Q

OVD

OVD

OVD

Before we start: In this context, what does OVD *stand for?*

A

OVD

OVD

OVD

Before we start: In this context, what does OVD *stand for?*
Ophthalmic viscosurgical device

OVD

OVD

OVD

Before we start: In this context, what does OVD *stand for?*
Ophthalmic viscosurgical **device**

Note this word—*device*. The point being: Contrary to popular opinion, OVDs are **not** drugs, **not** pharmaceuticals.

OVD

OVD

OVD

Before we start: In this context, what does OVD *stand for?*
Ophthalmic viscosurgical **device**

Note this word—*device*. The point being: Contrary to popular opinion, OVDs are **not** drugs, **not** pharmaceuticals. Rather, they are a **surgical device**—more closely related to the bladder retractor you held for hours on Ob/Gyn than they are to the Shugarcaine that precedes them in the AC.

Joel Shugar MD 1958-2008 RIP

Q

OVD properties: Divvy ‘em up

Cohesive OVD

Dispersive OVD

In this next part, physical properties of OVDs will be presented in pairs, and you must decide which property goes with which sort of OVD.

Q

OVD properties: Divvy 'em up

Cohesive OVD	Dispersive OVD
Molecular weight: *High*	
Molecular weight: *Low*	
Molecule length: *Long*	
Molecule length: *Short*	
Self-adheres *well*	
Self-adheres *poorly*	
Surface tension: *High*	
Surface tension: *Low*	
Easy to aspirate	
Difficult to aspirate	
Maintains space *well*	
Maintains space *poorly*	
Coats structures *poorly*	
Coats structures *well*	
Viscosity: *High*	
Viscosity: *Low*	

OK, start divvying (do these two simultaneously)

Q/A

OVD properties: Divvy 'em up

Cohesive OVD

Molecular weight: *High*

Dispersive OVD

Molecular weight: *Low*

Now these

Molecule length: *Long*

Molecule length: *Short*

Self-adheres *well*

Self-adheres *poorly*

Surface tension: *High*

Surface tension: *Low*

Easy to aspirate

Difficult to aspirate

Maintains space *well*

Maintains space *poorly*

Coats structures *poorly*

Coats structures *well*

Viscosity: *High*

Viscosity: *Low*

Q/A

OVD properties: Divvy 'em up

Cohesive OVD

Molecular weight: *High*

Molecule length: *Long*

Dispersive OVD

Molecular weight: *Low*

Molecule length: *Short*

etc

Self-adheres *well*

Self-adheres *poorly*

Surface tension: *High*

Surface tension: *Low*

Easy to aspirate

Difficult to aspirate

Maintains space *well*

Maintains space *poorly*

Coats structures *poorly*

Coats structures *well*

Viscosity: *High*

Viscosity: *Low*

Q/A

OVD properties: Divvy 'em up

Cohesive OVD

Molecular weight: *High*

Molecule length: *Long*

Self-adheres *well*

Dispersive OVD

Molecular weight: *Low*

Molecule length: *Short*

Self-adheres *poorly*

Surface tension: *High*
Surface tension: *Low*

Easy to aspirate

Difficult to aspirate

Maintains space *well*

Maintains space *poorly*

Coats structures *poorly*

Coats structures *well*

Viscosity: *High*

Viscosity: *Low*

Q

OVD properties: Divvy 'em up

Cohesive OVD

Molecular weight: *High*

Molecule length: *Long*

Self-adheres *well*

Surface tension: *High*

Dispersive OVD

Molecular weight: *Low*

Molecule length: *Short*

Self-adheres *poorly*

Surface tension: *Low*

Easy to aspirate

Difficult to aspirate

Maintains space *well*

Maintains space *poorly*

Coats structures *poorly*

Coats structures *well*

Viscosity: *High*

Viscosity: *Low*

Q

OVD properties: Divvy 'em up

Cohesive OVD

Molecular weight: *High*

Molecule length: *Long*

Self-adheres *well*

Surface tension: *High*

Dispersive OVD

Molecular weight: *Low*

Molecule length: *Short*

Self-adheres *poorly*

Surface tension: *Low*

The BCSC *offers a synonym for surface tension—what is it?*
(Hint: It's *something*-ability)

Coats structures *well*

Viscosity: *High*

Viscosity: *Low*

A

OVD properties: Divvy 'em up

Cohesive OVD

Molecular weight: *High*

Molecule length: *Long*

Self-adheres *well*

Surface tension: *High*

Dispersive OVD

Molecular weight: *Low*

Molecule length: *Short*

Self-adheres *poorly*

Surface tension: *Low*

The BCSC *offers a synonym for surface tension—what is it?*
(Hint: It's *something*-ability)
'Coatability'—the tendency for the surface of a liquid to stick to another surface

Coats structures *well*

Viscosity: *High*

Viscosity: *Low*

Q

OVD properties: Divvy 'em up

Cohesive OVD

Molecular weight: *High*

Molecule length: *Long*

Self-adheres *well*

Surface tension: *High*

Dispersive OVD

Molecular weight: *Low*

Molecule length: *Short*

Self-adheres *poorly*

Surface tension: *Low*

The BCSC *offers a synonym for surface tension—what is it?*
(Hint: It's *something*-ability)
'Coatability'—the tendency for the surface of a liquid to stick to another surface. Coatability is directly *vs* inversely proportional to surface tension, which means that substances with low surface tension are worse *vs* better coat-ers' than are those with high surface tension.

Coats structures *poorly*

Coats structures *well*

Viscosity: *High*

Viscosity: *Low*

A

OVD properties: Divvy 'em up

Cohesive OVD

Molecular weight: *High*

Molecule length: *Long*

Self-adheres *well*

Surface tension: *High*

Dispersive OVD

Molecular weight: *Low*

Molecule length: *Short*

Self-adheres *poorly*

Surface tension: *Low*

The BCSC *offers a synonym for surface tension—what is it?*
(Hint: It's *something*-ability)
'Coatability'—the tendency for the surface of a liquid to stick to another surface. Coatability is inversely proportional to surface tension, which means that substances with low surface tension are better 'coat-ers' than are those with high surface tension.

Coats structures *poorly*

Coats structures *well*

Viscosity: *High*

Viscosity: *Low*

Q

OVD properties: Divvy 'em up

Cohesive OVD	Dispersive OVD
Molecular weight: *High*	Molecular weight: *Low*
Molecule length: *Long*	Molecule length: *Short*
Self-adheres *well*	Self-adheres *poorly*
Surface tension: *High*	Surface tension: *Low*

Easy to aspirate
Difficult to aspirate

Maintains space *well*
Maintains space *poorly*
Coats structures *poorly*
Coats structures *well*
Viscosity: *High*
Viscosity: *Low*

Q/A

OVD properties: Divvy 'em up

Cohesive OVD

Molecular weight: *High*

Molecule length: *Long*

Self-adheres *well*

Surface tension: *High*

Easy to aspirate

Dispersive OVD

Molecular weight: *Low*

Molecule length: *Short*

Self-adheres *poorly*

Surface tension: *Low*

Difficult to aspirate

Maintains space *well*
Maintains space *poorly*

Coats structures *poorly*

Coats structures *well*

Viscosity: *High*

Viscosity: *Low*

Q/A

OVD properties: Divvy 'em up

Cohesive OVD

Molecular weight: *High*

Molecule length: *Long*

Self-adheres *well*

Surface tension: *High*

Easy to aspirate

Maintains space *well*

Dispersive OVD

Molecular weight: *Low*

Molecule length: *Short*

Self-adheres *poorly*

Surface tension: *Low*

Difficult to aspirate

Maintains space *poorly*

Coats structures *poorly*
Coats structures *well*

Viscosity: *High*

Viscosity: *Low*

Q/A

OVD properties: Divvy 'em up

Cohesive OVD

Molecular weight: *High*

Molecule length: *Long*

Self-adheres *well*

Surface tension: *High*

Easy to aspirate

Maintains space *well*

Coats structures *poorly*

Dispersive OVD

Molecular weight: *Low*

Molecule length: *Short*

Self-adheres *poorly*

Surface tension: *Low*

Difficult to aspirate

Maintains space *poorly*

Coats structures *well*

Viscosity: *High*

Viscosity: *Low*

A

OVD properties: Divvy 'em up

Cohesive OVD

Molecular weight: *High*

Molecule length: *Long*

Self-adheres *well*

Surface tension: *High*

Easy to aspirate

Maintains space *well*

Coats structures *poorly*

Viscosity: *High*

Dispersive OVD

Molecular weight: *Low*

Molecule length: *Short*

Self-adheres *poorly*

Surface tension: *Low*

Difficult to aspirate

Maintains space *poorly*

Coats structures *well*

Viscosity: *Low*

Q

OVD properties: Divvy ‘em up

Cohesive OVD

Molecular weight: *High*

Molecule length: *Long*

Self-adheres *well*

Sur

E

Ma

Coa

Viscosity: *High*

Dispersive OVD

Molecular weight: *Low*

Molecule length: *Short*

rly

ow

te

orly

Coats structures *well*

Viscosity: *Low*

In the context of OVDs, to what does the term viscosity *refer?*

Q/A

OVD properties: Divvy 'em up

Cohesive OVD

Molecular weight: *High*

Molecule length: *Long*

Self-adheres *well*

Sur

Ma

Coa

Viscosity: *High*

Dispersive OVD

Molecular weight: *Low*

Molecule length: *Short*

rly

ow

te

orly

Coats structures *well*

Viscosity: *Low*

In the context of OVDs, to what does the term viscosity *refer?*

Viscosity refers to how a substance responds to two words

A

OVD properties: Divvy 'em up

Cohesive OVD

Molecular weight: *High*

Molecule length: *Long*

Self-adheres *well*

Sur

E

Ma

Coa

Viscosity: *High*

Dispersive OVD

Molecular weight: *Low*

Molecule length: *Short*

rly

ow

te

oorly

Coats structures *well*

Viscosity: *Low*

In the context of OVDs, to what does the term viscosity *refer?*

Viscosity refers to how a substance responds to shear force

Q

OVD properties: Divvy 'em up

Cohesive OVD

Molecular weight: *High*

Molecule length: *Long*

Self-adheres *well*

Sur

Ma

Coa

Viscosity: *High*

Dispersive OVD

Molecular weight: *Low*

Molecule length: *Short*

rly

ow

te

orly

Coats structures *well*

Viscosity: *Low*

In the context of OVDs, to what does the term viscosity *refer?*

Viscosity refers to how a substance responds to shear force

With respect to OVDs, what two 'shear force scenarios' are we concerned with?

one extreme shear

the other shear

A

OVD properties: Divvy 'em up

Cohesive OVD

Molecular weight: *High*

Molecule length: *Long*

Self-adheres *well*

Sur

Ma

Coa

Viscosity: *High*

Dispersive OVD

Molecular weight: *Low*

Molecule length: *Short*

rly

ow

te

orly

Coats structures *well*

Viscosity: *Low*

In the context of OVDs, to what does the term viscosity *refer?*
Viscosity refers to how a substance responds to shear force

With respect to OVDs, what two 'shear force scenarios' are we concerned with?

--**Low** shear
--**High** shear

Q

OVD properties: Divvy 'em up

Cohesive OVD

Molecular weight: *High*

Molecule length: *Long*

Self-adheres *well*

Sur

Ma

Coa

Viscosity: *High*

Dispersive OVD

Molecular weight: *Low*

Molecule length: *Short*

rly

ow

te

orly

Coats structures *well*

Viscosity: *Low*

In the context of OVDs, to what does the term viscosity *refer?*
Viscosity refers to how a substance responds to shear force

With respect to OVDs, what two 'shear force scenarios' are we concerned with?
Which intraoperative steps provide a ready example of each?
--**Low** shear: ***?***
--**High** shear

A

OVD properties: Divvy 'em up

Cohesive OVD

Molecular weight: *High*

Molecule length: *Long*

Self-adheres *well*

Sur

Ma

Coa

Viscosity: *High*

Dispersive OVD

Molecular weight: *Low*

Molecule length: *Short*

rly

ow

te

orly

Coats structures *well*

Viscosity: *Low*

In the context of OVDs, to what does the term viscosity *refer?*
Viscosity refers to how a substance responds to shear force

With respect to OVDs, what two 'shear force scenarios' are we concerned with?
Which intraoperative steps provide a ready example of each?
--**Low** shear**:** Capsulorrhexis
--**High** shear

Q

OVD properties: Divvy 'em up

Cohesive OVD

Molecular weight: *High*

Molecule length: *Long*

Self-adheres *well*

Sur

Ma

Coa

Viscosity: *High*

Dispersive OVD

Molecular weight: *Low*

Molecule length: *Short*

rly

ow

te

orly

Coats structures *well*

Viscosity: *Low*

In the context of OVDs, to what does the term viscosity *refer?*
Viscosity refers to how a substance responds to shear force

With respect to OVDs, what two 'shear force scenarios' are we concerned with?
Which intraoperative steps provide a ready example of each?
--**Low** shear**:** Capsulorrhexis
--**High** shear**:** ***?***

A

OVD properties: Divvy 'em up

Cohesive OVD

Molecular weight: *High*

Molecule length: *Long*

Self-adheres *well*

Sur

Ma

Coa

Viscosity: *High*

Dispersive OVD

Molecular weight: *Low*

Molecule length: *Short*

rly

ow

te

orly

Coats structures *well*

Viscosity: *Low*

In the context of OVDs, to what does the term viscosity *refer?*
Viscosity refers to how a substance responds to shear force

With respect to OVDs, what two 'shear force scenarios' are we concerned with?
Which intraoperative steps provide a ready example of each?
--**Low** shear**:** Capsulorrhexis
--**High** shear**:** Phacoemulsification, and I&A

Q

OVD properties: Divvy 'em up

Cohesive OVD

Molecular weight: *High*

Molecule length: *Long*

Self-adheres *well*

Sur

Ma

Coa

Viscosity: *High*

Dispersive OVD

Molecular weight: *Low*

Molecule length: *Short*

rly

ow

te

orly

Coats structures *well*

Viscosity: *Low*

In the context of OVDs, to what does the term viscosity *refer?*
Viscosity refers to how a substance responds to shear force

With respect to OVDs, what two 'shear force scenarios' are we concerned with?
Which intraoperative steps provide a ready example of each?
--**Low** shear**:** Capsulorrhexis
--**High** shear**:** Phacoemulsification, and I&A

What simplified way does the BCSC *suggest to think about viscosity?*

A

OVD properties: Divvy 'em up

Cohesive OVD

Molecular weight: *High*

Molecule length: *Long*

Self-adheres *well*

Sur

Ma

Coa

Viscosity: *High*

Dispersive OVD

Molecular weight: *Low*

Molecule length: *Short*

rly

ow

te

orly

Coats structures *well*

Viscosity: *Low*

In the context of OVDs, to what does the term viscosity *refer?*
Viscosity refers to how a substance responds to shear force

With respect to OVDs, what two 'shear force scenarios' are we concerned with?
Which intraoperative steps provide a ready example of each?
--**Low** shear**:** Capsulorrhexis
--**High** shear**:** Phacoemulsification, and I&A

What simplified way does the BCSC *suggest to think about viscosity?*
Think of it as how 'thick' or 'thin' a liquid is

Q

OVD properties: Divvy 'em up

Cohesive OVD

Molecular weight: *High*

Molecule length: *Long*

Self-adheres *well*

Sur

Ma

Coa

Viscosity: *High*

Dispersive OVD

Molecular weight: *Low*

Molecule length: *Short*

rly

ow

te

orly

Coats structures *well*

Viscosity: *Low*

In the context of OVDs, to what does the term viscosity *refer?*
Viscosity refers to how a substance responds to shear force

With respect to OVDs, what two 'shear force scenarios' are we concerned with?
Which intraoperative steps provide a ready example of each?
--**Low** shear**:** Capsulorrhexis
--**High** shear**:** Phacoemulsification, and I&A

What simplified way does the BCSC *suggest to think about viscosity?*
Think of it as how 'thick' or 'thin' a liquid is: High-viscosity liquids are one, whereas low-viscosity liquids are other one

A

OVD properties: Divvy 'em up

Cohesive OVD

Molecular weight: *High*

Molecule length: *Long*

Self-adheres *well*

Sur

Ma

Coa

Viscosity: *High*

Dispersive OVD

Molecular weight: *Low*

Molecule length: *Short*

rly

ow

te

orly

Coats structures *well*

Viscosity: *Low*

In the context of OVDs, to what does the term viscosity *refer?*
Viscosity refers to how a substance responds to shear force

With respect to OVDs, what two 'shear force scenarios' are we concerned with?
Which intraoperative steps provide a ready example of each?
--**Low** shear**:** Capsulorrhexis
--**High** shear**:** Phacoemulsification, and I&A

What simplified way does the BCSC *suggest to think about viscosity?*
Think of it as how 'thick' or 'thin' a liquid is: High-viscosity liquids are thick , whereas low-viscosity liquids are thin .

Think of the OVD molecules as pasta.

Cohesive OVD	Dispersive OVD
Molecular weight: *High*	Molecular weight: *Low*
Molecule length: *Long*	Molecule length: *Short*
Self-adheres *well*	Self-adheres *poorly*
Surface tension: *High*	Surface tension: *Low*
Easy to aspirate	*Difficult* to aspirate
Maintains space *well*	Maintains space *poorly*
Coats structures *poorly*	Coats structures *well*
Viscosity: *High*	Viscosity: *Low*

Think of the OVD molecules as pasta. **Cohesive** OVD molecules are like spaghetti—very long.

Cohesive OVD	Dispersive OVD
Molecular weight: *High*	Molecular weight: *Low*
Molecule length: *Long*	Molecule length: *Short*
Self-adheres *well*	Self-adheres *poorly*
Surface tension: *High*	Surface tension: *Low*
Easy to aspirate	*Difficult* to aspirate
Maintains space *well*	Maintains space *poorly*
Coats structures *poorly*	Coats structures *well*
Viscosity: *High*	Viscosity: *Low*

Think of the OVD molecules as pasta.
Cohesive OVD molecules are like spaghetti—very long.
Dispersive OVD molecules are like macaroni—very short.

Cohesive OVD	Dispersive OVD
Molecular weight: *High*	Molecular weight: *Low*
Molecule length: *Long*	**Molecule length: *Short***
Self-adheres *well*	Self-adheres *poorly*
Surface tension: *High*	Surface tension: *Low*
Easy to aspirate	*Difficult* to aspirate
Maintains space *well*	Maintains space *poorly*
Coats structures *poorly*	Coats structures *well*
Viscosity: *High*	Viscosity: *Low*

Think of the OVD molecules as pasta.
Cohesive OVD molecules are like spaghetti—very long.
Dispersive OVD molecules are like macaroni—very short.

Now consider serving spaghetti vs macaroni. Because spaghetti strands are long, they entangle with and adhere to one another.

Cohesive OVD	Dispersive OVD
Molecular weight: *High*	Molecular weight: *Low*
Molecule length: *Long*	**Molecule length: *Short***
Self-adheres *well*	Self-adheres *poorly*
Surface tension: *High*	Surface tension: *Low*
Easy to aspirate	*Difficult* to aspirate
Maintains space *well*	Maintains space *poorly*
Coats structures *poorly*	Coats structures *well*
Viscosity: *High*	Viscosity: *Low*

Think of the OVD molecules as pasta. **Cohesive** OVD molecules are like spaghetti—very long. **Dispersive** OVD molecules are like macaroni—very short.

Now consider serving spaghetti vs macaroni. Because spaghetti strands are long, they entangle with and adhere to one another. So spooning *any* tends to result in the removal of *most* of the spaghetti.

Cohesive OVD	Dispersive OVD
Molecular weight: *High*	Molecular weight: *Low*
Molecule length: *Long*	**Molecule length: *Short***
Self-adheres *well*	Self-adheres *poorly*
Surface tension: *High*	Surface tension: *Low*
Easy to aspirate	*Difficult* to aspirate
Maintains space *well*	Maintains space *poorly*
Coats structures *poorly*	Coats structures *well*
Viscosity: *High*	Viscosity: *Low*

Think of the OVD molecules as pasta. **Cohesive** OVD molecules are like spaghetti—very long. **Dispersive** OVD molecules are like macaroni—very short.

Now consider serving spaghetti vs macaroni. Because spaghetti strands are long, they entangle with and adhere to one another. So spooning *any* tends to result in the removal of *most* of the spaghetti.

In contrast, because macaroni are so short, they **don't** entangle and **don't** adhere to one another.

Cohesive OVD	Dispersive OVD
Molecular weight: *High*	Molecular weight: *Low*
Molecule length: *Long*	**Molecule length: *Short***
Self-adheres *well*	**Self-adheres *poorly***
Surface tension: *High*	Surface tension: *Low*
Easy to aspirate	*Difficult* to aspirate
Maintains space *well*	Maintains space *poorly*
Coats structures *poorly*	Coats structures *well*
Viscosity: *High*	Viscosity: *Low*

Think of the OVD molecules as pasta. **Cohesive** OVD molecules are like spaghetti—very long. **Dispersive** OVD molecules are like macaroni—very short.

Now consider serving spaghetti vs macaroni. Because spaghetti strands are long, they entangle with and adhere to one another. So spooning *any* tends to result in the removal of *most* of the spaghetti.

In contrast, because macaroni are so short, they **don't** entangle and **don't** adhere to one another. Thus, repeated spoonings are needed to remove macaroni from a bowl.

Cohesive OVD	Dispersive OVD
Molecular weight: *High*	Molecular weight: *Low*
Molecule length: *Long*	**Molecule length: *Short***
Self-adheres *well*	**Self-adheres *poorly***
Surface tension: *High*	Surface tension: *Low*
Easy to aspirate	*Difficult* to aspirate
Maintains space *well*	Maintains space *poorly*
Coats structures *poorly*	Coats structures *well*
Viscosity: *High*	Viscosity: *Low*

Think of the OVD molecules as pasta. **Cohesive** OVD molecules are like spaghetti—very long. **Dispersive** OVD molecules are like macaroni—very short.

Now consider serving spaghetti vs macaroni. Because spaghetti strands are long, they entangle with and adhere to one another. So spooning *any* tends to result in the removal of *most* of the spaghetti.

In contrast, because macaroni are so short, they **don't** entangle and **don't** adhere to one another. Thus, repeated spoonings are needed to remove macaroni from a bowl.

So it is with OVDs. Cohesives, with their long entangled molecules, tend to come out of the eye as a single glob

Cohesive OVD	Dispersive OVD
Molecular weight: *High*	Molecular weight: *Low*
Molecule length: *Long*	**Molecule length: *Short***
Self-adheres *well*	**Self-adheres *poorly***
Surface tension: *High*	Surface tension: *Low*
***Easy* to aspirate**	*Difficult* to aspirate
Maintains space *well*	Maintains space *poorly*
Coats structures *poorly*	Coats structures *well*
Viscosity: *High*	Viscosity: *Low*

Think of the OVD molecules as pasta. **Cohesive** OVD molecules are like spaghetti—very long. **Dispersive** OVD molecules are like macaroni—very short.

Now consider serving spaghetti vs macaroni. Because spaghetti strands are long, they entangle with and adhere to one another. So spooning *any* tends to result in the removal of *most* of the spaghetti.

In contrast, because macaroni are so short, they **don't** entangle and **don't** adhere to one another. Thus, repeated spoonings are needed to remove macaroni from a bowl.

So it is with OVDs. Cohesives, with their long entangled molecules, tend to come out of the eye as a single glob, whereas the short-chained dispersives have to be removed piecemeal.

Cohesive OVD	Dispersive OVD
Molecular weight: *High*	Molecular weight: *Low*
Molecule length: *Long*	**Molecule length: *Short***
Self-adheres *well*	**Self-adheres *poorly***
Surface tension: *High*	Surface tension: *Low*
***Easy* to aspirate**	***Difficult* to aspirate**
Maintains space *well*	Maintains space *poorly*
Coats structures *poorly*	Coats structures *well*
Viscosity: *High*	Viscosity: *Low*

Think of the OVD molecules as pasta. **Cohesive** OVD molecules are like spaghetti—very long. **Dispersive** OVD molecules are like macaroni—very short.

Now consider serving spaghetti vs macaroni. Because spaghetti strands are long, they entangle with and adhere to one another. So spooning *any* tends to result in the removal of *most* of the spaghetti.

In contrast, because macaroni are so short, they **don't** entangle and **don't** adhere to one another. Thus, repeated spoonings are needed to remove macaroni from a bowl.

So it is with OVDs. Cohesives, with their long entangled molecules, tend to come out of the eye as a single glob, whereas the short-chained dispersives have to be removed piecemeal.

In like fashion, the non-self-adhering dispersives do an excellent job coating intraocular structures

Cohesive OVD	Dispersive OVD
Molecular weight: *High*	Molecular weight: *Low*
Molecule length: *Long*	**Molecule length: *Short***
Self-adheres *well*	**Self-adheres *poorly***
Surface tension: *High*	Surface tension: *Low*
***Easy* to aspirate**	***Difficult* to aspirate**
Maintains space *well*	Maintains space *poorly*
Coats structures *poorly*	**Coats structures *well***
Viscosity: *High*	Viscosity: *Low*

Think of the OVD molecules as pasta. **Cohesive** OVD molecules are like spaghetti—very long. **Dispersive** OVD molecules are like macaroni—very short.

Now consider serving spaghetti vs macaroni. Because spaghetti strands are long, they entangle with and adhere to one another. So spooning *any* tends to result in the removal of *most* of the spaghetti.

In contrast, because macaroni are so short, they **don't** entangle and **don't** adhere to one another. Thus, repeated spoonings are needed to remove macaroni from a bowl.

So it is with OVDs. Cohesives, with their long entangled molecules, tend to come out of the eye as a single glob, whereas the short-chained dispersives have to be removed piecemeal.

In like fashion, the non-self-adhering dispersives do an excellent job coating intraocular structures, whereas their self-adherence renders cohesives unsuitable for this.

Cohesive OVD	Dispersive OVD
Molecular weight: *High*	Molecular weight: *Low*
Molecule length: *Long*	**Molecule length: *Short***
Self-adheres *well*	**Self-adheres *poorly***
Surface tension: *High*	Surface tension: *Low*
***Easy* to aspirate**	***Difficult* to aspirate**
Maintains space *well*	Maintains space *poorly*
Coats structures *poorly*	**Coats structures *well***
Viscosity: *High*	Viscosity: *Low*