

Kosher, Halal and Noahide Slaughter

AMI Conference

Overland Park, KS

February 21, 2006

Part 1

Joe M. Regenstein

Head: Cornell Kosher Food Initiative

Rules of Engagement

What is the issue?

Are we really trying to do science or are we trying to move forward a personal (group) agenda?

I, too, have an agenda – to get a fair and objective scientific evaluation of religious slaughter

Royal Veterinary Society of Sweden

To justify the continued total ban on religious slaughter in Sweden:

- 1. They observed the worst upside down pen (Weinberg) – N=1; might consider banning the pen?**
- 2. They pointed out that much of the kosher slaughtered meat in Sweden is sold to gentiles (non-Jews); might consider labeling such meat?**

Therefore, for these two reasons alone, Sweden is justified in banning religious slaughter

Is this science or an agenda? I do not think this is science but rather an embarrassment at best!

Slaughter of Sensible Animals

Methods currently used and defined as humane in the US by Congress:

Captive bolt – penetrating or non-penetrating

Electrical stunning

Gas

Religious slaughter with cutting of the esophagus, trachea, jugulars and carotids

[Actual religious requirements are for cutting the esophagus and trachea]

Key Animal Welfare Questions:

What do animals feel with these methods when done right? When not done right? How do we deal with these two different situations? In each case when is the animal “dead”?

Key Scientific Questions:

What aspects of the slaughter process are due to the inherent nature of a particular religious slaughter (or standard slaughter) and what is subject to improvement through good management and technology improvement?

Animal Welfare Criteria

Time to insensibility:

What is reasonable?

This is policy not science

15 seconds seems to be on most peoples' list as satisfactory

This criteria CAN be met by religious slaughter with proper equipment and proper handling of the animals

If not met – possibly require post-slaughter stunning after 20 sec even if it makes the product unacceptable (again a policy issue)

A Reminder

With normal stunning procedures – if the animal is not stunned on the first try, it is extremely stressful. Sometimes it takes as many as 6 tries to eventually stun the animal. The new FMI (Food Marketing Institute, supermarkets)/NCCR (National Council of Chain Restaurants) standard still permit 5% of the animals to be “missed” on the first try!

Quality of Current Research

Can one really determine how the religious slaughter was done reading the literature?

Can one really determine the time to insensibility and death that is due to improper handling and poor handling equipment versus that which is inherent in well done religious and standard slaughter?

I would suggest that the literature does not meet the standard of sufficient information so the experiment can be repeated or the data cleanly interpreted, which is surprising for such important questions – if answers were really desired?

What is needed

Proper scientific reporting of the details of the standard or religious slaughter system studied so it can be repeated and evaluated by the reader

Specific animal welfare studies in a modern state-of-the-art religious slaughter system, i.e., one that experts like Dr. Grandin agree is being properly operated at all levels, including properly trained religious slaughtermen (both with respect to text and practical application) to answer the question of what is religious slaughter really “capable of” doing.

Important Caveat/Summary

There are many currently operating religious slaughter systems that do NOT meet the modern standard of animal welfare, but there are also many that we believe do. Those that do not should not be accepted if the measurements reported suggest that these are out of control – but the extrapolation to all religious slaughter is inappropriate until good measurements are made and reproduced on the best available systems. A proper test of the null hypothesis is needed, i.e., religious slaughter is as humane as any other modern approved slaughter system.

The Distinction We are Making

All slaughter systems should be audited and quantitative measurements made on them

If there are problems, the problems need to be corrected

However, such systems cannot and should not be used to judge the inherent potential of religious systems or other systems to humanely slaughter animals until the best possible version is evaluated (and in the future with new systems, the evaluations will be needed again)

What Information Do We Need?

Key Items:

Details about the type of animal being slaughtered including some measure of degree of wildness

A full weather report for the five days preceding the slaughter. (Temple seems to feel that animals are sensitive to weather changes – particularly pressure changes)

Full pre-slaughter handling procedures used (more important for religious slaughter) including details of the neck washing immediately prior to religious slaughter

Information -- II

Details of the equipment used in preparing the animal for slaughter including sound level

Should the results of an FMI/NCCR audit or another recognized audit be included?

Details about the technique of the slaughter person including the knife used and number of back and forth strokes

Should some “anatomical” information should also be collected with respect to where the cut is made? [Closer to the jaw seems better]

More Information Needs

Time to “collapse”

Time to insensibility

Other behavioral observations following slaughter

Details of any subsequent procedures, including the post-slaughter check by the slaughterman, subsequent cuts to accelerate bleeding, and the time after slaughter to hanging and death.

Manuscript in Preparation

A manuscript is being prepared covering all of these details with a discussion of some of the biology. This document will hopefully serve as a guide to editors and reviewers of scientific journals to assure the integrity and proper focus of articles dealing with religious slaughter and possibly other types of slaughter as well.

Some Critical Further Research Needs

An understanding of the process by which “endorphins” (opiates) function in animals at the time of slaughter

Role of the sharp cut in optimizing endorphin release

Objective criteria for measuring/evaluating the quality of religious slaughter and of other slaughter – can we develop a set of criteria for humane slaughter, and when in each process is the animal dead.

More research – II

Detailed animal physiology, biochemical, and behavior measurements on a system where during religious slaughter animals are becoming insensible in 15 seconds or less.

More information about animals from stunning to bleed-out with conventional systems including the need to determine the time to heart stoppage (to be discussed under the Universal Noahide code in my talk tomorrow).

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Part 2

Joe M. Regenstein

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Kosher and Halal Slaughter

These systems are controversial because both groups use a live slaughter although some Muslim, but no Jewish groups, have permitted a mild reversible stunning procedure prior to slaughter.

Both groups have extensive rules relating to animal welfare and proper slaughter – these rules were designed to protect animals.

Introduction to the Noahide Code

The Noahide code is incumbent on all peoples. It states the minimum Biblical requirements for gentiles [non-Jews, “goy”] to live by the Divine code.

There are non-Jews around the world that have accepted on themselves these basic rules.

The Laws of Noah

- 1. The required establishment of courts of justice**
 - 2. The prohibition of blasphemy (cursing G-d)**
 - 3. The prohibition of idolatry**
 - 4. The prohibition of six types of sexual relationships**
 - 5. The prohibition of murder**
 - 6. The prohibition of robbery**
 - 7. The prohibition of eating flesh cut from a living animal [also teaches avoiding cruelty to animals]**
- [Note: A food/animal welfare law makes the top 7!]**

Defining Noahide Slaughter

What is the physiological sign that slaughtered cattle are “dead” in terms of this commandment:

Heart stops beating and no circulation of blood

**Occurs when major bleeding from neck or any major artery is finished - skinning before death
OK if insensitive and dying**

**For all slaughter (religious and non-religious),
cutting insensitive dying animal is OK if no food
meat is removed until after heart death occurs**

Defining Noahide Slaughter

For all warm-blooded animals and poultry:

If the head is totally separated from body this is immediate “death” even if the heart continues briefly

If the backbone, esophagus or windpipe is still connected, need heart death before removing meat

If animal not slaughtered by cut to the neck, other “signs” of death are not proof of heart death

Defining Noahide Slaughter

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For all slaughter (religious and non-religious), cutting insensitive dying animal is OK if nothing is removed until after heart death occurs

Stunned animals may recover so need bleed-out

Details of Religious Slaughter

What are some of the issues that need to be considered when looking at and evaluating religious slaughter (kosher and halal)

What do we still need to learn to make religious slaughter better

Note: The kosher laws with respect to slaughter are more detailed and constraining than halal, so we will need to look at these more critically. To the best of my knowledge, if we can determine that kosher is being done right, we can obtain the same results with halal.

Pre-slaughter handling

If we need particularly calm animals for religious slaughter – how do we get them?

How do we identify them ahead of time?

What equipment and procedures work best?

A special code of practice [SSOP – Erika]?

[Expertise to do this work is in the animal welfare community, but they need to be sensitive to the requirements of the religious community -- the two must always remain compatible – and all changes must be religiously acceptable.]

Preparing an Animal for Kosher Slaughter

The slaughterman (shochet) needs to carefully check the neck of the animal to be sure it is clean and will not harm the knife. If necessary, a work person needs to wash the neck.

Would this process benefit from having the animals washed ahead of time?

Where, when and how in the handling sequence should this be done?

Challenge: Not to have any standards that appear to rush the slaughterman so that their failure rate goes up.

Who can slaughter kosher or halal?

Only a religiously and practically trained Jewish male can slaughter while all sane adult Muslims can slaughter

The Shochet

Requires a religious “license”: both testing religious and “can do” requirements

But how do we improve their “secular” training?

It appears that a more aggressive cut closer to the jaw leads to more rapid insensibility [between the thyroid cartilage and the cricoid cartilage for kosher]

Muslim Slaughter

Need to work with many more people

Need for education in animal handling and proper slaughter techniques

So, we have prepared posters for this purpose in English, Arabic, Urdu, Persian and Spanish

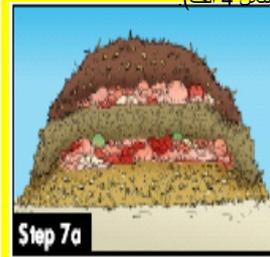
Humane (Halal) On-Farm Slaughter of Sheep and Goats



حداقل استرس در هنگام گرفتن حیوان. اجتناب از حرکات ناگهانی و سر و صدا. هدایت حیوان به محوطه ای کوچک و گرفتن حیوان به آرامی (مرحله 1). انتقال سریع حیوان به محل کشتار. چنانچه جنه حیوان به اندازه کافی کوچک باشد، با قرار دادن سر در زیر یک بازو و قرار دادن بازوی دیگر در ناحیه زیر شکم از بین دو پا حیوان حمل شود (مرحله 2).

برای حیوانات بزرگتر، یک نفر چانه حیوان را رو به بالا نگه داشته و شخص دیگری از پشت او را به حرکت وامی دارد (مرحله 2ب). چنانچه شخص تنها باشد، می تواند سر و دست حیوان را از زمین بلند کرده دام را به حرکت به جلو وامی دارد (مرحله 2ج). ممکن است حیوان از میان مجاری خاص به محل کشتار هدایت شود (مرحله 2د). بنا به دلایل انسانی، نباید دست و پای حیوان در هنگام ذبح بسته باشد. حیوان بر روی یک ریل دو طرفه قرار داده شود (مرحله 3الف) و یا دست و پای آن به نحوی گرفته شود که حیوان و یا افراد راحت باشد (مرحله 3ب).

یک چاقوی کاملاً تیز با لبه کشیده که طول آن دو برابر قطر گردن حیوان می باشد برای انجام کشتار الزامی است. چنانچه چاقو مجهز به پوششی برای دست امنیت بیشتری خواهد داشت (مراجعه www.dexter-russell.com) باشد (شکل 4 الف).



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این پوسترتوسط پروژه بازاریابی گوشت گوسفند و بز شمال شرق آمریکا وتوسط USDA تهیه تامین اعتبار شده است.

برای کسب اطلاعات بیشتر لطفاً با آدرسهای ذیل تماس گرفته شود.

پروژه بازاریابی گوشت گوسفند و بز شمال شرق آمریکا :

www.sheepgoatmarketing.org

پروژه گوسفند و بز دانشگاه کورنل : www.sheep.cornell.edu

انجمن غذا و تغذیه اسلامی آمریکا (IFANCA) : www.ifanca.org

معبد گراندین: www.grandin.com

چنانچه قصاب تنها و حیوان آرام باشد، عمل کشتار می تواند با قرار دادن حیوان در بین دو پا و در کنار دیوار انجام بگیرد (مرحله 4ب). عمل کشتار باید با ملایمت، محکم، نگهداری سر به سمت عقب، سریع و ضمن یک برش با حرکت چاقو بر روی گردن حیوان انجام بگیرد. ناحیه برش باید زیر آرواره باشد و مجرای نای، سیاهرگها و سرخرگهای مقابل استخوان گردن قطع شوند (مرحله 5) (مسلمانان چاقو را در جهت مخالف بدن خود حرکت می دهند و نه به سمت آن). باید صبر کرد تا حیوان بی حس شود بنا به قوانین مربوط به کشتار (Animal welfare) (حداقل 30 ثانیه) و سپس حلال و مراحل بعدی انجام گیرند (مرحله 6). ضایعات کشتار ممکن است تبدیل به شیشه شود (مرحله 7). www.cornell.edu (مرحله 7 الف و 7 ب). گردند

Cornell

Upright versus Upside-Down Positioning of the Animal for Religious Slaughter

**From the AMI Recommended Animal Handling
Guidelines for 2005:**

**[Animals] that are ritually slaughtered without
prior stunning should be restrained in a
comfortable upright position. ... In a very
limited number of glatt Kosher plants in the
United States and more commonly in South**

AMI - II

America and Europe, restrainers that position animals on their backs are used. For information about these systems and evaluating animal welfare, refer to www.grandin.com (Ritual Slaughter Section).

**The throat cut should be made immediately after the head is restrained (within 10 seconds). ...
Plants which conduct ritual slaughter should use the same scoring procedures except for stunning score...**

AMI - III

Cattle vocalization percentages should be five percent or less of the cattle in the crowd pen, lead up chute and restraint device. A slightly higher vocalization percentage is acceptable because the animal must be held longer in the restraint device compared to conventional slaughter. A five percent or less vocalization score can be reasonably achieved....Animals must be completely insensible before any other slaughter procedure is performed (shackling, hoisting,

AMI - IV

cutting, etc.) If the animal does not become insensible, it should be stunned with a captive bolt gun or other apparatus and designated as [non-Glatt,] non-Kosher or non-Halal.

An Actual Kosher Slaughter



Refractory Period

When an animal is turned upside down in a good piece of equipment (comfortable, not noisy, proper lighting, etc.), then it appears that there is about a 10 second refractory period where it doesn't realize what has happened.

Is this correct? Can we better document this?

Can we get the religious slaughter done in this time period?

The Chalef

A knife designed to specifically make the process work

Has to be twice the length as the diameter of the animals neck

Extremely sharp (an important part of the training – and critical for good religious slaughter)

Checked before and after slaughter

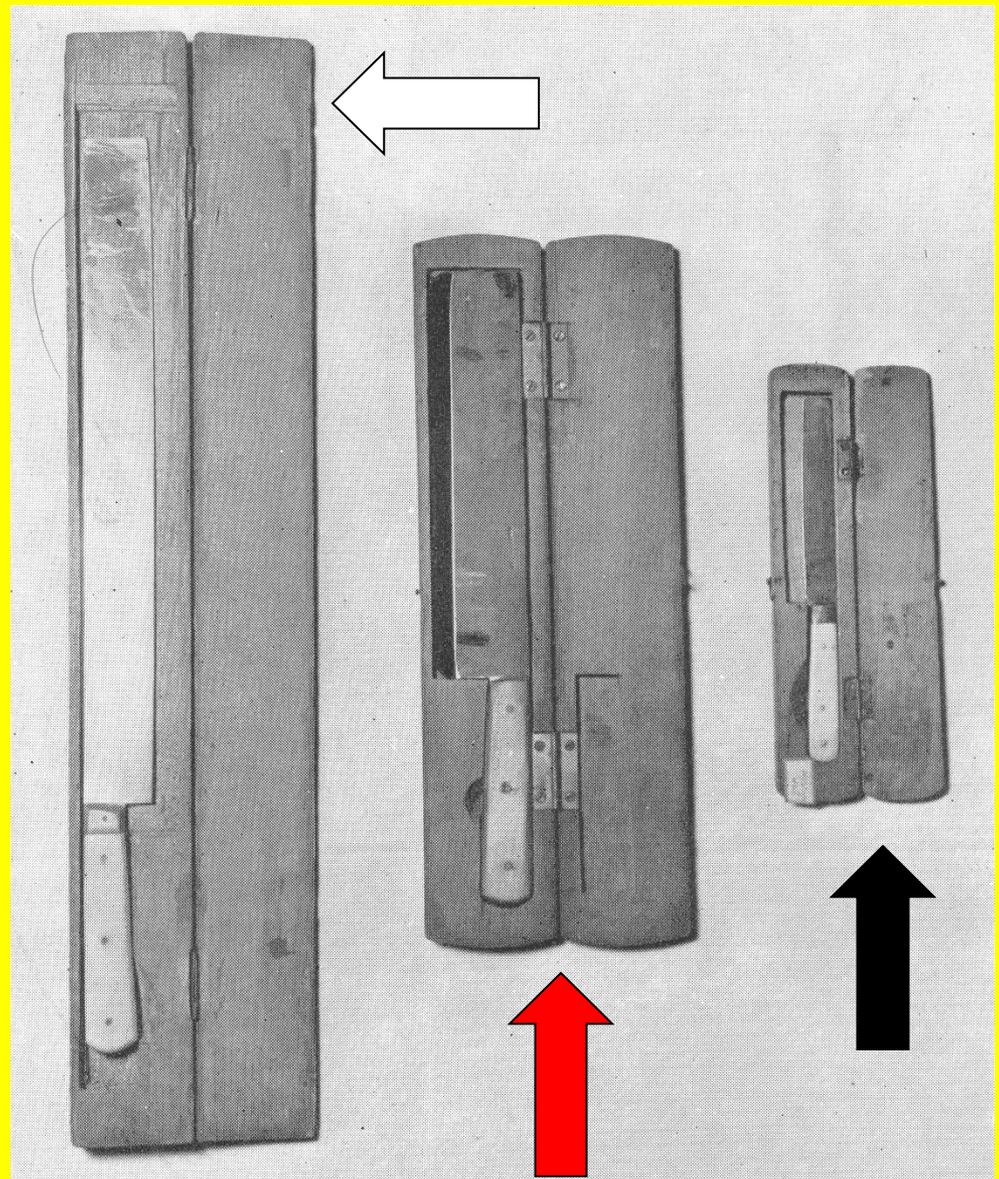
Cannot be nicked!

Pictures of Chalefs of Various Sizes

←
Beef

←
Sheep/Goat/Veal

←
Chicken
(Potential for
ergometric
handles?)



Number of Strokes

As long as it is continuous it can be considered acceptable, however, Dr. Grandin has shown that a more aggressive slaughter with fewer strokes leads to more animals becoming insensible quickly

Ergometrics: Can the handles of the knife be better designed to help the slaughter – different knives for upright and upside-down slaughter?

The Five Rules of Kosher Slaughter

Rules of Slaughter

No Pausing (Shehiyyah): Can be multiple continuous strokes

No Pressure (Derasah): Concern that the head falls back on the knife

No Burrowing (Haladah)

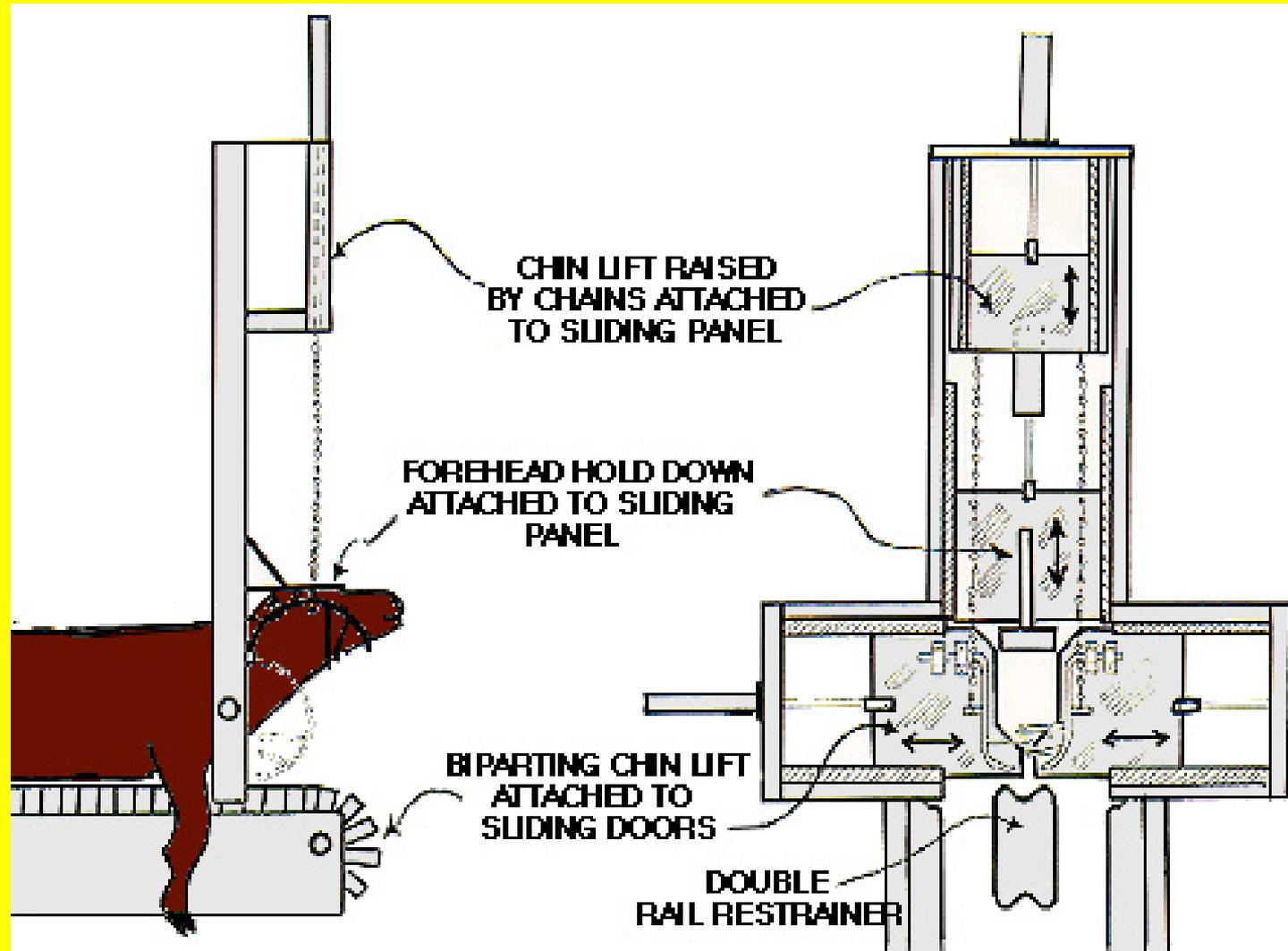
No Deviating (Hagrama)

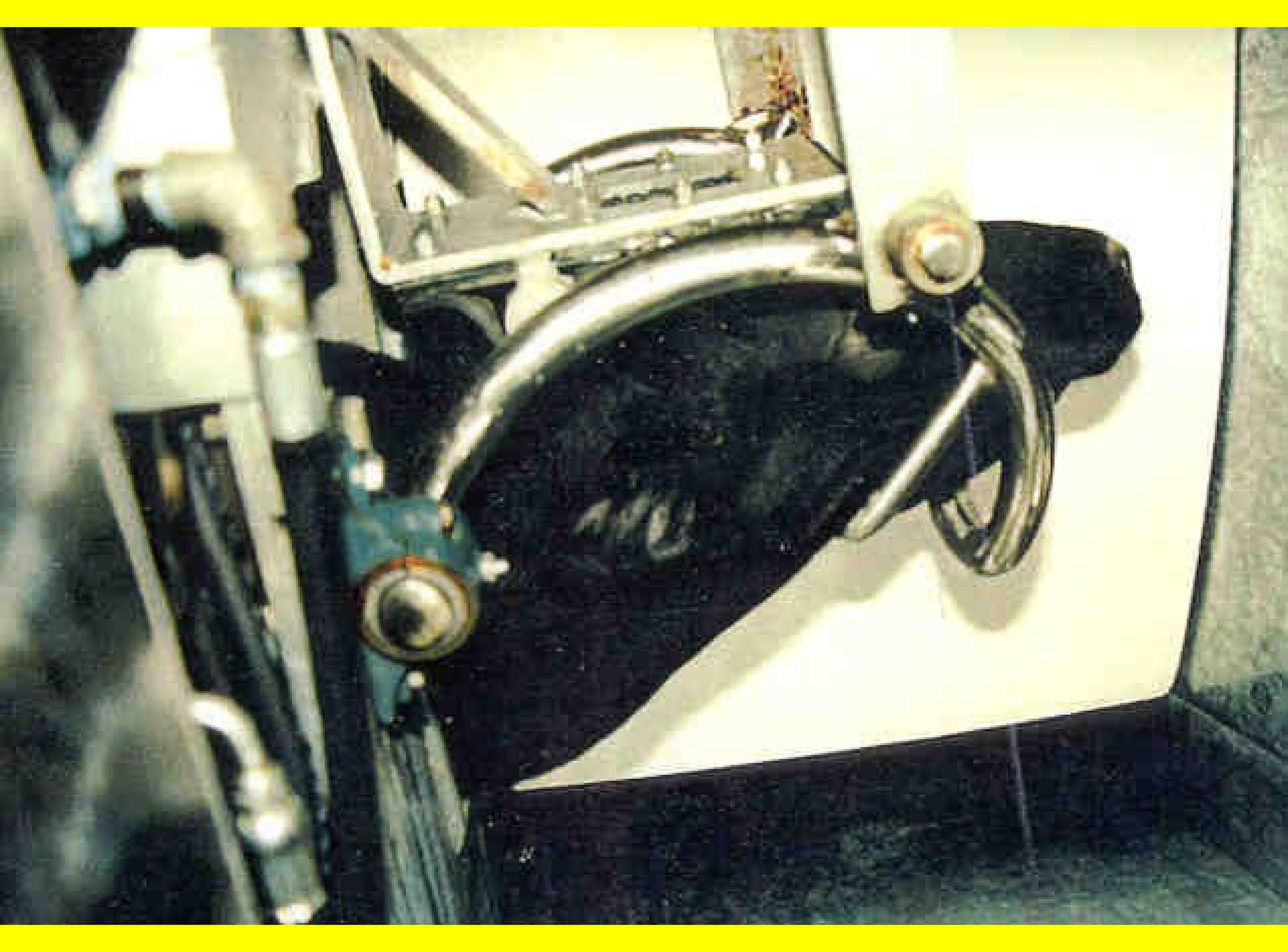
There is a proper spot (area) for slaughter

No Tearing (Ikkur) If the neck is too tight, tearing may occur before the cutting

The Grandin Head Holder

Its role is to prevent the head from any movement, which can compromise the slaughter





Endorphins

Good religious slaughter may actually be more humane than “humane slaughter”

Concept is that no pain occurs with a very sharp cut

The release of endorphins occurs if the animal is unstressed

Animal dies on a “high”

Postulate: More successful if the animal goes into slaughter unstressed

This needs a lot of critical research

Time to Insensibility

A good system needs to get the animal insensible properly and quickly (consensus (policy, not science) seems to be that 15 to 20 seconds is maximum acceptable time)

Need to then stun any animal that is insensitive even if it is then unacceptable to the kosher or halal community

At least one “Temple Grandin plant” is using this standard and getting from 90 to 95% of the animals insensible in that time

Postville

A PETA operative was allowed to take undercover video at the plant over a number of weeks

Animals shown remained sensible for much longer than 15 to 20 seconds

During that time some post-slaughter activity other than an extra cut for better bleed out or hanging was occurring

Shochet shown splashing blood on a sensible animal

Postville - II

They are using an upside down pen

When problems were corrected they could pass the FMI/NCCR audit

Question for the Religious Establishment:

How can the goal of no Tsar Baalay Chayim (doing no harm to animals) or the Muslim concerns for animal welfare be coordinated with modern animal welfare concerns?

Latin America

Shackle, hoist, move and cast are used to get the animal upside down and this is simply unacceptable for animal welfare – but the animal welfare community needs to design low cost, flexible, portable equipment for Latin America so that they can move to at least the best available practices for upside down slaughter – most of the meat is exported to the US and Israel -- so those communities (countries) need to support and drive the changes

AMI and FMI/NCCR Standards

We are currently in negotiations with the “fervently” Orthodox community about audit standards for religious slaughter, including upside-down slaughter. Issue in contention is the auditing once the animal is in the head holder prior to the shochet’s cut.

Poultry

Held comfortably by the shochet or his helper while being slaughtered and are only hung after slaughter

Muslims do slaughter both off and on the shackle line

Some plants then put them on the shackle while others use a bleeding cone

Gas not acceptable to either the kosher or halal communities

The End

If you have any questions or want a copy of the PowerPoint [also on MeatAMI site], please contact JMR at:

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There is a comprehensive paper at www.ift.org; go to on-line journals; go to Comprehensive Reviews in Food Science and Food Safety; volume 2, issue 3.

A video streaming talk on kosher and halal can be found at www.cybertower.cornell.edu.

Info on Universal Noahide Code: www.asknoah.org