this has been contained for me through the explicit permission to feel and also the experience of repetition in the sessions (as this helps with confidence)'

- small pockets of time working on individual movement possibilities before / in between pair and group work(as, for someone living with chronic pain, the movement possibilities can change from day to day

'I enjoy working in pairs but have found that I have been too focused on what is going on for me to participate fully in pair work'

- considering different ways of approaching exploring each participant's 'range' (e.g. spacial – what their 'A' to 'B' is, and peripheral – what their 'high', side reach, or 'low' is). Whilst the 'scenario' and 'playing a character' approach was fun, it didn't fee safe enough/

'it appeared to me from the exercise that this is the area with the most evident variation between people so kinda tricky'

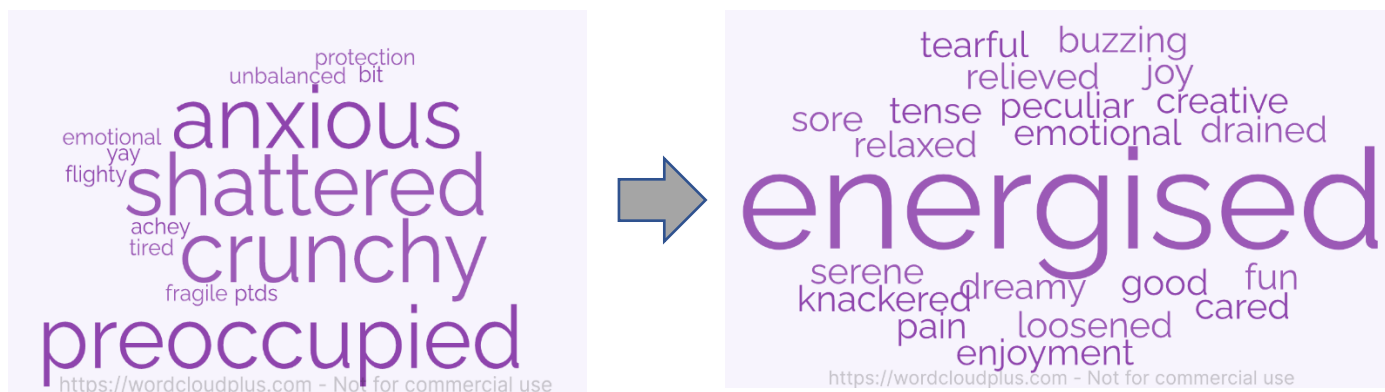
Session check-ins / check-outs

Each participant living with chronic pain was asked to rate their pain and their fatigue on a scale of 1 – 5 each week (with 5 being 'very bad') and also to offer one word that reflected how they were feeling each week.

This was done at the start and end of each session so that we could monitor any shifts. The outcomes over the 6 research sessions were:

- there was an average reduction of 2.3 per session in pain levels. The most significant reduction was in week 5 when we were working in pairs, translating moves into our own movement possibilities.
- there was an average reduction of 4.2 in fatigue levels. The most significant average reduction in fatigue was in session 2 when we explored 5-Dimentional Flow and how different music genres impacted.

The word clouds below show shifts in words selected at the start and end of sessions:



Group discussion

The group reflected on relative merits of the different approaches and exercises they had experienced over the 6 research sessions. They shared the following thoughts:

Breathing, vocal and meditation exercises

- breathing exercises were difficult to start but ultimately a gentle way to begin and end sessions
- vocal warm ups were challenging for one person due to a pre-existing condition
- one didn't notice meditation exercises overtly, but did feel serene afterwards
- breathing helped with anxiety management and have been useful to manage tremors during the week
- breathing exercises helped with focus and gave the body what it needed for the session ahead
- meditation provided the chance to go somewhere else other than daily life

Artlift's reflection: dance courses should retain use of breathing / meditation-based exercises to top and tail each session. Use of voice subject to access requirements / preferences of participants.

Use of descriptive language and improvisation to find individualised movement possibilities

- Universal Design terminology was confusing to start with, and more guidance was needed but now confident in ability to interpret and individualise movement, so a useful approach.
- being given overt permission to interpret earlier on in week 1 may have been helpful
- interesting to see everyone's different approach - noticeable that people's backgrounds impacted how they approached the activities
- improvisation in response to words was terrifying but felt supported and guided enough to find interpretations and not feel any judgement; over time, felt less self-conscious

Artlift's reflection: use of descriptive language and improvisation effective and confidence grows week by week. Consider covering introduction to UD in pre-course one-to-one discussions, and make permission to interpret more overt before/at start of session 1.

Improvising into, then setting, our own versions of typical dance elements, e.g. bend, kick

- the use of dance words triggered a sense of grief and loss about what one participant was no longer able to do - continuously balancing awareness of what able to do with a sense of frustration
- the music made a difference as it helped to feel liberated
- found the use of dance words 'scary' but music helped with being able to 'go with it' more
- another found the words helpful in being able to personalise movements

Artlift's reflection: unhelpful / unnecessary to use 'set' dance terminology unless it's already in a participant's vocabulary.

Exploring range / use of character and/or scenarios

- really enjoyed watching others explore range using different mobility aids
- would have preferred it if range and character activities had been separated
- helped to increase core strength and reduce back pain
- getting to be a character was great fun, felt very emotional after this activity
- character work showed you what dance can be

Artlift's reflection: separate exploration of range from exercises exploring how characterisation / playing out scenarios can impact on movement, but both valuable.

Using voice, musical instruments, props and mobility aids

- (participant with condition impacting on voice) found voice exercises very challenging but voice has been less crackly since
- voice is so much a part of your identity and so this was quite scary
- noises we make when in pain was a good access point to joining in - permission to bring pain into the room rather than having to mask it, was useful
- initially, use of props felt childish but did enjoy how it widened range of movement
- enjoyed how playful it was and pain lessened over time post the increased movement

Artlift's reflection: use of props should be retained. Consider explicitly giving permission to use 'pain' noises as starting point for voice work.

Use of different music / dance genres

- liked all the music, found it to be the biggest source of joy for stirring emotions
- enjoyed Bollywood music the most and would have appreciated more variation.

Working in pairs or as a group translating facilitator's movements

- most challenging at the beginning as you had to sustain care for yourself and someone else. Needed to pay attention to self and have permission to explore first.
- having to think for someone else was a challenge in a good way. It was a great way to meet others in the group.

Artlift's reflection: spend more time on individual exploration of personal movement vocabularies before / at the start of courses before moving onto pair work.

General impact:

- one person found that the programme was often the only thing she could manage in the week but this was okay because this had been thought about in advance and the sessions brought enough calm and joy that it was worthwhile.

Thoughts on practicalities:

- 1hr 30mins with a break in the middle whilst well-paced was still a lot. A 40-minute session with a break and a 10 minute warm up / cool down either side might be more manageable
- In the actual course (rather than research sessions), discussions / reflection could happen before / after sessions/course dates
- Breathing at start and end should be kept as it was helpful for feeling present and calm and ready to take part and go home
- 10-12 sessions would be helpful in terms of feeling there was more time to build and know the group. After 6 1hr 30mins sessions only just feel starting to understand movement and individualisation.
- Paperwork: a brochure explaining what to expect beforehand and how the programme scaffolds would be helpful, but carefully worded so as not to put people off!
- Progression from the project could include knowledge around how your own body works which may help with accessing 'mainstream' classes more confidently. Artlift could produce filmed resources that can be used post-course.

Observations of other co-production group members:

Steve Skinley, artist / performance professional living with chronic pain

I think everyone felt supported and we responded well to individual needs. There was a good amount of seriousness and integrity.

I noticed that the language used in delivery and personal interpretation was an important part of the project.

Too many layers of instruction, compounded by participants trying to process / manage pain signals was challenging for some; this may need reviewing in terms of delivery planning.

Annet Richards Binns, Artlift Artist Facilitator, dance & yoga professional

The structure worked well from the importance of the welcoming into the room, beginning with a clear research aim and pain check occurring each week.

Participants seemed to get into their bodies and build in confidence over the weeks. It was possible to edit sessions in response to participant feedback both from visual observation around how they moved and verbal feedback.

The sessions enabled progression over the weeks which was embedded in a sense of trust built as a group.

Further exploration of props would have been useful. Using the Dance Unstuck tool 'drop, join, and replace' felt too complicated after just 5 sessions; this may need to be broken down further in future session planning.

Helen, Senior Physiotherapist, Pain Self-Management Service, Gloucestershire Royal Hospital

I was really pleased to get a sense of the sort of movement and the experiences of those with persistent pain have of taking part and becoming more autonomous and confident with their movement generation and generally more with their bodies.

I encounter a lot of lower-level physical activity patients with persistent pain and, when running my classes, have to consistently think about adaptations to make movement more comfortable and achievable. I really liked the way you talked about how movement words can be interpreted any way the person sees and that this can be translated by them - this translation is the skill which will be difficult to grasp to start and the encouragement / reassurance from the course leader will be key here.

In addition to the above Helen Ryder (Physiotherapist) added that she was not concerned about injury watching the group as she had observed that everyone knew their own movement limitations and was working safely in response to these.

She said she had also observed that people were translating movements to suit themselves and appeared confident to do so. She was positive about the amount of ownership participants appeared to have over their movements and the activities and said this was something that in their physio groups they found hard to achieve as she felt the classes often limited patients to ensure safety for the whole group and this common challenge for group settings had been overcome in this group at week 5.

Recommendation summary

- Breathing exercises – these, with some elements of meditation are useful to open / close sessions.
- Improvisation – To manage the risk of injury it is important that safe boundaries and trained practitioners manage the space safely.
- 5 Dimensional Flow – Requires careful guidance through stages and to have built a rapport with participants so they felt safe to explore movements at their own pace.
- Translation – individualising phrases into personal movement possibilities can only happen after enough time for each person to find their own vocabularies.
- Language – use of descriptive language / prompts is effective; alignment with traditional dance terminology is unnecessary / unhelpful in this context.
- 'Permissions' - trust with the artist and feeling guided and safe to build up movements slowly certainly in the initial sessions is essential. Giving 'permissions' (e.g. to do things differently) could be done pre-course / very early on in session 1.
- Demonstration – whilst agreed that this can set up a 'normative' way of doing things, which is unhelpful, once participants are confident translating and familiar with their own movement vocabularies, it can be very useful, especially when demonstrating how to use props.
- Exploring range – this is best done slowly and not in combination with any other activity.
- Props – these help expand movement range / enhance creative expression. Consideration could be given to weight and temperature of props.
- Characterisation / scenarios – add an element of fun and help to develop different ways of moving; helps to consider which mobility aid best meets the needs of the exercise.
- Music - there was a significant positive impact of having music. Latin and Bollywood were most popular. It would be worth asking personal music preferences of future groups.
- Pair & group work – more time exploring personal movement vocabulary before / in early sessions will make for an easier transition into pair / group work which it was universally agreed is invaluable.
- Structure – a 1-hour session with a break and 10 minute warm up / cool down over min.10 sessions would be ideal. A pack explaining how the course scaffolds beforehand and some online resources as well as a catalogue of each person's own movement vocabulary would support Move On.

Videoring exercises during sessions was useful for people to recap / see what worked best.

Appendix I

DANCE RESEARCH PROJECT

NOTES OF CO-PRODUCTION SESSION, 17 AUGUST '22

Present: Annet Richards-Binns, Cath Wilkins, Joanna Wilde, Joy Lavender, Kim Broom, Lisa Stranks, Steve Skinley

Apologies: Bev Carter, Helen Ryder, Lisa Tandy

Icebreakers

We explored using different breathing exercises and vocalising to 'get into' our bodies and areas where we hold a lot of tension, such as our throats and jaw.

What we love about dance / exercise to music:

We wrote on cards, the selected and discussed reasons why dance is important to us:

How it makes us feel / impact it has	Expression, emotions & creativity	Connection with others / to other cultures through dance & music	What we use it for
Feeling of freedom x 2	Expression of movement	Exploring different styles x 2	Inhibits dissociation
Endorphins / the natural 'high'	Expression x 2	Meeting new people	Relaxing / relaxation x 2
Joy (x 2) vibrancy	Emotional expression / freedom x 2	Connection with others who love dance	Appreciation for my body
Sense of achievement	Emotion	Friendship	Movement
Laughter	Release	Music x 2	Weekends away
Happiness	Freedom of expression	Expression to music	Stops me from seizing up!
Delight	Freedom x 2		Energy
Alive / aliveness x 2	Creativity		Sense of self
	Physical expression of what I'm feeling		Showing off

Barriers to dance & movement:

We explored some commonalities in the list below (convened mostly through 1-1 conversations prior to 17 Aug.

- Bending down / different levels of movement
- Getting back up from the floor / a low position
- Worries about pain getting worse before or after a session
- Touch / partner dancing
- Getting out of breath / pulmonary issues
- Fatigue
- Balance challenges
- Unsure how to use mobility aids (or which to use) when dancing
- Neck stiffness
- Tremors
- Dizziness
- Getting to venues
- Caring responsibilities

We talked a bit more about:

- The unpredictability – dealing with different issues on different days
- Fatigue and its knock-on effect. Usually feel good whilst doing it but later can be out cold. This also depends on what else you have going on in the week
- Moving and focus on breathing can make you emotional which, in turn, makes you tired. But you can predict that and plan for it
- It helps to be able to drop out for a minute during sessions and also to have prompts to rest as human nature is to try and drive through the tiredness
- It's good to have more movement at the beginning than the end of sessions
- Use of furniture in the space:
 - Many use the furniture at home to move around the house, & the table was useful in the warm-up to alleviate balance / dizziness concerns
 - Chairs with arms are more useful: helpful if you feel dizzy when seated and better for posture when users of sticks are getting up from chairs (pushing off the the two arms, rather than a stick means there's more equal pressure)
- Mobility aids do not always 'aid' depending on where you are! Zimmer frame makes you feel more disabled / old; there are worries re. slippery floors when using sticks (which can cause injury, esp in supermarkets!); people ignore / talk to you like a child when using a wheelchair.

Exploring approaches we could try:

- a) We heard about and tried some of the Dance Unstuck 'tools' used that draw on the Universal Design of Instruction principles, including:
 - Individualisation
 - The importance of finding a more universal language to prompt movement, so not alienating dance terminology (e.g. for ballet it's all in French) and not discriminatory, e.g. instructing a group including wheelchair users to 'walk across the room', rather saying 'move across the room. Also, using descriptive words as initial movement prompts, e.g. 'twist', 'melt', 'grow', as these can be interpreted through individual movement possibilities
 - Translating into our own movement possibilities through 'mirroring with a difference'
 - Improvising, setting and repeating (to find our own vocabulary that's right for our personal movement possibilities and then setting exercises / movement phrases so we can reach each of our '100%' (and thereby get close to our personal goals / sense of achievement)
 - Exploring and setting our range (e.g. what's the distance we can travel, what's our maximum 'high'/reach, what's our 'low'?). Also, how mobility aids could be used instead of a limb, e.g. instead of extending a leg to 45% in front of us, use a stick
- b) We used a range of percussion instruments and props (ribbons) to instigate movement
- c) We started to 'translate' / improvise in response to different music and dance genres, interpreting Annet's demonstration in different ways and positions (seated and/or standing)

What we would like to 'dig deeper' into during Autumn research sessions:

We reflected in two groups on what felt positive in the session and what (from the genres, approaches, etc, that we'd tried) we may like to explore in more depth during the research sessions. Also, what we had not covered in this session that we may want to incorporate into the research.

Group 1:

- All movement enjoyed; conducive to us, nothing beyond us

- Felt safe where could move and explore
- Lovely that structured where were moments could pause & slow down as well as having bursts of energy
- Nice to know it can be individualised – not about they can do that, I can't
- Nice that no feeling of being judged; just allowed to be selves
- Good to connect with others, verbally as well – shared experiences and not feeling looked upon differently
- Good to watch and listen to others too
- Allowed to feel vulnerable – to say what's on our minds, what our barriers are but then to turn that around
- Good to focus on how to develop – take things further; to recognise limitations and explore where we can go with that
- Thanking our bodies is important (learning to love what your body can do, rather than focusing on what it can't do that it used to)

Group 2:

- Music genres / type that we like:
 - music that gets you up & going, makes you more open
 - music through which you can incorporate bringing in the voice
 - happy music, e.g. African music
 - music that expresses different cultures & gives you a different feeling; it's like an adventure, exploring
- Breathing practices as this helps with anxiety; able to relax before doing anything else (need to get on 'even keel' as come into session as journey may have been stressful for e.g.)
- High energy dance, which doesn't mean high energy movement; can adapt / do movements differently, e.g. Bollywood using hands a lot
- Would like to explore use of props / instruments more, e.g. rain sticks, maracas, bells, bows ribbons.

Other thoughts when we fed back to each other included:

- Would like to use the UDI tools and approaches to better notice where I am now (with my movement) and what I might explore more of.
- We are redefining our new / different and personalised movement vocabulary
- It's important to use dance genres (and music) that are popular / appealing

Practicalities for autumn sessions:

- 2-hours feels about right - 11am – 1pm is the best time of day
- Weekly so there's time to rest but we don't lose momentum
- Prefer to meet in person for this first phase of research
- We like the Cornerstone (friendly, flexible, easy for most to get to)
- Don't invite in other practitioners at this stage, as it feels good to be in the majority for a change. Stick to the people who've already signed up.

Next steps:

- Cath to do notes and circulate, potentially with some useful links / films to watch
- Cath to get input of those who'd sent apologies
- Artlift team to use input and observation from the Co-production session to draft a schedule and content for the Autumn sessions