



## LLT Guidance In response to COVID-19 FaME & OEP Delivered as Virtual Exercise Programmes



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### Key issues addressed in this guidance:

1. How might virtual delivery of FaME and OEP affect fidelity (remaining true to the evidence) and quality (effectiveness and safety)?
2. The role of virtual pre-exercise assessment and use of personas to tailor and individualise the exercise programme
3. What might a FaME/OEP video library resource look like?
4. Opportunities for service improvement, standardisation and self-reflective practice (quality assurance)
5. The 'rules' of engagement for take-up and adherence haven't changed!

### Who is this guidance for and what is its purpose?

This guidance is intended for falls prevention services, i.e. Postural Stability Instructors (PSI) and Otago Exercise Programme (OEP) Leaders and the organisations, commissioners and coordinators that lead and support programmes.

Its purpose is for PSIs and OEP Leaders to work effectively with virtual exercise delivery for older people who have the means, motivation and capability to follow visual and audio instructions via a device.

NB: Guidance for insurance provision is not within our scope. Instructors are urged to liaise with their insurer around adequate provision and guidance to deliver virtual exercise sessions.

**Standalone elements of this guidance should not be taken out of context of the 'whole' discussion and rationale presented.** LLT do not advocate the generalised distribution of FaME/OEP videos or booklets without pre-exercise assessment. Telephone assessment does not count as pre-exercise assessment in this context.

### What do we mean by Virtual Programmes?

Virtual exercise programmes can be either live or recorded. 1-way sessions are either recorded or live and the participant can see the instructor, but the instructor cannot see them. 2-way formats are 'live' and the instructor is able to view the participants in real time on their screen/device.

Exercise (especially for falls prevention) is not a one-size fits all approach

Accessing exercise opportunities is also not a one size fits all approach

We need a range of offers, opportunities and means of access

This is why implementation is complex

## Introduction

The impact of COVID-19 on rehabilitation needs<sup>1</sup> and specifically our community exercise services is significant. This guidance provides possible solutions for **best practice implementation of FaME and OEP virtual exercise delivery in the wake of the pandemic**. Our recommendations are already evident within research and within the known requirements for skills and competencies of PSIs (who deliver the FaME programme) and OEP Leaders. Implementation of exercise programmes for falls prevention has always been a challenge. Be it a lack of transport, access to venues, motivation of participants, insufficient numbers to start a class, too many to run a class, or accessing/navigating technology, barriers to exercise are well documented<sup>2,3</sup>. This pandemic has presented us with one more barrier, the challenge of **not** having a face-to-face session with participants, be it for assessment or for exercise. We are all concerned about the **loss of community face-to-face programmes for those previously engaged** (prior to COVID-19). They, like all of us, are left wondering if tea, cake and the post session social activity will ever return? But whilst we strive to re-engage with our previously known audiences, we must acknowledge that this is also the **time to reach out to all those previously not able to, not willing or motivated to access community sessions**<sup>4</sup>? We have the opportunity to do better, to find new words and new angles in our conversations and support processes to increase uptake and keep people engaged without the lure of a cup of tea and a biscuit.

The rapid rise of the virtual exercise video has presented both **opportunities and challenges for participants and organisations**, but whilst **safety** appears to be the primary concern of many, from our perspective it is also **fidelity and quality**. These are the two factors that **most compromise successful delivery of falls prevention exercise programmes**. Some videos show poor quality (teaching technique, teaching position, communication), some show poor fidelity (don't focus on functional movements and balance confidence). Others show little evidence of fundamental exercise principles (inadequate warm up, contraindicated moves, lack of or inappropriate external support options and no demonstration or explanation of how to use them). Few consider differences in starting ability or progression options. There is more to providing alternatives than purely chair-based options.

NB. We are aware that there are also quality videos 'out there' but not all in the public domain.

The **key fidelity points** inherent to **both FaME and OEP** include *sufficient dose; individualised, tailored approaches for progression; exercise adaptations; support of behaviour change with home exercise programmes*. The original FaME and OEP research programmes were not delivered virtually/digitally. However, research is ever evolving and both FaME and OEP have been incorporated into successful digital technologies (exergames, apps, DVDs)<sup>5,6,7,8,9,10</sup> or are currently being trialed<sup>11</sup>. Other studies have shown positive impacts on quality of life from video exercises

<sup>1</sup> De Biase S, Cook L, Skelton DA, Witham M, Ten Hove R. The COVID-19 Rehabilitation Pandemic. Age Ageing. 2020 May 29;afaa118. <https://pubmed.ncbi.nlm.nih.gov/32470131/>.

<sup>2</sup> Cavill NA, Foster CEM. Enablers and barriers to older people's participation in strength and balance activities: A review of reviews. Journal of Frailty, Sarcopenia and Falls. 2018; 3(2): 105-113. [http://www.jfsf.eu/Article.php?AID=v03i02\\_105](http://www.jfsf.eu/Article.php?AID=v03i02_105)

<sup>3</sup> Centre for Ageing Better. Raising the bar on strength and balance: The importance of community-based provision. 2019. <https://www.ageing-better.org.uk/publications/raising-bar-strength-balance>

<sup>4</sup> Barmentloo LM, Olij BF, Erasmus V, et al. Personal preferences of participation in fall prevention programmes: a descriptive study. BMC Geriatrics. 2020; 20(1):185. <https://pubmed.ncbi.nlm.nih.gov/32466747/>

<sup>5</sup> Stanmore EK, Mavroei A, de Jong LD, Skelton DA, et al. The effectiveness and cost-effectiveness of strength and balance Exergames to reduce falls risk for people aged 55 years and older in UK assisted living facilities: a multi-centre, cluster randomised controlled trial. BMC Medicine. 2019 Feb 28;17(1):49. <https://pubmed.ncbi.nlm.nih.gov/30813926/>

<sup>6</sup> <https://healthinnovationmanchester.com/news/keep-on-keep-up-app-will-reduce-high-risk-of-falls-during-and-after-covid-19-lockdown/>

<sup>7</sup> Mansson L, Lundin-Olsson L, Skelton DA, et al. Older adults' preferences for, adherence to and experiences of two self-management falls prevention home exercise programmes: a comparison between a digital programme and a paper booklet. BMC Geriatrics. 2020;20(1):209. <https://pubmed.ncbi.nlm.nih.gov/32539711/>

<sup>8</sup> Pettersson B, Wiklund M, Janols R, et al. 'Managing pieces of a personal puzzle' - Older people's experiences of self-management falls prevention exercise guided by a digital program or a booklet. BMC Geriatrics. 2019;19(1):43. <https://pubmed.ncbi.nlm.nih.gov/30777026/>

<sup>9</sup> Arkkukangas M, Cederbom S, Tonkonogi M, Umb Carlsson Ö. Older adults' experiences with mHealth for fall prevention exercise: usability and promotion of behavior change strategies. Physiother Theory Pract. 2020 Jan 7:1-7. doi: 10.1080/09593985.2020.1712753. Online ahead of print. Available from <https://pubmed.ncbi.nlm.nih.gov/31910707/>

<sup>10</sup> Davis JC, Hsu CL, Cheung W, Brasher PM, et al. Can the Otago falls prevention program be delivered by video? A feasibility study. BMJ Open Sport Exerc Med. 2016 Feb 4;2(1):e000059. <https://pubmed.ncbi.nlm.nih.gov/27900151/>

<sup>11</sup> Hawley-Hague H, Tacconi C, Mellone S, et al. Can smartphone technology be used to support an effective home exercise intervention to prevent falls amongst community dwelling older adults?: the TOGETHER feasibility RCT study protocol. BMJ Open. 2019;9(9):e028100. <https://pubmed.ncbi.nlm.nih.gov/31537557/>

with weekly phone calls, improved cognitive functioning from computer-based home exercises and improved balance from home exercise with phone calls<sup>12</sup>. Most also included a face-to-face session with a health care professional or instructor to assess and plan treatment beforehand and/or an orientation meeting to ensure the technology works<sup>12</sup>. The NIHR Older People and Frailty Policy Unit have produced a briefing on Technology<sup>13</sup> for strength and balance based on a rapid review of systematic reviews and an ongoing review of apps for fall prevention. A core issue is that we already know that **leaflets alone are not sufficient to bring about behaviour changes<sup>14</sup>** and this is **also likely to be true for provision of videos alone**. Digital health interventions that include **behaviour change techniques, clear instructions and social/professional support** may be more effective than those that do not<sup>13</sup>. Exercise/activity interventions should fit in with older people's **lifestyles and expectations** and take account of **individual preferences and capabilities<sup>13</sup>**. We draw on research and empirical evidence that can provide us with relevant insights to understanding **what it takes to deliver safe and effective falls prevention programmes/strength and balance training through virtual means**.

**Good communication** is vital for success, irrespective of method of virtual exercise delivery. The imparting and receiving of information is all important. Whether this is being heard during a phone call, being seen on a screen, helping set up a device or prompting someone to use their exercise booklet, good communication is at the heart of any successful interaction. Communication between instructor and participant, caregivers, volunteers, family members and significant others may all be involved to support engagement with self-managed home exercise programmes, including instructor led virtual group exercise videos. There is clearly a case for exercise services to develop technology support roles if they are to increase the 'reach' of evidence-based programmes.

The issues raised in this guidance are a **call to action** to work with what we *know*, to follow the evidence and to **think differently about achieving effectiveness in this new virtual world**.

## 1. How might virtual delivery of FaME and OEP affect fidelity (remaining true to the evidence), quality (effectiveness and safety)?

FaME and OEP are evidence-based and specific programmes. They require fidelity and quality markers to be upheld. Instructors/leaders, commissioners and service leads are urged to understand these in order to plan for effective implementation.

Duration of group sessions for PSI and OEP (60 mins) are not key fidelity points for success. It was always about total movement minutes over a period of a week. **Home exercise was key for both to ensure dose of exercise**. For PSI total duration of exercise was at least 120 mins a week and for OEP at least 90 minutes plus increased walking duration. OEP as a home based programme, without regular motivational and progression home visits was not as effective as the original programme of support visits and calls<sup>15</sup>. Prior to COVID-19, there were issues with encouragement of and engagement in home exercise in addition to group work<sup>3,16,17</sup>. COVID-19 presents us all with an opportunity to vastly improve this fidelity marker for those that can access and navigate technology. In better understanding how fidelity and quality are affected by virtual assessment and delivery, we need to identify **'how/why' virtual methods present us with compromises** (e.g. observation limitations). We should also recognise new potential in reaching into people's homes and deploying information via a screen, tablet, phone or PC.

<sup>12</sup> Frost R, Nimmons D, Davies N. Using Remote Interventions in Promoting the Health of Frail Older Persons Following the COVID-19 Lockdown: Challenges and Solutions. JAMDA 2020; 21(7):992-993. [https://www.jamda.com/article/S1525-8610\(20\)30445-X/fulltext](https://www.jamda.com/article/S1525-8610(20)30445-X/fulltext)

<sup>13</sup> <https://www.opfpru.nihr.ac.uk/covid-19-research/rr7-covid-19-technology-for-strength-and-balance/>

<sup>14</sup> Robertson R. Using Information to Promote Healthy Behaviours London: The King's Fund 2008. Available from

[https://www.kingsfund.org.uk/sites/default/files/field/field\\_document/information-promote-healthy-behaviours-kicking-bad-habits-supporting-paper-ruth-robertson.pdf](https://www.kingsfund.org.uk/sites/default/files/field/field_document/information-promote-healthy-behaviours-kicking-bad-habits-supporting-paper-ruth-robertson.pdf)

<sup>15</sup> Iliffe S, Kendrick D, Morris R, et al. Promoting physical activity in older people in general practice: ProAct65+ cluster randomised controlled trial. British Journal of General Practice. 2015; 65(640):e731-8. <https://pubmed.ncbi.nlm.nih.gov/27420150/>

<sup>16</sup> Carpenter H, Audsley S, Coupland C, et al. PHysical activity Implementation Study In Community-dwelling Adults (PHISICAL): study protocol. Injury Prevention. 2019; 25(5):453-458. <https://pubmed.ncbi.nlm.nih.gov/29305397/>

<sup>17</sup> FaME Implementation Toolkit. <http://arc-em.nihr.ac.uk/clahrcs-store/falls-management-exercise-fame-implementation-toolkit>

### ***What is so different about fidelity and quality during virtual delivery?***

Nothing has changed about what needs to be communicated, only *the way* that we impart it. There is no single magic solution. Individual differences prevail and we have to be even better at teaching exercise with meaningful motivational messages, without the usual visual and verbal feedback.

It is important to acknowledge that not all participants **will be suitable or have had a successful experience with technology**. Identifying this suitability is vital but relatively simple and ascertained during the virtual pre-exercise assessment process. If participants are challenged to communicate, follow instructions, see or hear during a virtual assessment, it follows that the exercise programme is unlikely to be an enjoyable experience or successful. If participants are already known to require the support of another person during face-to-face sessions, it follows that this will remain during virtual sessions and suggests a need for the development of training and education for caregivers and volunteers in this role.

For successful virtual delivery, the following skills and competencies of the PSI/OEP Leader remain as the primary factors impacting on **quality and fidelity**:

- **Explanations** – pertinent and specific to the audience (identified from pre-exercise assessment)
- **Demonstrations** – technically correct, set up postures meaningfully explained with timely prompts, visible from appropriate angles for key teaching points, verbal cues replicating demonstration, i.e. doing what is described!
- **Exercise selection and baseline progressions** – informed by pre-exercise assessment resulting in appropriate ‘matching’ of individual to the most suitable virtual session, selected from specific exercise libraries
- **Individual progressions and tailoring options** – allowing for individuals to complete their own number of repetitions ‘for them’ and avoiding the generic one size fits all comment, ‘do 10 of these’. This requires instructors and leaders to describe how optimum strength prescription should feel (the muscles targeted are tiring and warm), how feeling wobbly is what we want and ‘how’ to feel safer in these moments. These are the skills that are required to achieve fidelity (as per the research). Effective instructors and leaders are more than demonstrators and counters of repetitions
- **Motivation and encouragement** - informed by pre-exercise assessment, informing the ‘matching’ of participants to the most suitable virtual session, selected from specific exercise libraries
- **Observation of correct technique** – not possible in 1-way programmes and even in 2-way we can’t reliably see participants. Therefore, instructors and leaders need to ‘pre-empt’ and reinforce likely errors
- **Monitoring of performance and adherence** – participants want to know the instructor or leader is interested in how they are progressing and may want to discuss challenges and successes with them and is why regular contact and ‘check ins’ is vital for longer term participation.

### ***How might safety be affected by virtual delivery?***

From insights around the UK there is a suggestion that a 2-way format is ‘safer’ because participants can be observed and corrected. However, this depends on the size and quality of the image, connectivity, colour contrast etc. as well as the ability of participants to see or hear teaching and critical safety points during the broadcast. For this reason, we urge instructors, leaders and service leads to consider ‘why’ this is deemed to be safer. As for any session regardless of method of delivery a robust risk assessment is required and includes emergency action procedures. This is no different for virtual delivery and more significant for 2-way sessions (e.g. instructors or leaders may observe an adverse event during the ‘live’ session).

The most effective strategy to identify and reduce risk is to undertake the **pre-exercise assessment** process with each participant to reveal the **compromises** and **opportunities**. This process will reveal whether a 1-way or a 2-way approach will be safe (and successful) with the person undertaking the assessment better understanding where in a person is exercising at home, environments and people on hand to help. **We are unable to reduce all reasonable risks without considering each individual in context of their exercise environment.**

In face-to-face delivery we are asked frequently about instructor, or leader, to participant ratios within groups. Although we offer guidance informed by the FaME and OEP research, our guidance assumes that all fidelity markers are met, which is rarely the case. For this reason, **LLT CANNOT recommend delivery ratios for virtual delivery of FaME/OEP**. There are far too many variables that affect this decision and even with a second instructor observing (watching the device screen while the other instructor teaches), there is no *guarantee* that observation and ease of communication during a session makes it safer.

'Safety' is achieved by planning for success by sound decision making following assessment conversations. It is important to update session risk assessments and provide rationale for risk reduction measures/decisions made.

#### In Summary:

- FaME and OEP are evidence-based and specific programmes. They require fidelity and quality markers to be upheld for (cost) effectiveness. Instructors, leaders, commissioners and service leads are urged to understand these in order to plan for effective implementation
- Duration of group sessions for PSI and OEP (60 mins) are not key fidelity points for success. It was always about total movement minutes over a period of a week. Home exercise was key for both to ensure dose of exercise. This can majorly influence how video libraries are designed
- For successful virtual delivery, skills and competencies of the PSI and OEP Leader remain as the primary factors impacting on quality and fidelity: explanations, demonstrations, exercise selection and baseline progression, individualised progressions and tailoring, motivation and encouragement, observation and correction (not always reliable in virtual 2-way delivery), monitoring of performance and adherence
- From current insights around the UK there is an assumption/suggestion that a 2-way format is 'safer' - The most effective strategy to identify and reduce risk is to undertake the pre-exercise assessment. This process will reveal whether a 1-way or a 2-way approach will be safe (and successful)
- LLT CANNOT recommend delivery ratios' for virtual delivery of FaME/OEP. There are far too many variables that affect this decision
- 'Safety' is achieved by planning for success by sound decision making following assessment conversations
- It is important to regularly update session risk assessments and provide rationale for risk reduction measures/decisions made

## 2. The role of virtual pre-exercise assessment and use of personas to tailor and individualise the exercise programme

Without a pre-exercise assessment, we are stabbing in the dark at trying to provide an individualised, positive and successful experience for participants, instructors and any supporting family members/caregivers

Pre-exercise assessment remains the foundation of successful planning and subsequent signposting to specific exercise libraries of FaME/OEP. **'One size fits all' sessions without pre-exercise assessment cannot optimise effective outcomes and exercise experiences, and we do not apologise for the repetition of this point!**

**Virtual pre-exercise assessment allows clearer decisions** to be made about:

- Suitability - the right people to be participating in the right programme (FaME or OEP) <sup>3,18</sup>
- Contraindications to exercise
- Risk reduction measures for that individual (e.g. external support options)
- Whether virtual delivery is indeed appropriate for the individual (2-way, 1-way, 1-2-1 or small group)
- Individual tailored approaches (key fidelity marker for FaME and OEP)
- Components of fitness to include and when (considering appropriate timeframes and frequency)<sup>†</sup>
- Planning for progression (overload over time, specificity)<sup>†</sup>

<sup>18</sup> Partnership working for successful falls care pathways. 2019 Collaboration Statement: LLT/AGILE/BASES. <https://www.laterlifetraining.co.uk/llt-working-even-closer-with-agile-and-bases/>

- Motivation strategies to support sufficient dose (short and long term goals, training frequency, volume, duration)<sup>†</sup>

*† Fundamentals of exercise science for any successful programme of exercise with older people<sup>19</sup>, not just FaME/OEP*

When a skilled instructor or leader better understands who is in front of them or behind a screen watching them, they can be more confident to tailor communication, messages and instructions knowing that they are more likely to resonate with the participant. With face-to-face delivery, the instructor or leader can often find themselves with a diverse range of abilities in the group and are generally expected to ‘deal with it on the day’ and teach what they see through observation. Even with 2-way delivery, instructors and leaders are not going to be able to fulfill this expectation, which means exercise content will not always be appropriate, progressive or safe for all. However, with a clearly planned video library, programmes could be more targeted and specific in design. **Setting expectation, accurately describing the session and the ‘entire’ support process including participant feedback** are vital factors in ensuring we have people viewing the most suitable session for them. Remember PSIs and OEP Leaders not only deploy delivery skills but also behaviour change strategies to support continuing progress and engagement, transition to longer-term ‘new’ learnt behaviours, routines and habits. It is important not to offer exercise sessions which are ‘too easy’ or ‘too hard’ so that the sessions themselves become demotivating. All of these points are addressed through pre-exercise assessment. **Table 1 gives an overview on potential compromises and considerations for pre-exercise assessment of participants during virtual methods.**

**For effective falls prevention, a total dose of around 50 hours, ideally at least 3 times a week, over a 6-month period is needed<sup>20,21,22</sup>.** Virtual delivery requires support over time to sustain participation for this amount of time. This is nothing new but perhaps easier with the social element of face-to-face sessions. **Table 1 gives an overview on potential compromises and considerations on dose achieved by participants during virtual delivery.**

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<sup>19</sup> Chodzko-Zajko WJ, Proctor DN, Fiatarone Singh MA et al. Exercise and Physical Activity for Older Adults. *Medicine & Science in Sports & Exercise*. 2009; 41(7):1510-1530. [https://journals.lww.com/acsm-msse/Fulltext/2009/07000/Exercise\\_and\\_Physical\\_Activity\\_for\\_Older\\_Adults.20.aspx](https://journals.lww.com/acsm-msse/Fulltext/2009/07000/Exercise_and_Physical_Activity_for_Older_Adults.20.aspx)

<sup>20</sup> Sherrington C, Fairhall N, Wallbank G, et al. Exercise for preventing falls in older people living in the community: an abridged Cochrane systematic review. *British Journal of Sports Medicine*. 2020;54(15):885-891. <https://pubmed.ncbi.nlm.nih.gov/31792067/>

<sup>21</sup> Sherrington C, Michaleff ZA, Fairhall N, et al. Exercise to prevent falls in older adults: an updated systematic review and meta-analysis. *British Journal of Sports Medicine*. 2017;51(24):1750-1758. <https://pubmed.ncbi.nlm.nih.gov/27707740/>

<sup>22</sup> Public Health England. Falls prevention: cost-effective commissioning. 2018. <https://www.gov.uk/government/publications/falls-prevention-cost-effective-commissioning>

**Table 1. Overviews some of the key compromises to fidelity and quality when FaME/OEP are delivered through virtual means (one to one and groups)**

FIDELITY Point	Compromises and Considerations for Virtual (1-way)	Compromises and Considerations for Virtual (2-way) 'live'
<p><b>Assessing for suitability into FaME and phases of FaME/and baseline exercise prescription i.e. How do we screen and assess to get the 'right people in the right programmes at the right time?'</b></p>	<p>Assessment conversations via telephone, or 1-way videos, <b>do not provide observation of pre-exercise objective measures</b>, and therefore visual clues to indicate successful virtual participation are not evidenced.</p> <p>Some functional measures could be appropriate. We have insights from both physiotherapists and exercise professionals that this can be achieved.</p> <p><i>Support from family members/volunteers/caregivers may well be a requirement given (visual, hearing impairments etc. and especially if working with participants referred from physiotherapy services. This insight is vital information to be passed on to exercise delivery teams via a formal referral document and/or ascertained prior to any pre-exercise assessment takes place e.g. in a letter</i></p>	<p>Assessment conversations via 2-way live virtual delivery <b>may allow for sufficient observation of pre-exercise objective measures</b> by a skilled instructor. All points mentioned in 1-way scenario still apply.</p> <p><i>NB. Assumes laptop/freestanding tablet camera for participant as phone camera would not be viable if the person is trying to use a smartphone to capture functional assessments in full.</i></p> <p><i>Support from family members/volunteers/caregivers may well be a requirement given (visual, hearing impairments etc. and especially if working with participants referred from physiotherapy services. This insight is vital information to be passed on to exercise delivery teams via a formal referral document and/or ascertained prior to any pre-exercise assessment takes place e.g. in a letter</i></p>

**Suitability for entry into a virtual session requires a virtual pre-exercise assessment**

Pre-exercise assessment for suitability into FaME/OEP is a best practice requirement and is the responsibility of instructors and leaders. When this is undertaken robustly many of the concerns around the risks posed in virtual delivery can be reduced and even eliminated. A virtual pre-exercise assessment not only provides the critical information about suitable content/baseline exercise prescription, but also determines suitability for sensory and cognitive requirements of virtual delivery and subsequent support required from another person.

A person unable to follow instructions for objective measures via virtual means is not going to successfully follow and engage with a virtual session.

**IMPORTANT POINT ABOUT SCOPE OF PRACTICE:**

- It is within the scope of PSIs to undertake pre-exercise assessment into both the OEP and FaME programmes.
- It is not within the scope of practice of OEP Leaders (as fitness sector professionals) to be undertaking virtual or face-to-face assessments for suitability into the OEP.

**LLT pre-exercise virtual assessment should include as a minimum:**

- Conversations around; daily routines, use of walking aids/and when – indoors/outdoors, falls history, changes in routines during lockdown (and any noticeable changes in function during this time), goals, motivations, concerns, barriers, expectations, packages of care and support required by others
- 30s chair rise – be specific about arm positions and support requirements, linking to both strength and endurance components of FaME and resulting decisions made about suitable videos
- Timed unsupported stand, into 4-point balance – to determine start point of balance videos and

considerations on support and progression

- Ask/observe – can they take a backward step without concern?
- Ask – are they able to get from the floor without assistance from another person? (conversation on any previous long-lies or ability to get up after a fall, or whether use the bath or get on the floor for other reasons)
- **Functional grid (for use by PSIs)** – primary decision tool for suitability into FaME and requirements for necessity of one to one supervision or triggers back to clinical setting. Observing the tasks on the functional grid remotely, along with other objective measures listed above with provide all the information required to determine if virtual sessions are likely to be successful/suitable.

Pre-exercise assessment could be achieved through a variety of methods and are best tailored for the individual and as already mentioned, critically for some, may require additional support from others (to access and tailor for communication needs). Depending on local regulations during COVID-19 there may be the ability to do the pre-exercise assessment with PPE in a persons' home and this would be preferable to virtual assessment if possible. Even if in person, communication and technical ability to use devices must be covered in the assessment. Consideration to preparing the participant for the pre-exercise assessment is necessary across all methods:

- By telephone – be aware of difficulty for those with hearing impairments
- Paper resources by post – can be overwhelming, vision and language skills must be considered - and messaging needs to be clear, a telephone call to arrange the assessment could be followed up with an information letter to explain and prepare the person for the assessment
- If using a video call for assessment does a family member/caregiver need to be present – to do the filming of assessment, to help with technology or in communication

### **Third Party Assessment and signposting into exercise video libraries**

Although not recommended by LLT, in some exercise services the PSI does not undertake assessment for their face-to-face sessions. Some services have someone performing the pre-exercise assessment for all participants and it is vital that this detailed information is shared with the PSI/OEP Leader teaching these participants. Others are given a list of participants that someone else has assessed for suitability, or people self-refer into the service. Without pre-exercise assessment information, instructors and Leaders are not able to tailor exercise progression to the individual until they see them within a wider group setting and then, depending on the abilities of others in the wider group, have to 'on the spot' make decisions about support options and adaptations. **This means the sessions will be less effective.** If services are utilising 1-way videos it is **vital that the video descriptions are clear about who the session is for** (e.g. by using personas) so that inappropriate exercises for their abilities are not offered. **Signposting people to exercise videos that are too easy or too hard is demotivating and potentially will lead to adverse events.**

Third party pre-exercise assessment processes vary greatly across UK services and can impact greatly on fidelity and quality based on the degree and extent of assessment information made available to relayed to exercise teams. It has perhaps become an assumption that pre-exercise assessment only serves to determine suitability, but as outlined above this is not the case. Information imparted (or not!) will have a direct impact on session risk assessment and therefore instructor to participant ratios for 2-way 'live' sessions.

### **Participants previously attending maintenance phase of FaME, or long standing OEP participants**

In long standing services and established community groups many participants may have been attending high level FaME or OEP sessions with little requirement for individual supervision for a number of years and, may have been continuing with home exercise programmes during lockdown. Given this scenario it could be appropriate for services to liaise via posted updates/pre-exercise questionnaires and phone calls to ascertain suitable virtual offers. It may not be necessary to complete a full set of pre-exercise assessments again.

Table 1: continued

FIDELITY Point	Compromises and Considerations for Virtual (1-way)	Compromises and Considerations for Virtual (2-way) 'live'
<p><b>Sufficient dose (effective for falls prevention).</b>  <b>Achieving dose - exercise training frequency, volume, duration, effort, intensity and challenge (for each individual)</b></p>	<p><b>No incoming information from our usual observation</b> resulting in:</p> <ul style="list-style-type: none"> <li>- No observation of environment</li> <li>- No observation of need for external supports, effort levels, or technique</li> </ul> <p>Therefore, greater reliance and requirement for quality of the instructor delivery skills: descriptive communication, support options offered, technical demonstration and accompanying language throughout the video.</p> <p>It is important to identify the amount of input required by others (family, friends, carers) who may be supporting the virtual exercise session:</p> <ul style="list-style-type: none"> <li>- Is their presence alone sufficient to provide a feeling of confidence and reassurance (to the instructor and the participant)</li> <li>- Will there be requirement for them to repeat instructions and provide further demonstrations? It may be more appropriate that a recorded session is recommended allowing the supporting person to 'stop, pause and replay' a video allowing for more time/slower pace etc. (i.e., not 'live')</li> </ul>	<p>Identifying and <b>acknowledging the limitations of remote observation is vital</b> in determining rationale for instructor to participant ratio and in enhancing skills to address this loss of feedback. Remember unless performed on a one to one basis, number of people able to be 'seen' on a device screen will limit what the instructor can 'see' and 'respond' to.</p> <p>Depending on the numbers of participants joining the virtual session, feedback from remote observation can be unreliable (connectivity, cluttered environments, colour contrast etc.) and can provide a 'false sense of support'.</p> <p>NB. With more than 5 participants (6 including instructor) on a laptop screen, images are so small that meaningful visual feedback is unlikely, especially if participants are stood behind chairs or supporting furniture and far from screen.</p> <p>When providing verbal feedback from visual observations, everyone in the group will hear individualised feedback.</p> <p>Consider whether participants are more reliant on visual or verbal cues –identified during virtual assessment to ascertain these individual requirements.</p> <p>Greater reliance and dependence on the quality of the instructor delivery skills, descriptive skills, technical demonstrations from appropriate angles, accompanying language.</p> <p>As described in the previous column and mirrored here for 2-way; it is important to identify the amount of input required by others (family, friends, carers) who may be supporting the virtual exercise session and the 2-way has the added confusion of verbal feedback potentially being directed at participants from instructor/leader observations, This could hinder not help and for this reason a recorded session may be the best option of the support of another person is deemed a requirement.</p>

### LLT Recommendations for achieving dose, progression, individual tailoring through virtual delivery:

- Pre-exercise assessment to ascertain baseline exercise selection, loads, intensity and phase of FaME, or OEP baseline exercises, ensures PSIs can recommend participants to the most effective video session
- Ongoing support for those engaging with virtual programmes (and home exercise booklets if not engaging through technology) should receive a check in call: *‘tell me how your week of FaME/OEP exercise has been?, can you feel improvement?, are any of the exercises difficult or now easy?’*. **Agreed communication routes discussed during the pre-exercise assessment process could achieve this.** Regular support could include one to one telephone calls, emails, WhatsApp messages, or group online chats for established groups, as appropriate.

### Personas for more specific session design

Many services are opting for session descriptors using terms such as beginners, intermediate, advanced, gentle or low/high intensity. With multi-component programmes like FaME we cannot assume that participants progress through each component equally, i.e. being advanced in the strength component doesn't always equate to being advanced in the balance or aerobic component. To support specificity and as a result of assessment outcomes/conversations, **personas could be a way to better support participants and instructors in virtual delivery.** Personas also help to set the scene for more specific session design including teaching prompts and information, thereby supporting team standardisation. **The personas are designed to complement, not replace a full pre-exercise assessment** and provide instructors and services with a clearer 'vision' of their audience.

The use of personas is not new. They are often used in marketing and increasingly in co-creation research<sup>23,24,25</sup>. The following personas encapsulate the wide range of abilities of participants seen in falls exercise programmes. They are not to be used in isolation, but alongside full pre-assessment outcomes and information. **Table 2 gives potential personas that could be used to describe participants, support quality of teaching and signpost video content.**

- Wheelchair user (non-ambulant)
- Has to use arms for 30s chair rise and manages only a few chair rises with difficulty, use of walking frame or x2 sticks for walking around own home and limited outdoor walking (requires support of another person)
- Able to rise from a chair with some difficulty and may use arms to help, walks around own home with occasional use of one walking stick, balance issues for some tasks
- Able to rise from a chair of knee height with ease, walks around home or outdoors without concern, may or may not meet current CMO Physical Activity Guidelines for moderate aerobic activity

It is going to require a mindset change and different decisions to be made for service development if this 'new future' of virtual delivery is to result in effective outcomes for older people. A meaningful pre-exercise assessment and conversations about motivation are a crucial part of that and these remain key fidelity markers

<sup>23</sup> Leask CF, Sandlund M, Skelton DA, et al. Framework, principles and recommendations for utilising participatory methodologies in the co-creation and evaluation of public health interventions. *Res Involv Engagem.* 2019 Jan 9;5:2. <https://pubmed.ncbi.nlm.nih.gov/30652027/>

<sup>24</sup> Leask CF, Colledge N, Laventure RME, McCann DA, Skelton DA. Co-Creating Recommendations to Redesign and Promote Strength and Balance Service Provision. *Int J Environ Res Public Health.* 2019 Aug 30;16(17):3169. <https://pubmed.ncbi.nlm.nih.gov/31480290/>

<sup>25</sup> Leask C, Sandlund M, Skelton DA, Chastin SFM. Co-creating a tailored public health intervention to reduce older adults' sedentary behaviour. *Health Education Journal* 2017; 76(5): 595-608. <https://journals.sagepub.com/doi/abs/10.1177/0017896917707785>

**Table 2. Using personas alongside pre-assessment outcomes to support specific delivery focus - examples**

Persona	Examples of specific focus the persona offers
Wheelchair user (non- ambulant)	<ul style="list-style-type: none"> <li>• OEP not suitable</li> <li>• Some exercises and components from FaME could be included in programme design but FaME was not designed for non-ambulant participants</li> <li>• Dedicated chair-based session required (progressive and targeted)</li> <li>• Allow people to work at their own pace, instructors to stop moving, stop performing the movement and talk about how it should feel to them, where they should feel it</li> <li>• Talk about homework after the session. Everything you say should relate to this persona and of what you know from pre-exercise assessment information. Everything you say should resonate with the audience</li> </ul>
Has to use arms for 30s chair rise and manages only a few and with difficulty, use of walking frame or x2 sticks for walking around own home and limited outdoor walking as requires support of another person	<ul style="list-style-type: none"> <li>• OEP a likely starting point</li> <li>• Chair rise forms critical focus for exercise selection and progress checks for strength component and subsequent skilling-up of postures in preparation to stand for example</li> <li>• Focus on ankles, feet and toes, circulation boost, ankle strengthener etc.</li> <li>• This persona specifically sets the scene for explicit requirement for standing balance upskill and requirements for external support</li> <li>• Focus on seated mobility but identify tasks they already perform in standing and offer both during the session</li> <li>• Seated resistance to focus on strength gains for lower limb (skilling up ready for load, range increases)</li> <li>• Exercise selection to include those from home exercise programmes, but offer more progressions/specific points for improvement</li> <li>• Talk about improving seated postural stability in preparation for standing tasks</li> <li>• Spend time on posture set up and offer frequent rests, talk about ‘pit stops’ and enforce these during the session</li> <li>• Allow people to work at their own pace, instructors to stop moving, stop performing the movement and talk about how it should feel to them, where they should feel it</li> <li>• Talk about the sit less move more message and conversations to support triggers to move outside of the sessions</li> <li>• Talk about homework after the session. Everything you say should relate to this persona and of what you know from pre-exercise assessment information. Everything you say should resonate with the audience</li> <li>• Talk about mobilizing in and out of bed and include ‘getting up from floor’ in conversations and link to exercise selection</li> </ul>
Able to rise from a chair with some difficulty and may use arms to help, walks around own home with occasional use of one walking stick, balance issues for some tasks	<ul style="list-style-type: none"> <li>• OEP a likely starting point but all components of FaME suitable with appropriate skilling-up</li> <li>• Chair rise forms critical focus for exercise selection and progress checks for strength component and subsequent skilling-up of postures in preparation to stand</li> <li>• Talk about standing tasks, relate all exercises to improving confidence in standing</li> <li>• Focus on skilling-up of mobility in standing exercises (offering frequent recovery prompts)</li> <li>• Focus on skilling-up ankles, feet and toes, circulation boost and ankle strengthener etc.</li> <li>• This persona specifically sets the scene for explicit requirement for standing balance upskill and requirements for external support</li> <li>• Allow people to work at their own pace, instructors to stop moving, stop performing the movement and talk about how it should feel to them, where they should feel it</li> <li>• Talk about homework after the session. Everything you say should relate to this persona and of what you know from pre-exercise assessment information. Everything you say should resonate with the audience</li> </ul>

<p>Able to rise from a chair of knee height with ease, walks around home or outdoors without concern, may or may not meet current CMO Physical Activity Guidelines for moderate aerobic activity</p>	<ul style="list-style-type: none"> <li>• OEP unlikely to be the start point. Some higher challenging balance exercises may feature, but more likely to require FaME progressions (e.g. picking up and stepping over objects)</li> <li>• Resistance to include standing lower limb, e.g. stride knee bends, sit to stand used as an exercise to strengthen and improve endurance, progress options build to directional lunges</li> <li>• Support options not necessary until balance component</li> <li>• Allow people to work at their own pace, instructors to stop moving, stop performing the movement and talk about how it should feel to them, where they should feel it</li> <li>• Talk about 'huff and puff', breathlessness during walking and increasing walking time</li> <li>• Talk about homework after the session. Everything you say should relate to this persona and of what you know from incoming assessment information. Everything you say should strive to resonate with the audience.</li> </ul>
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### In Summary:

- Pre-exercise assessment remains the foundation of successful planning and subsequent signposting to specific exercise libraries of FaME/OEP. 'One size fits all' sessions without pre-exercise assessment cannot optimise effective outcomes and exercise experiences
- When a skilled instructor and leader better understands who is in front of them or behind a screen watching them, they can be more confident to tailor communication, messages and instructions knowing that they are more likely to resonate with the participant
- With a clearly planned video library, programmes will be more targeted and specific in design. Setting expectation, accurately describing the session and the 'entire' support process, including participant feedback, are vital factors in ensuring we have people viewing the most suitable session for them
- For effective falls prevention, a total dose of around 50 hours, ideally at least 3 times a week, over a 6-month period is needed. Virtual delivery requires support over time to sustain participation for this amount of time
- Pre-exercise assessment should be standardised across assessment teams and all information relayed to delivery teams. Pre-exercise assessment not only informs suitability for inclusion to programmes but also critical information required to achieve fidelity and quality
- The use of personas alongside the pre-exercise assessment process could be a way to better support participants and instructors in virtual delivery. Personas help to set the scene for more specific session design including teaching prompts and information, thereby supporting team standardisation and exercise library design
- It is important to identify the amount of input required by others (family, friends, carers) who may be supporting the pre-exercise sessions and subsequent virtual exercise sessions and considerable planning may be required in this area

### 3. What might a FaME/OEP video library resource look like?

We all hope that we can return to face-to-face sessions sometime soon, but we should also look to the additional advantages and positives of continuing to build and develop the virtual exercise library offer to ensure individualised home based exercise to support dose. For those who live rurally or are not willing to join face-to-face sessions a good video library provides tailored progressive exercise options.

**A video library enables more bite sized component specific approaches and for instructors to tailor content and better support motivation.** A video library could include:

1. Persona specific introductory videos appropriate to all phases of FaME and OEP as a 'welcome to' approach i.e. 'this is what you can expect' for this x week programme with us.....
2. A skill-up schedule of bite sized videos for FaME/OEP with follow up support:
  - Day 1: Mobility/warm up, aerobic, flexibility

- Day 2: Mobility/ warm up, strength, flexibility
- Day 3: Mobility/ warm up, balance, flexibility
- Day 4: Mobility, strength, flexibility, adapted tai chi
- Day 5: Mobility/warm up, aerobic, balance, flexibility
- Day 6: Mobility/warm up, strength, flexibility, adapted tai chi
- Day 7: Rest and reflect day

3. **Or** a ONE component per day approach (ensuring recovery days advised).
4. **Or** shorter home exercise programme videos to supplement exercise booklets.
5. Videos to support sitting less and moving more, or/and signposting to LLTs 'Make Movement Your Mission'<sup>26</sup> to supplement their structured exercise programmes.
6. Perhaps 1-hour sessions for those on maintenance programmes already familiar with the face-to-face session content

NB: Offering component specific approaches may also support links with other condition specific exercise referral pathways (e.g. exit routes from pulmonary or cardiac rehabilitation). Using terminology relating to components of fitness better enables health sector referrers to understand what the exercise library may offer their patients.

#### **4. Opportunities for service improvement, standardisation and self-reflective practice**

Fidelity, quality and standardisation (across exercise delivery teams) should be the hallmarks of PSI and OEP Leader implementation regardless of the delivery method. This guidance sets out some suggestions, recommendations and ideas to support this.

**Perhaps one of the most significant opportunities that virtual delivery offers exercise services and instructor teams is service delivery improvement and standardisation, self-reflective practice and establishment of communities of practice<sup>27</sup>.**

Fundamental to better supporting effectiveness of exercise delivery, whether face-to-face or virtual, is supporting and nurturing the skills of the deliverer/delivery teams. We believe that investment in time, expertise and establishment of communities of practice to develop the workforce are just as important as money being spent on professional videos and technology. Key in-service support would include encouragement of self-evaluation; peer support, pro-active leadership, whole team service development, and clear internal quality assurances processes whereby instructors feel accountable to defined standards and are supported to achieve them.

It has been identified in several reports that exercise services are, in general, lacking quality assurance systems and processes<sup>3,17</sup>. Issues with consistent and standardised delivery are not isolated to the fitness sector but health sector also. As this virtual world takes hold, ironically, virtual delivery offers the perfect opportunity to do this. Recorded video sessions offer a perfect self-reflective and team standardisation tool (e.g. analysis of video content, skills demonstrated, language used etc.) and can be the basis of a community of practice, where instructors feedback and support each other in a positive and constructive way. A local community of practice within the implementation research of FaME<sup>17</sup> was valued by the instructors and service leads as a place to share knowledge, offer solutions, improve practice and ensure better fidelity and quality.

##### ***Feeding back on delivery style and content***

PSIs and OEP Leaders do not simply show a demonstration and count repetitions. The practical element of the PSI qualification includes 17 practical skills criteria and there are 13 practical skills criteria in the OEP Leader Award. Self-reflective practice and/or peer constructive feedback should consider which of these may have been missed in

<sup>26</sup> <https://www.laterlifetraining.co.uk/make-movement-your-mission-supporting-people-to-move-throughout-the-covid-19-pandemic/>

<sup>27</sup> Ranmuthugala G, Plumb JJ, Cunningham FC et al. How and why are communities of practice established in the healthcare sector? A systematic review of the literature. BMC Health Serv Res. 2011 Oct 14;11:273. <https://pubmed.ncbi.nlm.nih.gov/21999305/>

any recorded video. These criteria enhance what we do, how we do it, what we say, when we say it, along with a mix of visible, audible, meaningful information to enhance the exercise experience, tap into motivation and improve physical literacy of participants. Nothing about this requirement for quality in delivery has changed in a recorded video. By positively and critically reflecting on what is good about a video and what needs more consideration to improve in the future, builds on skills and competencies and forms the basis of self-reflective practice and a topic within a local community of practice.

The following points summarise how we raise the bar on quality (effectiveness and safety of delivery):

- Relate to life, constantly (personas can help with this). Talk about purpose and benefits.
- Provide accurate demonstrations that match visual instructions (we have seen several examples of basic FaME exercises not accurately demonstrated or, verbal instructions not matching the visual)
- Don't just tell them to use support if needed – show them 'how' to, and 'why' and your demonstration should reflect the most likely requirements of the persona you are talking to.
- Show a pace pertinent to the persona. Pause your demonstration to describe pace, and recovery. Offer an opportunity for participants to find their own pace, whether you can see them or not, pose questions in this time i.e. 'how does that feel for you? 'You are most likely to feel it here, this is good...'
- Describe and reinforce the 'how' and 'why' of this exercise/component
- Be interesting and believe what you are saying!

#### In Summary:

- Fidelity, quality and standardisation (across exercise delivery teams) should be the hallmarks of PSI and OEP Leader implementation regardless of the delivery method
- PSIs and OEP Leaders do not simply show a demonstration and count repetitions!
- Coordinated in-service support would include encouragement of self-evaluation; peer support, pro-active leadership, whole team service development, and clear internal quality assurance processes whereby instructors feel accountable to defined standards and are supported to achieve them
- Communities of practice should be part of service improvement and quality assurance processes

## 5. The 'rules' of engagement for take-up and adherence haven't changed!

PSIs and OEP Leaders require a toolbox, containing both exercise and behavioural science skills, to impart knowledge supporting motivation, achievement of short and long-term goals, longer term adherence, dose for effectiveness and moving forward to becoming a regular exerciser

There is more to making an exercise video, than making an exercise video

Technological challenges exist that may well impact on safety related decisions, but the challenges for each of these variables are known, therefore we can plan for these and decide which may be the best ways to engage with a range of participants. What takes more effort is reaching our communities and increasing access to evidence-based exercise programmes, face-to-face or digital. Our 'rules of engagement' have not changed. There are opportunities to engage with people who would not or could not access a face-to-face group in the past, but we still have to find them in order to engage them. Then, moving forward, we want to ensure that they continue exercising beyond a 6-month programme. Access to virtual programmes that remain engaging or signpost into other activity opportunities will increase the chance of the exercise behaviour becoming a habit. Supporting behaviour change, reviewing of goals and ongoing conversations about concerns, new barriers, lapse and relapse, are all required to support people into and through that transition phase of becoming a routine exerciser. Our '**Home Alone**'<sup>28</sup> Guidance gives reminders for PSI and OEP Leaders of the importance of support to foster engagement, key prompts

<sup>28</sup> Home Alone - supporting home-based exercise and guidance for instructors and leaders: The Otago Exercise and FaME Programmes. <https://media2.laterlifetraining.co.uk/wp-content/uploads/2020/08/Home-Along-Guidance-Final.pdf>

in conversations, priorities for messaging and regularity of contact.

### ***Final thoughts:***

The world has changed forever. Returning to pre-COVID-19 service delivery models is unlikely and unrealistic. More importantly, these often lacked the important aspects of additional home exercise to support dose and habit formation of activity and excluded those that did not or could not attend groups. Pre COVID-19, many exercise services had cherry picked evidence-based approaches to a point where they exclusively relied on face to face delivery and then perhaps 'social' benefits took hold as being most important, or 'enough', 'better than nothing?' There is nothing new about remote support of home exercise programmes for falls prevention. Exercising at home is not new, and the research already tells us it can be done, in the case of the original OEP research, it was solely how it was done, with plenty of contact and support. Maybe our personal biases are currently affecting what we believe to be achievable from virtual delivery of programmes? The reality is that we could potentially achieve more.

We must look to the potential opportunities and the immediate changes required to fully optimise virtual delivery (when deemed appropriate) to raise the bar on effectiveness of FaME and OEP. Instructors using and integrating technology to support and regularly contact and motivate participants have the potential to make a significant impact on participants lives. These opportunities require us to draw on all we already know about partnership working with health professionals and referrers. **With appropriate assessment and a well-designed library of videos resources, specific to people, specific to components, with progression at its heart, we can achieve an even greater 'reach' and impact.**

What virtual delivery really requires is services, commissioners and instructors to acknowledge that devices, camera angles and lighting are not the *sole* areas of concern and focus in recording sessions. We need to go back to the fundamentals of exercise design and specificity, quality instruction and teaching. We cannot be complacent with virtual delivery, we have to work even harder, even more specifically. We hope that our suggestions and recommendations outlined in this guidance can support you to achieve this.

**Whether face-to-face or virtual, it's not just what we do, but the way that we do it, and that's what gets results.**

**This statement can be downloaded from <https://www.laterlifetraining.co.uk/llt-guidance-in-response-to-covid-19-fame-oep-delivered-as-virtual-exercise-programmes-home-alone-guidance/>**

### **Other statements from LLT:**

- LLT Statement on Consistent and Accurate Messaging for Commissioners and Stakeholders in Frailty and Falls Services (OEP/PSI) - <http://www.laterlifetraining.co.uk/llt-statement-implementation-oeppi-community-programmes/>
- LLT Implementation Guidance for Commissioners, Public Health Officers and Leisure Service Managers (OEP/FaME) - <https://www.laterlifetraining.co.uk/llt-guidance-implementation-oeppi-community-programmes/>
- LLT Statement - FaME and OTAGO as Dance OR Structured Exercise Formats? (Dance To Health Programmes) - <https://www.laterlifetraining.co.uk/fame-otago-dance-structured-exercise-formats-llt-statement/>
- LLT/AGILE/BASES Collaboration Statement – Partnership working for Successful Falls Care Pathways - <https://www.laterlifetraining.co.uk/llt-working-even-closer-with-agile-and-bases/>
- LLT Statement – Rationale for maintaining face to face approaches within our qualifications - <https://www.laterlifetraining.co.uk/llt-statement-rationale-for-maintaining-face-to-face-approaches-within-our-qualifications-may-2020/>
- LLT Home Alone - supporting home-based exercise and guidance for instructors and leaders: The Otago Exercise and FaME Programmes - <https://media2.laterlifetraining.co.uk/wp-content/uploads/2020/08/Home-Along-Guidance-Final.pdf>