

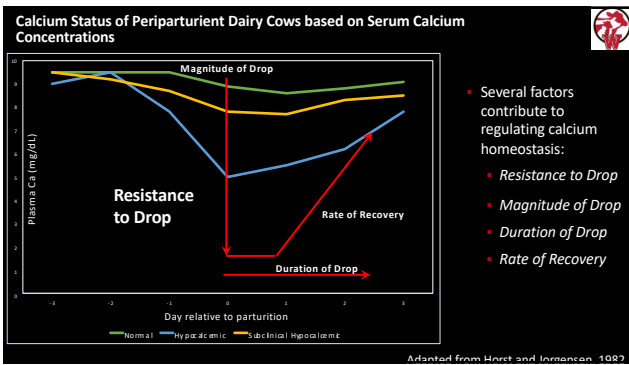
Department of Animal & Dairy Sciences
UNIVERSITY OF WISCONSIN-MADISON

THE HERNANDEZ LAB

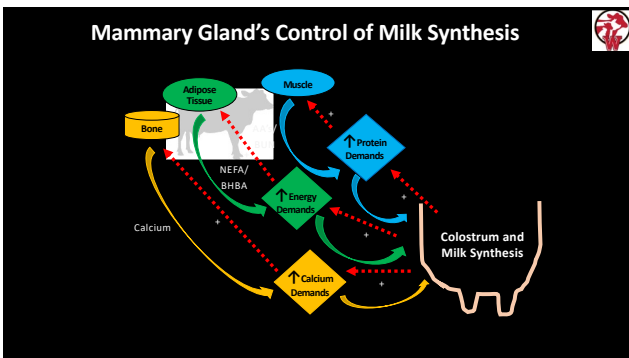
The role of the mammary gland in governing calcium metabolism

Laura L. Hernandez, Ph.D.
Professor
Department of Animal and Dairy Sciences

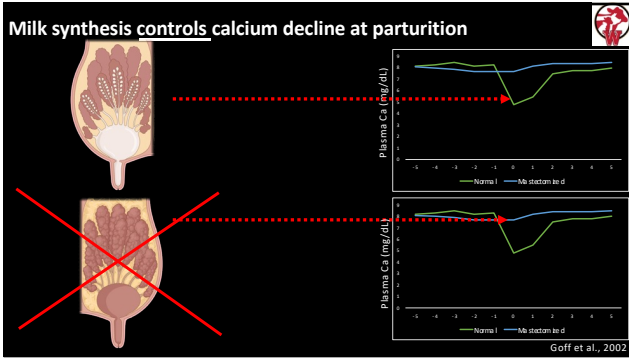
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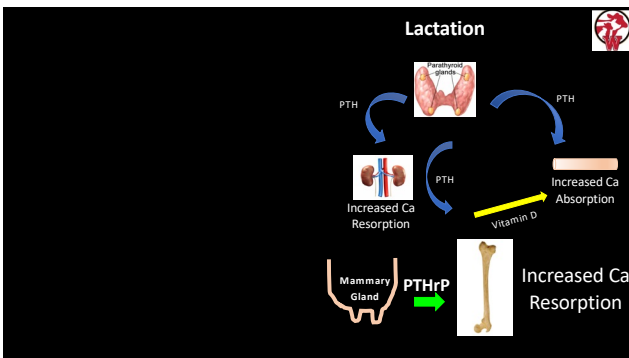
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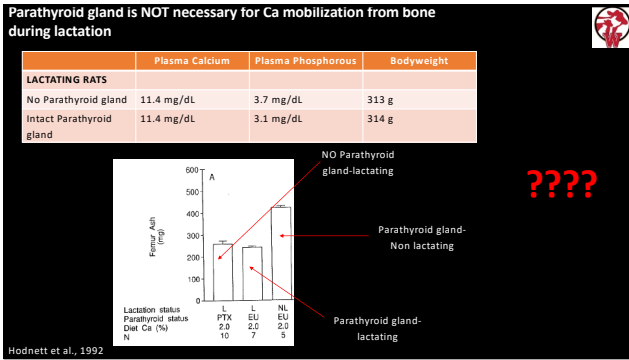
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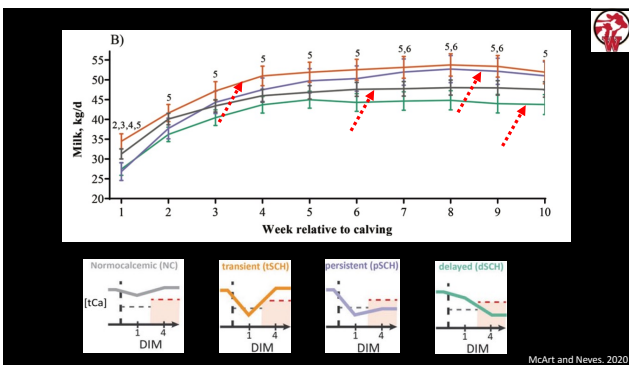
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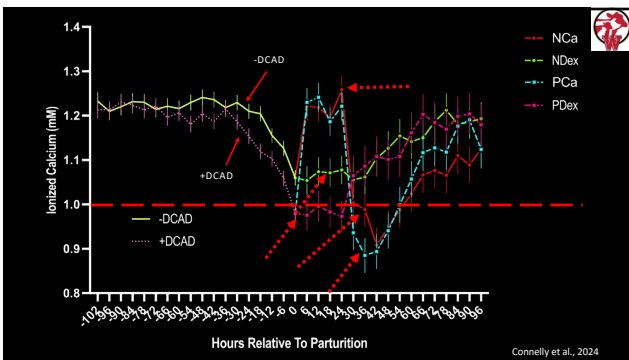
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How does “transient hypocalcemia” work and how do we manage it?


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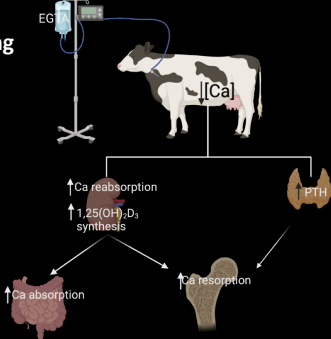
Prepartal strategies to modulate calcium homeostasis

- 1) Negative DCAD Diets (UltraChlor®, Soychlor®, Blochlor®, Animate®, etc.)

- 2) Calcium binders (Synthetic Sodium aluminum silicate)

- 3) Calcium Chelators
EGTA-Ca
EDTA-Ca and Mg
- 4) Low potassium diets

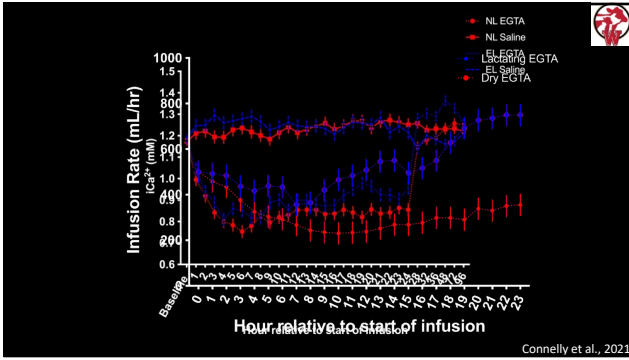
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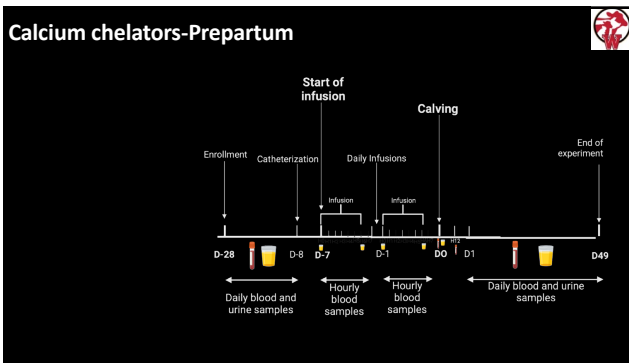
Calcium chelators- What does chelating Ca do?



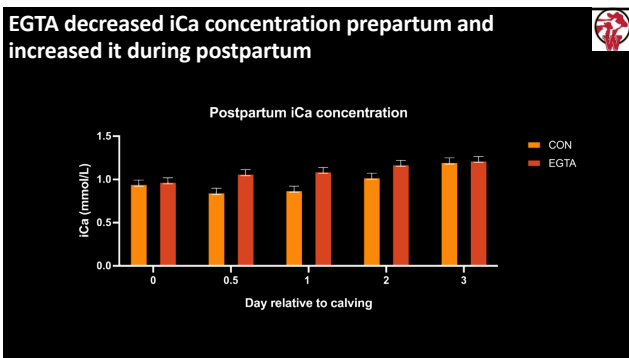
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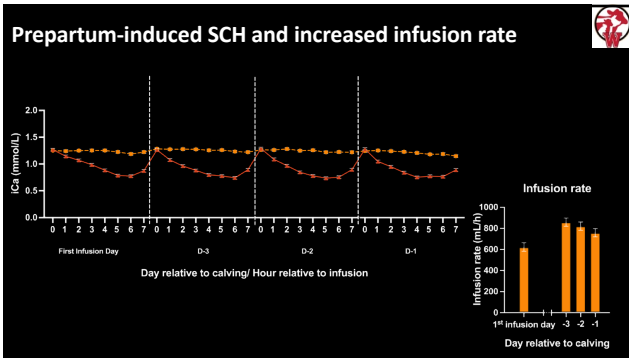
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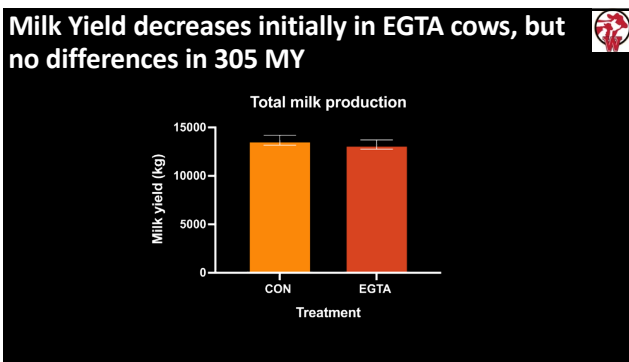
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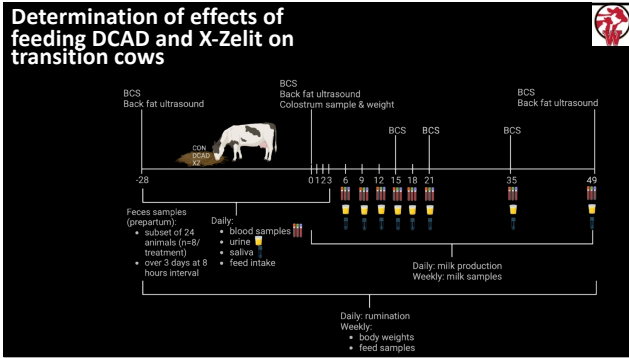
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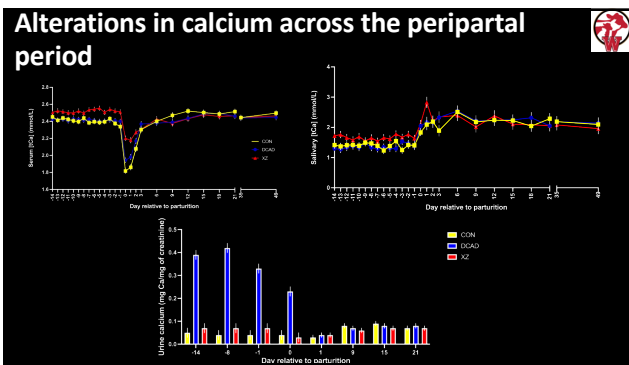
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Do Calcium Binders and –DCAD diets impact Calcium Homeostasis the Same?

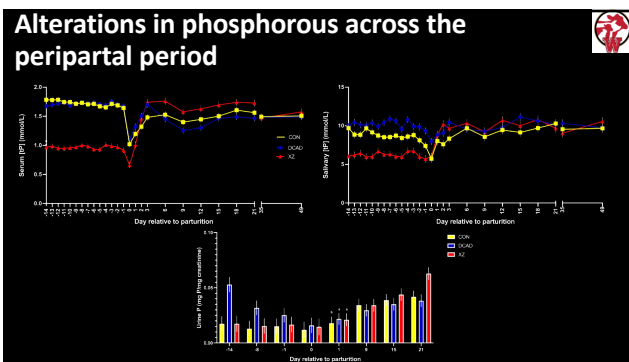
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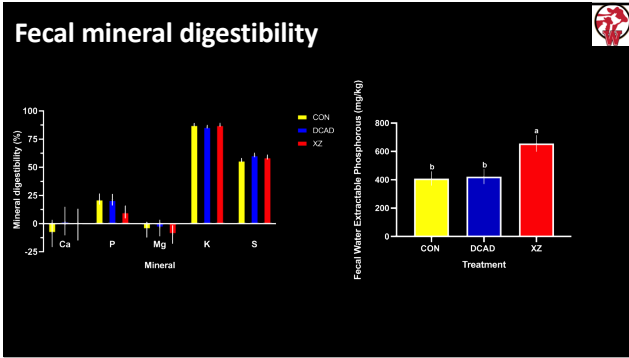
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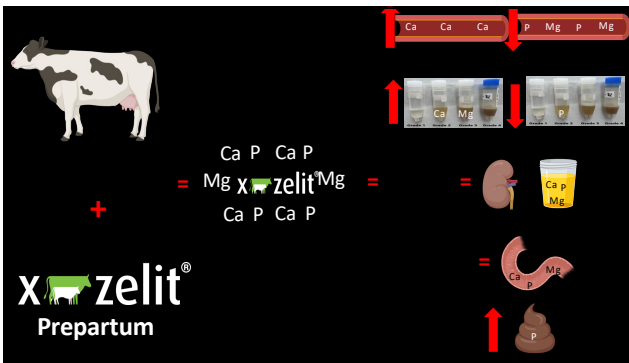
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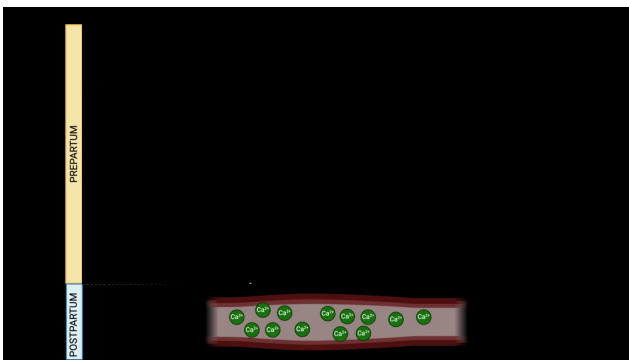
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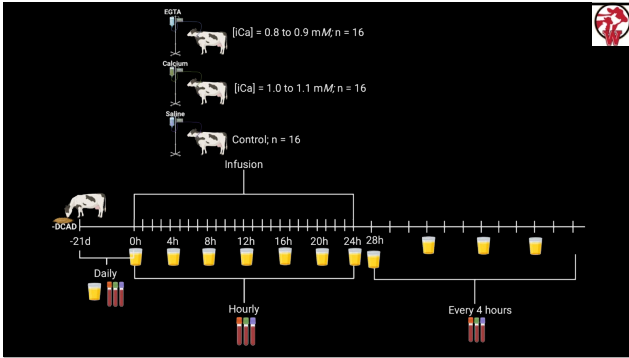
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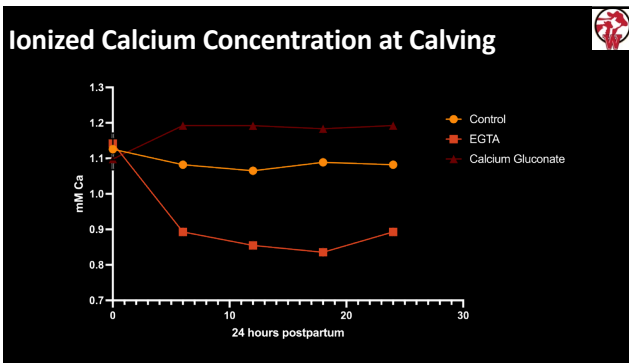
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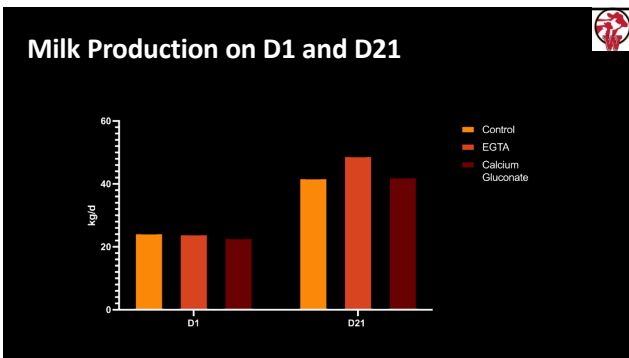
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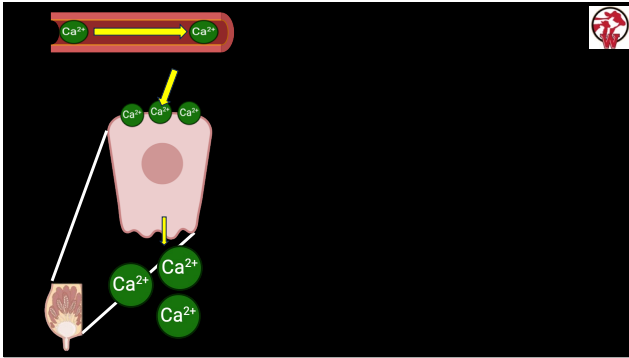
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Conclusions

- Early lactation cows are equipped to maintain their calcemic status when challenged with hypocalcemia and the mechanisms underlying this are unique
- A certain level of decreased calcium around parturition is necessary to activate homeostatic mechanisms related to maintenance of adequate calcium concentrations (transient hypocalcemia)
- It is critical to manage the prepartum cow to ensure proper calcium homeostasis post-partum
- We aim to determine the homeostatic relationships surrounding calving that are indicative of a healthy transition into lactation
- Different prepartal interventions work via different methods to impact postpartal calcium and should be fully understood when making nutritional decisions

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The Students.....The Real Brains behind it all!

WIS01732: USDA-Hatch
 Australian National University
 VitaPlus Corporation®
 Vilofoss-Protekta®
 USDA/NIFA:2016-67015-24584
 USDA/NIFA:2020-67015-31260
 NIH Eunice Kennedy Shriver National Institute of Child Health and Human Development

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