

WTLC Agenda January 2024

Response from Jump Research Panel re Item 6 and Annex A

Item 6 and Annex A are both topics on the Agenda re the proposed Jump research.

They have been broken down to cover the points raised -

1.

*Q. The Sub-Group noted that the original research had been undertaken in an equestrian centre which was not representative of Working Trials terrain and that the new proposal was to replicate the research on a grass surface.*

A. The new proposal is not a replicate of the original research and never has been.

This research has been requested following feedback after the original study reports were released. The two main points of feedback were

1) the sand fibre mix surface used is a surface developed to reduce impact forces. Other dog sports have used non-slip matting in lab or indoor environments, none known to have been conducted on the sand/fibre surface in the same manner as the original research.

2) from the video taken, the kinematics were measured using apparent joint angles based on where the researcher believed the centre of rotation of a joint is located during movement.

This is not a validated method of measuring joint angles and is very subjective. Therefore, the validity and reliability of the results obtained in the original study is questionable.

The authors of the original research themselves stated the study was “a baseline on which to build further progress”. This new proposal is further progress.

New research

The proposed study will be carried out on a surface which is equivalent to that experienced during working trials training and competition i.e. the force plate/pressure pad will be placed on grass surface. Thus ensuring that the results relating to forces experienced by the dogs in the study can be extrapolated to the dogs competing in working trials.

A pilot study will be included to validate the use of the equipment on a typical working trials agility surface.

Joint angles (kinematics) will be measured using a validated method which involves placing reflective markers at specific bony landmarks and videoing the dog. The video data is then analysed using a validated method of analysis and joint angles at various time points can be measured. This method facilitates accurate, validated, reliable measurement of joint angles.

The combined information relating to forces and joint angles indicate the stresses experienced at these joints.

This may also include the use of accelerometers if they have been validated for such use.

2.

*Q Concerns were raised as to the logistics of undertaking the research outside due to electricity in the field and possible wet grass.*

A Answer from the researchers: As you will see from the attached photo we are used to completing data collection in this type of environment. The photograph was from a KC project carried out in 2023, investigating effect of distance between agility obstacles on forelimb kinetics and kinematics.



Elements of the kit such as suitable lighting to ensure adequate data capture are battery powered, and we have a generator for anything else that requires power if we are in a situation where we cannot access a suitable supply.

Lastly when using electrical equipment outside we undertake and document a risk assessment, and ensure that any electrical supply is connected to a suitable circuit breaker.

3.

*Q The Sub-Group requested that the Council review and discuss what its priority for the research is and ultimately the end purpose, noting that the jump height regulations had only recently been amended.*

*Therefore, the Council is requested to review and discuss the research and agree on the priorities and end purpose of the research.*

A. As stated above, this proposed research is not a repeat on grass to compare/outcomes of the original research.

A comparison is not sought and never has been. Throughout the process of this research application, it has been stated that the proposed research is with the purpose of obtaining data in relation to impact and joint stress experienced by working trials dogs and ensuring the research is of appropriate scientific quality and addresses the weaknesses of the previous study.

The aim of this research is to quantify kinetic and kinematic parameters for the obstacles traversed in working trials to conduct a risk-based analysis and ascertain if there are any concerning ground reaction forces or joint stresses. The researchers will collect and analyse the data, and state all areas of significance. They will not make recommendations for changes or improvements as this is outside of their remit. This research will be made public and presented to the KC & WTLC for their consideration.

4.

*Q The Dog Health Group had concerns with respect of replication of research and if there was a potential bias for this research being taken*

A. The aim of the proposed research is to address the methodological flaws of the original study and thus address the potential for bias which was present in that study. The researchers are independent with much experience in the area of quadruped biomechanics, having published their research in well regarded journals with strict scientific standards. Outcomes cannot be influenced as the researchers will use validated methods of collecting the data and appropriate statistical analysis.

5.

*Q The Sub-Group agreed that there were concerns with the ...validity of the research as it currently stood, based on implementation of the Regulation change and ongoing assessment of change being required.*

A. The Regulation change for the scale that was implemented following the original research fails to reduce the impact force experienced by the dog.

The original research stated "For dogs over 25kg there was no difference in PVF (peak vertical forces) between 5.5ft and 6ft. For dogs under 25kg there was no impact of scale height on PVF."

Therefore there was no basis/justification for the recommendation to lower the scale from 6ft to 5.6ft as there is no difference in the impact forces experienced.

Reducing the height because it is convenient is not adequate justification.

Decision making must be based on the health and welfare of the dog; if there is a potential welfare risk to competing dogs, then it is essential to address it.

6.

*Q The Sub-Group agreed that there were concerns with the amount of funding that would be required*

A. It is recognised that the funding available to the Sub Group is limited and that the proposed research is in excess of £10,000. The researchers have been active to reduce the costs to the Kennel Club and, due to Anglia Ruskin merging with Writtle University in the near future, the researchers

would be able to apply for grant funding to match the KC. This would ensure the KC funding is not above £10,000.

## 7. Q

*The Sub Group recommended the WTLC review and discuss:*

*a) What its priority for the research was*

*b) What is the clear evidence of the need for the research*

*c) Ultimately the end purpose, as it was noted that the jump regulations had only recently been amended*

### Points for the WTLC to consider

A

a) the priority should be that the research is high quality, evidence-based research to ensure any risks for dogs taking part in and enjoying canine activities can be understood, assessed and mitigated when appropriate.

b) The original research conducted produced results which can't be considered robust or reliable. WT does not have data to reply on to ensure the welfare of the dogs. Risks cannot be mitigated if they are not identified and fully assessed.

The concerns raised re the scale and long jump are –

With regard to the scale, basic biomechanical principles indicate that landing from such a height in a near vertical direction will result in substantially higher peak vertical forces than that experienced when jumping, for example, the clear jump at 3 foot.

Even if the dog scales down the descent side of the scale the dog will still be jumping from approximately 4 ft 6" to 5ft.

There is a concern that that the force experienced through the forelimbs and spine of the dog descending the scale is excessive, particularly when both training and competition are added together and would contribute to joint stress and increase the risk of repetitive strain injury to the soft tissues that support the joint.

The forces experienced by the dog doing the long jump will vary a lot from dog to dog based on the structure and strength of the hindlimbs and technique. The long jump requires a dog to reach full extension and hyperextension of various joints of the forelimbs, hind limbs and spine. There is a concern that there is a risk of repetitive strain injury to the joints and the soft tissues supporting them in this position.

c) If, on the basis of a good quality scientific study, it transpires that dogs traversing the scale and long jump do not experience concerning ground reaction forces then any concerns and objections can be put to rest. Ultimately the Research will be made public and presented to the KC & WTLC for their consideration.

Data can be used for other analysis once it has been collected and measured in a validated way. There may be information co gained within, that could inform better training methods or different set ups that would reduce impact or joint stress.

An abundance of studies exists in relation to agility dogs and have been used to inform rule changes and injury prevention in agility sports world-wide. It makes no scientific sense to rely on one study in WT, which is a starting point but has acknowledged methodological flaws, and itself advises further research is needed.

It is essential there is accurate data to demonstrate that all aspects of welfare are considered and demonstrate WTs care about their dogs and have done their due diligence. The original research is not of a high enough standard to use this as evidence.

#### Feedback re Jumps Research received in the week following WTLC meeting

From Wessex rep –

Wessex WTC does not support more research into the jumps.

An extract from the minutes ( Annex A AHWSG report, on Agenda for WTLC meeting held on 13<sup>th</sup> Jan 2022) of the Activities Health and Welfare Sub group from their meeting on 16<sup>th</sup> September 2021 about the original research states “ The sub group was in full agreement that this had been an excellent piece of research.” And its main recommendation was to consider lowering the scale to 5ft 5in and it also pointed out that there was evidence to suggest the shortening of the long jump as it may be of benefit to the dogs.

Both of these were done on their recommendation, the scale lowered to 5ft 6in and the long jump shortened to 8ft.

We are now being told that the research that was carried out “is not a validated method of measuring joint angles and is very subjective. Therefore the validity and reliability of the results obtained in the original study is questionable.”

It was conducted on a totally unsuitable surface, how was this allowed to happen knowing trials are never held on a sand fibre mix?

Taking this into consideration along with the fact that because of the variability between grass surfaces (long, short, weather conditions, hard frost, wet soft ground, hard sun baked ground, uneven fields etc) and with the research recommending concentrating on one variable at a time, we feel £10,000 could be spent on far more worthy projects of animal welfare than yet another jump survey.

#### Response from researchers

With regards the variables, it's a totally relevant question, but a complex answer

Dr Carter is correct in her response in that you can only really account for one variable at a time, so our trial as it stands would be looking at grass under a specific set of conditions, such as damp, sunny etc etc. The only way to obtain data for different conditions would of course be to repeat the experiment at various times of the year - however I would question the usefulness of the data and there are too many variables to take into consideration to warrant trying to explore further.

For example - if it is seen that wet grass provides a dampening effect is it likely that KC will stipulate that these trials should only be undertaken on damp grass? If so how damp is damp? To truly reflect conditions, you would need to record ambient temperature, moisture content and such like which would introduce a huge amount of confounders into the research, but offer no real benefit (in just the same way that the results of the original study would have differed if it was carried out in cold conditions which would harden the surface, versus in summer when it would be more forgiving).

So in brief, unless the underlying soil/grass conditions are the extremes of cold/wet/hot, from a forces point of view, the differences would be negligible.