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Nutrition InfoGram

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A bimonthly Electronic Newsletter from the Nutrition and Health Promotion Team (NHPT) of the California Department of Aging (CDA)

Inside this Issue:

Center for Disease Control and Prevention

Heat Up Your Meat and Avoid Listeria Risk

The Centers for Disease Control and Prevention (CDC), USA, is warning people aged 50 years or more to reheat their cold meat before eating, to avoid listeriosis - listeria infection. For those over 50, and especially over 65, such meats as hot-dogs, cold cuts, luncheon and deli meats should be heated to at least 165 degrees, what the CDC describes as *"steaming hot"*.

The CDC adds that any opened package of sliced meat should be thrown out within five days. Listeria is much less common than *salmonella* or *E. coli*. However, it can be extremely deadly.

The problem with listeria is that it does not hold back in cold temperatures - put the cold meat in the fridge and it will continue to reproduce. The CDC says the concern over listeriosis in the USA is not new; it seems people are just not paying attention.

Listeriosis is an illness resulting from infection caused by consuming food tainted with *Listeria monocytogenes*, a bacterium. The CDC says that listeriosis is a major public health concern in the USA. The majority of listeriosis cases are non-invasive; patients experience slight flu-like symptoms, such as an elevated body temperature, muscle pain, and some diarrhea. However, those with weakened immune systems and the elderly are more vulnerable to invasive listeriosis.

Invasive listeriosis requires immediate hospitalization and aggressive treatment with antibiotics. Approximately 35% of patients with invasive listeriosis die due to complications. Infected pregnant women have a significantly higher risk of miscarriage, premature delivery, stillbirth, or life-threatening infection of the newborn. Listeria is named after Joseph Lister (1827-1912), an English surgeon and apostle of antisepsis.

According to a study by the University of Florida, cold cuts and listeriosis were the third worst combination of a food with pathogen in the burden placed on public health, costing approximately $1.1 billion in medical costs and lost productivity. Latest reports reveal that about 1,600 people have listeriosis each year in the USA, and 260 die.

Written by Christian Nordqvist

Federal Regulations Food Code

Reduced Oxygen Packaging

Reduced oxygen packaging (ROP) occurs when food is packaged in bags/containers (with a covering film) that do not readily transmit oxygen and the air in the package has been removed, displaced, replaced or controlled. Under appropriate conditions, extended shelf life is the beneficial result. Holding temperature requirements depend on the food being packaged and the type of ROP process. Various processes are included in ROP packaging such as sous vide, cook chill, vacuum packaging, modified atmosphere packaging and controlled atmosphere packaging. This inspection guide serves as a useful tool

for dietitians and providers and can be found in the appendix below or by clicking on the link to the FDA's webpage.

Title IIID- Medication Management

United Hospital Fund – Next Step in Care
Medication Management for Family Caregivers Guide and Form

Many people take a lot of medications (also referred to as "drugs" or "meds"). This is especially true of someone who has a disability or chronic and serious illness. When taken correctly, medications can relieve symptoms, improve how someone feels, and may even save the person's life. As a provider, one of the things you do for your patients is "medication management"— making sure that they take the right medication, at the right time, and in the right dosage. This guide has facts to help you do this job well. A Medication Management Form is also available to help you keep track of necessary information. These guides and forms are available for both Family Caregivers and Health Care Providers in English, Spanish, Chinese and Russian.

Meals on Wheels- Vision Grants

In mid-July, MOWAA awarded over $1 million in grants to 20 Meals On Wheels programs, thanks to the generosity of the Walmart Foundation. These are the largest grants offered in MOWAA history and were made available through the Walmart Foundation-MOWAA Building the Future Vision Grant Program.

Vision Grants provide up to $100,000 to selected programs to assist in developing visionary advancements that will help end senior hunger. Three of the 20 programs received the highest grant award – $100,000. Seventeen other programs received grants of $15,000 to $50,000.

Congratulations to the California Vision Grant recipients:

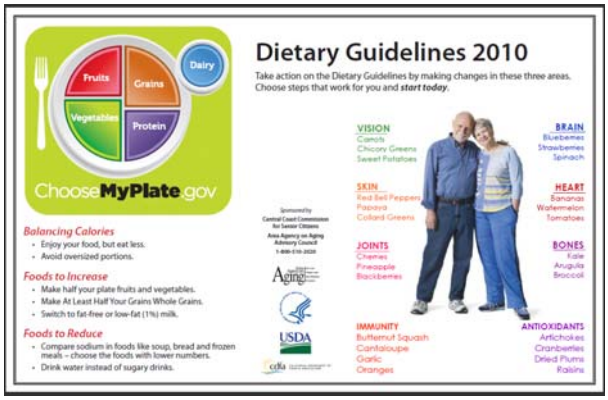
- *St. Vincent Meals on Wheels, Los Angeles, CA*
- *OldTimers Foundation, Huntington Park, CA*
- *Shasta Senior Nutrition Program, Redding, CA*
- *Meals-on-Wheels Greater San Diego, Inc., San Diego, CA*
- *Council on Aging Services for Seniors, Santa Rosa, CA*

To learn more about Walmart's involvement in ending senior hunger, visit MOWAA.org for our latest press release.

MyPlate Senior Placemat

Best Practice for Nutrition Education

The Central Coast Commission for Senior Citizens has developed a placemat based on the USDA's Dietary Guidelines 2010. The placemat measures 11" x 17" and features healthy food suggestions for older adults. To save and print your own placemats click here.



Alzheimer's Association

Healthy Living

Things people with Alzheimer's disease have done to make life a little easier.

General Health
Researchers are finding that certain mental, social and physical activities influence our brain health. Adopting a "brain healthy lifestyle" may help you feel better physically, emotionally and for some, may even boost cognitive functioning.

There are four basic areas you should focus upon:

1) Challenge yourself mentally. Find activities that you enjoy that engage your brain. Good examples are word games, puzzles or cards, attending workshops, playing a musical instrument and reading books. Find challenging fun activities that are suited to your individual tastes, abilities and needs. If the task is too frustrating or difficult, you won't want to do it.

2) Exercise! The single best thing you can do for your brain and cognitive functioning is to exercise. Scientists have found a link between heart health and brain health so watch out for high blood pressure, high cholesterol and try to exercise two or more days per week (doctor permitting).

3) Eat a diet rich in:

a. Dark green leafy vegetables such as spinach, kale, Swiss chard
b. Omega 3 fatty acids such as salmon, tuna and flax seed oil
c. Antioxidants – which are found in dark skinned fruits and vegetables

4) Be socially active:

It is important for brain health to maintain and expand friendships and keep in touch with friends and family. You may also consider joining a group for persons with early stage dementia.

The best brain activities are those that are social, mental and physical all at the same time. Examples of this are dancing, group exercise classes, taking a nature walk with friends. If you can think of other activities that you enjoy, try to do them regularly.

For more resources on Alzheimer's planning and care visit www.alz.org.

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APPENDIX

Inspection Guide from Federal Regulation Food Code 2009
(Sec 3-502.12 in the Food Guide)

Please refer to the FDA link here for more detailed information.

Introduction. Reduced oxygen packaging (ROP) occurs when food is packaged in bags/containers (with a covering film) that do not readily transmit oxygen (O_2 transmission rate of 10-100 $cm^2/m^3/24$ hrs.) and the air in the package has been removed, displaced, replaced or controlled. Under appropriate conditions, extended shelf life is the beneficial result. Holding temperature requirements depend on the food being packaged and the type of ROP process. Several different packaging processes qualify as ROP including:

- Vacuum packaging (VP) – air is removed and the oxygen impermeable package is hermetically sealed to maintain the vacuum.
- Modified atmosphere packaging (MAP) – air is replaced or displaced with other gases, often CO_2 or N_2, and this new mixture is allowed to equilibrate.
- Controlled atmosphere packaging (CAP) – air is modified with other gases and maintained at that composition with the use of O_2 scavengers or absorbents.
- Cook chill packaging (CC) – food is cooked and hot filled into oxygen impermeable bags and sealed.
- Sous vide packaging (SV) – raw or partially cooked food is placed in oxygen impermeable bags, hermetically sealed and cooked in the bag.

Microbiology of ROP. Reduced oxygen, by itself, does not destroy spoilage organisms or foodborne pathogens in food. In fact, most foodborne pathogens are facultative anaerobes and can survive and/or produce toxin with or without oxygen. Exceptions are *Clostridium botulinum* which requires a reduced oxygen environment and *Bacillus cereus* which requires an anaerobic environment. Spoilage organisms are inhibited by reduced oxygen but will begin to grow once oxygen is available. In some foods, a secondary barrier (such as pH, a_w, preservatives, nitrite, or intrinsic factors in the food) is used along with refrigeration at 41ºF to inhibit pathogenic growth. In other foods which don't contain a secondary barrier (most soups, sauces, gravies, meats, etc. and typically packaged using CC or SV packaging), a lower temperature along with a limited shelf life are used to control pathogens. Both non-proteolytic *C. botulinum* and *L. monocytogenes* are able to multiply and/or form toxin at temperatures below 41ºF. Therefore, these microorganisms become the hazard of concern with ROP and any HACCP plan must show how they are controlled. If *C. botulinum* and *L. monocytogenes* can be controlled, other pathogens can be controlled as well.

Safety Concerns about ROP Foods. Several safety concerns specific to ROP have been identified and must be addressed. Facultative bacteria (most pathogens) grow under aerobic and anaerobic (ROP) conditions. Spoilage organisms (aerobic) are inhibited with ROP and can no longer be used to indicate temperature abuse or out compete slower growing pathogens. Failure to limit shelf life would allow "slow growers" to reach high numbers. Secondary barriers such as pH or a_w are not always possible with cook chill and sous vide packaged foods. The potential for temperature abuse or inadequate cold holding must be considered. Cooking and fermenting destroy most vegetative cells but spore formers survive and post-cooking contamination must be prevented.

Time/Temperature Control for ROP Foods. Time/temperature control is one of the most effective methods of controlling pathogens in ROP foods. Cooking foods according to Code requirements (see 3-401.11) will destroy vegetative cells but bacterial spores remain viable. Cooling according to Code parameters (see 3-501.14) is intended to prevent spores from germinating. Refrigeration at ≤ 41ºF will inhibit or slow down the growth of foodborne pathogens. Holding times and temperatures will vary depending on the food and if secondary barriers are present. Fish must always be frozen before, during and after ROP. Foods with a secondary barrier may be refrigerated at 41ºF or less for 14 or 30 days, depending on the food. Foods with no secondary barrier (CC or SV) must be stored at ≤ 34 ºF

for no more than 30 days after packaging. Since there are no other secondary barriers, temperature control is vital for CC and SV. To ensure temperature control, Code requirements call for continuously and electronically monitored holding temperatures. This can be accomplished by using thermocouple data loggers, recording charts, temperature monitoring and alarm systems or other similar technology. In addition, this system must be visually checked in person twice daily.

Secondary Barriers and Other Controls for ROP. Secondary barriers specifically defined in the Code to be used with refrigeration at ≤ 41ºF include pH of 4.6 or less, a_w of 0.91 or less, meat or poultry cured with nitrite, high levels of competing organisms and certain intrinsic factors in hard or semi-soft cheeses. Other safety controls provided by the Code for food packaged under reduced oxygen in food establishments include implementation of a HACCP plan, use of SSOPs, training for employees, labeling requirements (an expiration date for the 14 or 30 day shelf life), a "keep refrigerated at 41ºF or less" statement for product sold to consumers, no sale of cook chill or sous vide packaged products to other businesses or the consumer and a limitation to the extended shelf life based on the secondary barriers and/or temperature controls used with that food. Gases used to back flush packages in ROP so not control the growth of foodborne pathogens but contribute to the culinary quality of the food. Packaging material is designed for oxygen transmission rate, strength, moisture transmission and other factors.

Variance or No Variance. When a food establishment operator complies with the parameters for ROP in one of the paragraphs of Section 3-502.12 in the Food Code, no variance is required although a HACCP plan is necessary. If the operator prefers to use other secondary barriers not listed in this section or other time and temperature combinations for cold holding, then a variance application must be submitted for approval to the Regulatory Authority showing evidence that this option is safe.

ROP Inspection Guide. A HACCP plan is always required and should be reviewed as part of the inspection process. The inspector should verify compliance with the facility's HACCP plan and confirm all ROP food is identified with CCPs and measurable CLs, who monitors, when and how, evidence that a corrective action plan is in place and used, necessary records identified and held for 6 months [letters of guarantee, recipes, standards of identity, cooling and refrigeration temperatures], who is responsible for verification, acceptable secondary barriers, labels for each ROP food ["keep refrigerated at 41ºF or below," "use by" date of 14 or 30 days, product name and if going to a consumer, ingredients in descending order, company name and address and net weight], operational procedures, training programs, etc.

- If parameters are met as specified in 305.12, no variance is required (prior approval).
- If the operator prefers to use other parameters for ROP, a variance application must be submitted to the Regulatory Authority as specified in 3-502.11. Check for specific variance requirements.
- Observe the preparation and packaging process using ROP techniques, if possible.
    - Was it in compliance with the HACCP plan and Food Code?
    - Was cross-contamination prevented during the preparation and packaging?
    - Were appropriate cooking and cooling parameters used?
    - Were appropriate refrigeration techniques used?
        - Correct temperatures (41ºF or 34ºF)?
        - Continuous electronic monitoring? Was the electronic monitoring system checked visually twice daily? By whom and when?
        - Are the barrier bags not piled on top of each other to allow good air circulation?
    - Ask employees who are doing the ROP processing and packaging what kind of training they received (when, content of training, who provided training)
- In the area where ROP packages are stored and/or displayed:
    - Is the product being stored or displayed at the temperature required by the HACCP plan?

    - Do all of the ROP packages have a clear expiration date and other required label information?
    - Are any of the ROP packages being beyond the expiration date for that type of food (they must be discarded). Ask about the normal process for checking expiration dates.
    - Check that all Cc or SV packaged food products are not distributed to another business or sold directly to the consumer.
    - Pick our 3 or 4 different ROP food packaged on different dates if possible and request the HACCP records that correspond to those packages.
- Review the records provided to find the dates that that correspond to the packages chosen:
    - Are records available for the date that each food was packages?
    - Are all records specified in the HACP plan by code available?
    - Check to see if records indicate a corrective action plan was needed. If so, was the corrective action made?